8

Hazardous Materials

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 (PCBs), and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive or toxic).

8.1 Introduction

According to the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when:

- hazardous materials exist on a site;
- an action would increase pathways to their exposure; or
- an action would introduce new activities or processes using hazardous materials.

As indicated in the *CEQR Technical Manual*, the hazardous materials (E) designation is an institutional control that may be placed on a site to establish a hazardous materials review and approval framework. It provides a mechanism to ensure that testing for and remediation of hazardous materials, if necessary, are completed prior to future development of an affected site, thereby eliminating the potential for a hazardous materials impact. (E)

designated parcels are administered under the authority of the New York City Mayor's Office of Environmental Remediation (OER).

This section presents the findings of the hazardous materials assessment and identifies potential issues of concern with respect to workers, the community, and/or the environment during construction and after implementation of the proposed project.

8.2 Principal Conclusions

To avoid the potential for significant adverse impacts relating to hazardous materials on Projected Development Sites 1 and 2, under the proposed actions, confirmed contamination on identified on Projected Development Site 1 as part of Langan's RIR, as well as any potential contamination for the remaining uninvestigated portions of Potential Development Site 1 (Lot 37) and Projected Development Site 2 would be further identified and investigated as required by an (E) designation for hazardous materials (E-548). Any potential remedial action that may be required would also be administered as part of the (E) designation protocol under the regulatory oversight of OER. Alternatively, the applicant may also explore a potential enrollment into the NYSDEC BCP, which would provide a pathway to further characterize, investigate and remediate the Projected Development Sites under regulatory oversight provided by NYSDEC. The BCP is also considered an accepted pathway for site investigation and remediation that satisfies the requirements of OER's (E) Designation program.

In addition to the above, regulatory requirements pertaining to building materials containing ACM, LBP and PCBs would be addressed under prevailing regulations as part of standard demolition and redevelopment practices on Projected Development Sites 1 and 2. Given these conditions, the With-Action condition would not result in any significant adverse impacts with respect to hazardous materials for Projected Development Sites 1 and 2.

8.3 Methodology

The potential for hazardous materials was evaluated based on the following documents:

- Phase I Environmental Site Assessment (ESA). Dated April 24, 2017, prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.C.P. (Langan)
- Remedial Investigation Report (RIR), dated April 5, 2019, prepared by Langan

Langan's Phase I ESA was prepared for Projected Development Site 1 in accordance with ASTM Practice E1527-13, inclusive of the All Appropriate Inquiry requirement amended in the Federal Register on December 30, 2013. The United States Environmental Protection Agency (EPA) All Appropriate Inquiry requirement establishes specific regulatory requirements for conducting appropriate inquiries into the previous ownership, uses, and environmental conditions of a property for the purposes of qualifying for certain landowner liability protections under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The proposed development on Projected Development Site 1 would consist of mixed-income housing, affordable senior housing, program and office space for the Chinese

American Planning Council (CPC), a Jewish Heritage and Cultural Center, and retail uses, as described in more detail in **Chapter 1**, "**Project Description**." In addition, the owner of Lot 95 would add a small amount of commercial space on Projected Development Site 2 while retaining the existing mixed-use building on that lot.

8.4 Assessment

Existing Conditions

Projected Development Site 1 is designated as Block 346, Lots 37 and 75 on the New York City Tax Maps and is identified collectively as 60 Norfolk Street in the Phase I ESA. The remnants of the vacant Beth Hamedrash Hagodol (BHH) Synagogue, which was constructed circa 1850, currently occupies Lot 37.[1] Lot 75 consists of an asphalt-paved parking lot and walkway areas, landscaped areas and a community garden. The project block also includes Lot 1, on which the Hong Ning senior housing building is located, and Projected Development Site 2, on which a 5-story mixed-use building is located.

Phase I Environmental Site Assessment

The goal of the Phase I ESA process is to identify Recognized Environmental Conditions (RECs), which means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

Per the current ASTM Standard, the Phase I ESA reviewed a variety of information sources, including current and historic Sanborn Fire Insurance Maps and aerial photographs; state and federal environmental regulatory databases identifying listed sites; and local environmental records. The Phase I ESA also included reconnaissance of the site and surrounding neighborhood and interviews with the building manager.

As stated in the current ASTM Practice E1527-13, there may be environmental issues or conditions at the site, which may be requested by the user to be addressed as part of the Phase I ESA, which are not covered within the scope of ASTM Practice E1527-13. These issues are referred to as "non-scope considerations" and include evaluations relating to asbestos, lead-based paint, mold, etc. These added considerations were also evaluated as part of the Phase I ESA.

Based on the Phase I ESA prepared by Langan, a history of Projected Development Site 1 was established dating back to 1894. Lot 75 was historically operated for commercial and/or residential use. Specifically, historical operations on Lot 75 included printing from 1920 through 1938, a coppersmith and tinsmith in 1920, and laundry services from 1947 through

[1] As described later in this section, at the time of the Phase I ESA, the BHH Synagogue was located on the site and was vacant; it was subsequently damaged beyond repair by a fire in May 2017. BHH, with assistance from the applicant (as representative) has been working with the New York City Landmarks Preservation Commission (LPC) to stabilize the structure, with all removals of fire-damaged building subject to LPC approval.

1968. Additional historical resources indicate printing operations on Lot 75 from 1905 through 1950 and a laundry in 1922. Lot 75 became vacant between 1985 through 1990. From 1990 to present, Lot 75 operated as a surface parking lot. The Phase I ESA noted that Lot 75 is occupied by an asphalt-paved parking lot, landscape areas, a community garden space and a concrete sitting area. Two shipping containers were staged on the northeastern corner of the parking lot; the contents of which were unknown.

Lot 37 was improved with a synagogue in the mid-1800's. At the time of the Phase I ESA, the two-story building with partial basement was present on Lot 37 and, based on site interviews provided in the Phase I ESA, the synagogue had been vacant for approximately 10 years. The synagogue was observed to be in overall poor condition, with evidence of structural damage throughout. Subsequent to completion of the Phase I ESA, the synagogue suffered a major fire and was damaged beyond repair.

Based upon the information provided in the Phase I ESA, the following findings and site features were identified:

- Groundwater beneath Projected Development Site 1 is expected to be within approximately 20 feet below grade surface (bgs).
- Groundwater beneath Projected Development Site 1 was assumed to flow to the east, toward the East River.
- A fill port and vent pipe was observed on the sidewalk outside the southwestern corner of the synagogue building. The synagogue was reportedly heated via steam radiation from a fuel oil-fired boiler.
- A Structures Engineering Report was prepared by Robert Silman Associated dated August 20, 2013 and appended in the Phase I ESA. The report documented that the synagogue was constructed in 1850 and consisted of a load-bearing masonry structure with a slab-on-grade floor with a small partial basement beneath the main front stairs. The report indicated the building was in generally poor structural condition on the northern and western sides and in somewhat better condition on the eastern and southern sides. The report concluded with recommendations to stabilize the priority areas to limit further deterioration. (As discussed further in **Chapter 7**, "**Historic Resources**," BHH, with assistance from the applicant (as representative), has been working with LPC to stabilize the structure, with all removals of the fire-damaged building subject to LPC approval.)
- A previous Phase I ESA, prepared Global Realty Services Group, dated December 23, 2013 was included as an appendix to Langan's Phase I ESA. The previous Phase I ESA was prepared for the former extents of Lot 1, which included the current extent of Lot 75 and the property located at 50 Norfolk Street, which is not part of Projected Development Site 1. No RECs were identified for Projected Development Site 1 in the previous Phase I ESA.
- Projected Development Site 1 was not identified on any local, State or federal database listings contained within the Environmental Data Resources, Inc. (EDR) database report.
- Although Projected Development Site 1 was not identified on any databases, it was noted that 836 sites identified in the radius report had the potential to have a cumulative impact on regional groundwater quality. Furthermore, given the number of

spill incidents and spill sites identified in the general surrounding area, vapor intrusion issues at the site may exist.

- There were no relevant local government/agency records received through the Freedom of Information Law (FOIL) regarding Projected Development Site 1.
- An asbestos assessment was conducted as part of the Phase I ESA. Asbestos-containing materials (ACM) were identified in the synagogue as chrysotile asbestos in the basement/boiler room in the pipe insulation and mud pack joints, the tiles and mastic in the rear areas of the basement, and the tiles and mastic in the prayer hall. Assumed ACM was located in the tile and mastic in the front area of the basement, in the boiler room door core insulation, in the electrical panels in the basement and prayer hall, in the roofing materials concluding flashing and mastic, and in the window caulk.
- A lead-based paint (LBP) survey was conducted by Langan. Painted surfaces on most of the synagogue building components were confirmed to be LBP.
- Fluorescent light fixtures were identified in the synagogue building that may contain polychlorinated biphenyls (PCBs).

Based upon the results of the Phase I ESA, the following REC was identified for Projected Development Site 1:

- Historical operations at Projected Development Site 1, as identified by historical resources including a City Directory search and Sanborn Fire Insurance Maps, include printing between 1905 and 1950, a coppersmith and tinsmith (1920) and laundry services (1922, 1947 through 1968). There are no records identifying releases or the generation and disposal of hazardous materials associated with these listings, and the locations shown in the Sanborn maps indicate small shops as opposed to large commercial operations; however, due to the potential use of chemicals associated with such historical operations and the duration of these activities, the historical use has the potential to impact subsurface conditions at Projected Development Site 1, and is considered a REC.

Based upon the results of the Phase I ESA, the following Business Environmental Risks (BERs) were identified for Projected Development Site 1:

- According to information obtained during an onsite interview, the synagogue has historically been heated via a steam boiler powered by a fuel oil storage tank beneath the sidewalk. Langan representatives observed a fill port and vent pipe along the southwestern portion of the building and an inaccessible room in the southwestern portion of the basement south of the boiler room. The exact location or presence of the tanks could not be confirmed. As there are no reported releases associated with the fuel oil storage tank, this represents a BER.
- Lot No. 75 was historically occupied by residential and commercial buildings prior to the conversion of the lot into a parking area in 1990. The potential presence of heating oil USTs beneath the lots and adjacent sidewalks represents a BER.
- Historic fill material is typically characterized by elevated concentrations of polycyclic-aromatic hydrocarbons (PAHs) and metals.

- Potential impacts from current and historic operations conducted at adjacent and nearby properties involving the use of ASTs, USTs spills, and the generation and disposal of hazardous waste represent a BER due to the potential for offsite migration of contaminants to impact sub-slab soil and/or groundwater beneath development site.

Based on the results of the Phase I ESA, the following non-scope items (additional concerns) were identified for Projected Development Site 1:

- ACM was identified in the basement and first floor of the synagogue building and assumed ACM is located in the basement, first floor, roofing material and window caulk.
- The paint on most of the synagogue building components was identified to be LBP and was observed to be in poor condition.
- The Structural Engineering Report prepared by Robert Silman Associates noted the presence of water damage and structural concerns as the result of water infiltration. The poor condition of the building and the presence of moisture can be an environment conductive to mold growth.

Remedial Investigation (RI) (Phase II Environmental Site Assessment)

Based upon the RECs and potential subsurface impacts identified in the Phase I ESA, Langan prepared a comprehensive Phase II Environmental Investigation Work Plan (the "Phase II Work Plan") and site-specific Health and Safety Plan (HASP) which was submitted to the lead agency for review and approval. In correspondence issued to the lead agency on December 20, 2018, the New York City Department of Environmental Protection (DEP) approved the Phase II Work Plan (see **Appendix 3**). The RI consisted of a subsurface investigation involving performance of a geophysical survey (magnetometer and ground-penetrating radar [GPR]), as well as the collection of soil, groundwater and soil vapor samples to establish baseline conditions and investigation RECs previously identified in the Phase I ESA. Due to site constraints and unstable building conditions on Lot 37, only Lot 75 was investigated as part of Langan's RI.

The scope of the RI included the following:

- Completion of a geophysical investigation
- Completion of eight (8) soil borings and collection of 17 soil samples (two samples from each boring plus one duplicate) to assess soil conditions
- Installation and sampling of four (4) groundwater monitoring wells in order to establish baseline groundwater conditions
- Installation of seven (7) soil vapor points to asses currents oil vapor conditions
- Completion of eight (8) additional soil borings and collection of twenty (20) soil waste characterization samples for disposal purposes.

The results of Langan's RI were summarized in a Remedial Investigation Report (RIR) (or Phase II ESA Report), dated April 5, 2019. The findings of the RIR are provided, as follows:

Geophysical Survey

The geophysical survey completed on Lot No. 75 of Development Site 1 did not identify any subsurface metallic anomalies consistent with the presence of underground storage tanks (USTs) within the boundary of the respective parcel.

RI Soil and Groundwater Analytical Data

No volatile organic compounds (VOCs) or polychlorinated biphenyls (PCBs) were detected in soil or groundwater samples at concentrations exceeding the applicable New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) or the NYSDEC Technical & Operations Guidance Series (TOGS) Ambient Groundwater Quality Standards (GWQS). Therefore, historic petroleum releases were no identified.

Polycyclic aromatic hydrocarbons (PAHs) (or semi-volatile organic compounds [SVOCs]) including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene, which are commonly associated with the presence of historic fill, were identified in six (6) of the eight (8) shallow soil samples. However, there were no PAH exceedances above NYSDEC Part 375 UUSCOs in deeper soil samples collected from the base of the reported excavation. However, soil samples collected below the proposed excavation depth of 20-feet below grade identified the metals nickel, lead and mercury, as well as the pesticide 4,4'-DDT above NYSDEC Part 375 UUSCOs, indicating contamination relating to historic fill material is present on the northern portions of the site within the materials to be removed to the proposed depth of site development. Furthermore, the metals barium, cadmium, hexavalent chromium, lead and mercury were detected in four (4) of the eight (8) shallow soil samples above NYSDEC Part 375 Restricted Use Soil Cleanup Objectives (RUSCOs).

Depth-to-groundwater was established at 28-feet below grade surface (bgs) during the RI. PAHs were not detected in groundwater monitoring wells at concentrations exceeding NYSDEC GWQS. Based on the absence of PAHs in groundwater samples collected at the parcel, the RIR indicated PAHs detected in shallow soils did are not directly affecting groundwater quality. In addition, based on the groundwater data, it was determined in the RIR that contamination as it relates to metals in soils were also not directly affecting groundwater quality at the parcel.

Soil Vapor Analytical Data

Low levels of VOCs were detected in soil vapor samples. In addition, VOCs including carbon tetrachloride, methylene chloride, PCE and trichloroethene (TCE) were detected in soil vapor samples collected on Lot No. 75 which are subject to the New York State Department of Health (NYSDOH) Soil Vapor/Indoor Air Decision Matrices A through C included in the NYSDOH *Final Guidance for Evaluating Soil Vapor Intrusion, October 2006* and subsequent updates. None of these specific VOCs were detected at concentrations that require additional investigation, monitoring or mitigation. In addition, petroleum-related VOCs benzene, toluene, ethylbenzene and xylenes (collectively known as BTEX) were detected in soil vapors samples that were attributed to off-site or "regional" soil vapor impacts and were not directly correlated to the on-site petroleum release conditions.

Soil Waste Characterization Analytical Data

There were no VOCs, PCBs, or herbicides detected in waste characterization soil samples, with the exception of one detection of acetone in shallow soil at a concentration slightly exceeding its NYSDEC Part 375 UUSCO. Waste characterization analytical results revealed the presence of SVOCs, pesticides, and metals in excess of RUSCOs in the central and southern portion of the site between 0 and 15 ft bgs and between 0 and 20 feet bgs in the northern portion of the site.

Similar to the results of the RI soil sampling, shallow historic fill in the southern most sample locations do not appear to have impacted the underlying native material as elevated concentrations of compounds other than iron were not detected in the 15- to 20-foot interval of these sample locations. However, soil samples collected from the historic fill in the 15- to 20-foot depth interval on the northern portion of the site revealed exceedances of the RUSCOs for SVOCs, pesticides, and metals. The exceedances identified in these samples indicate that impacted historic fill is present in the northern portion of the site within the material that is proposed to be removed as part of site development.

Conclusions

The results of Langan's RIR indicate Lot 75 is underlain by a layer of historic fill material that varied in thickness from 11.5-to-30 feet. Based on the results of the shallow soil samples collected, the fill material is contaminated with concentrations of PAHs above NYSDEC Part 375 RUSCOs, and metals above both NYSDEC Part 375 UUSCOs and RUSCOs. While no exceedances of PAHs or metals were identified in the soil samples collected form the native material encountered at the depth of excavation of the proposed development, exceedance of metals and pesticides were identified in the fill material that was present in deeper thicker fill samples collected on the northern portions of Lot 75.

Future No-Action Condition

Absent the proposed actions (the No-Action condition), the project block would remain in its existing condition, consisting of a parking lot and the synagogue remnants on Projected Development Site 1, the mixed-use building on Projected Development Site 2, and the Hong Ning senior residence on Lot 1. Therefore, no further assessment of hazardous materials would be conducted and (E) Designations for Hazardous Materials would not be placed on Projected Development Sites 1 and 2. Consequently, confirmed contaminants present on portions of Projected Development Site 1 would go unmitigated and regulatory oversight from OER would not be provided.

In addition to the above, regulatory requirements pertaining to building materials containing ACM and LBP would not be addressed under prevailing regulations as part of standard demolition and redevelopment practices.

Future With-Action Condition

In the future With-Action condition, Projected Development Site 1 would be developed with the Norfolk and Suffolk Buildings:

- **Suffolk Building:** A 30-story, 310-foot-tall mixed-use (without bulkhead) building with residential and retail space, as well as community facility space for CPC.
- **Norfolk Building:** A 16-story, approximately 165-foot-tall (without bulkhead) residential building with space for a Jewish Heritage and Cultural Center.

With respect to Projected Development Site 2, the owner of Lot 95 would retain the existing five-story mixed-use building and develop a small amount of commercial space on Projected Development Site 2.

To address any concerns relating to hazardous materials on Projected Development Sites 1 and 2, the proposed actions would include an (E) designation for hazardous materials (E-548). In addition, the applicant would also explore a potential enrollment in the NYSDEC Brownfield Cleanup Program (BCP) which would provide regulatory oversight for any supplemental investigation or remedial action by NYSDEC.

Compliance in association with the hazardous materials (E) Designation on Projected Development Sites 1 and 2 would be conducted under the administration of the New York City's OER. The (E) designation process generally begins with preparation of a Phase I ESA to determine potential recognized environmental conditions (RECs) and areas of concern (AOCs) that may require additional investigation. Any potential RECs or AOCs identified would follow the (E) designation protocol for additional investigation and potential remedial action. These procedures would likely be followed in the case of Project Development Site 2. However, the (E) Designation process as it relates to Projected Development Site 1 would utilize the existing Phase I ESA prepared by Langan, as well as the sample results and Langan's RIR for Lot 75 to supplement any additional subsurface investigations that may be required by OER under the (E) Designation requirements for the remaining uninvestigated portions of Projected Development Site 1 (Lot 37). The applicable text for the (E) designation to be applied to Block 346, Lots 37, 75, and 95 (E-548) would be as follows:

Task 1: Sampling Protocol

Prior to construction, the applicant submits to OER, for review and approval, a Phase II Investigation protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented.

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 the sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2: Remediation Determination and Protocol

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 Remedial Action Work Plan (RAWP) must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER in accordance with the approved RAWP. The applicant should then provide proper documentation that remedial action has been satisfactorily completed.

An OER-approved construction-related Health and Safety Plan (CHASP) would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.

As an alternative, enrollment in the BCP would provide a pathway to further characterize, investigate and remediate the Projected Development Sites under regulatory oversight provided by NYSDEC. The BCP is also considered an accepted pathway for site investigation and remediation that satisfies the requirements of OER's (E) Designation program.

In addition to the requirements mandated under the (E) designation and/or enrollment in the BCP, regulatory requirements pertaining to building materials containing ACM, LBP, PCBs as well as mold/mildew identified on Projected Development Sites 1 and 2, if any, would be addressed under standard renovation/demolition practices.