Chapter 10: Hazardous Materials

A. INTRODUCTION

This chapter presents the findings of the hazardous materials assessment and identifies potential areas of concern that could pose a hazard to workers, the community, and/or the environment during or after development of the proposed project.

As described in Chapter 1, "Project Description," the proposed project would redevelop the northern portion of the Bronx Psychiatric Center (BPC) campus with a mix of commercial and medical office, bio-tech/research, hotel, accessory, college/trade school, community facility, and retail uses along with open space and parking facilities. For the purposes of this Environmental Impact Statement (EIS), it is assumed that in the future without the proposed project (the "No-Action" condition), the three primary, existing buildings (Bronx Children's Psychiatric, Thompson, and Parker Buildings) would remain vacant. The powerhouse, two metal shelters, and small storage building on the project site would also be vacated and decommissioned, and the ballfields would remain as in the existing condition. The proposed project would be completed in two phases, with 2023 as the analysis year for Phase I completion, and 2028 as the year for Phase II full build-out, or "With-Action" condition.

As such, the proposed project would require renovation or demolition of existing structures, followed by excavation for new foundations, utilities, etc. and installation of new paving and landscaping. This chapter will examine the potential for significant adverse impacts related to subsurface contamination, including an evaluation of the existing soil and groundwater conditions in areas that would be affected by the proposed project. It will also assess the potential for hazardous materials to be present within existing site structures.

The potential for hazardous material conditions was evaluated based on previous environmental assessments and investigations summarized below. The findings of the hazardous materials assessment were that, although hazardous materials such as asbestos-containing materials (ACM) and potentially lead-based paint (LBP) are present inside the existing buildings and subsurface hazardous materials are known to be present, no significant adverse impacts related to hazardous materials would be expected to occur either during or following the construction of the proposed project, provided certain protocols are followed.

PRINCIPAL CONCLUSIONS

This analysis finds that the proposed project would not result in significant adverse impacts related to hazardous materials.

B. EXISTING CONDITIONS

TOPOGRAPHY AND SUBSURFACE CONDITIONS

The site of the proposed project is approximately 30 feet above mean sea level and, based on testing to date, below grade there is a layer of fill material (typically sand with fragments of coal, brick, glass, wood, etc.). Groundwater at the project site is first encountered at depths ranging from approximately 10 to 15 feet below grade and flows generally toward the northeast.

ASSESSMENTS AND SUBSURFACE INVESTIGATIONS

The August 2008 *Bronx Mental Health Redevelopment Project Environmental Impact Assessment Report* (EIAR) included a summary of a Phase I Environmental Site Assessment, prepared by Langan Engineering and Environmental Services, P.C., dated June 2007. It identified "Recognized Environmental Conditions" (RECs), i.e., the presence or likely presence of hazardous substances or petroleum at a property, including the ground, groundwater, or surface water at or under the property. These included:

- Two transformer rooms in the Thompson Building of the BPC were listed as a New York State Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal Site (IHWDS) due to leaks (first reported in 1989) from polychlorinated biphenyl (PCB)-containing electrical transformers. The Phase I report indicated that releases had occurred inside the rooms that had affected the concrete floors and the underlying soil. All PCB-containing equipment was removed in the 1990s.
- Multiple fuel oil tanks: including one in-service and one closed-in-place 183,000-gallon No. 6 fuel oil aboveground storage tanks (ASTs), with stained soils observed nearby; two in-service underground storage tanks (USTs) and 15 in-service or temporarily out-of-service ASTs; and nine closed-and-removed tanks (four ASTs and five USTs). Regulatory databases identified 12 reported petroleum spills for the BPC and an additional 33 within a half mile. Although the on-site spills were reported to have affected subsurface soil and groundwater, all were listed as closed (i.e., cleaned up to the satisfaction of NYSDEC).
- A review of historical fire insurance maps and aerial photographs indicated that the project site was occupied by a freight yard from before 1919 to sometime after 1947, the operation of which may have included the use of solvents, oils, metals, lubricants, creosote, and other products. By the 1950s, the project site was identified as an industrial center, though specific uses were not identified. The BPC was developed in the 1960s.
- Medical and chemical wastes (including containers and drums of chemicals and oils) were stored at various locations prior to off-site disposal by a commercial disposal service. A former drum storage area was reported for the powerhouse.
- The surrounding area has a long industrial and manufacturing history, including freight yards, coal yards, fuel companies, and automotive-related operations.

As summarized in the subsequent 2011 Technical Memorandum to the 2008 EIAR, updated information since the EIAR included:

- Following the discovery of seemingly petroleum contaminated soils during a 2008 geotechnical investigation, soil and groundwater sampling was conducted and findings disclosed in the *Draft Focused Remedial Investigation Report* (May 2009) and *Draft Supplemental Investigation Report* (September 2009). Although the laboratory analysis of these samples revealed levels of certain constituents (including arsenic, mercury, and

certain semivolatile organic compounds) above the most stringent NYSDEC guidelines used at that time (TAGM 4046 Recommended Soil Cleanup Objectives), the levels found were typical of urban fill materials and showed no evidence of a petroleum release.

- An updated search of regulatory databases (reviewed to determine whether there had been any substantive changes) indicated a minor (approximately one-gallon) spill of hydraulic oil reported in August 2007 (but cleaned up and the spill listing closed) and in September 2007, two petroleum storage tanks (a 2,500-gallon gasoline UST and a 4,000- gallon No. 2 fuel oil AST) were removed.

The most recent agreement (Order on Consent and Administrative Settlement—Index # R2-0668-06-11) entered into in 2012 by the New York State Office of Mental Health (OMH) with NYSDEC had the goal of development and implementation of a remedial program to address the PCB contamination associated with the two transformer rooms. In August 2012, an initial Remedial Investigation Report (RIR) was prepared summarizing existing data. Additional investigations were conducted in July 2013 and July 2014 and these data were incorporated into a revised RIR, submitted in January 2015. The Feasibility Study (or "FS," a study to identify the best approach to address remaining PCB contamination from the transformers) was submitted to NYSDEC in March 2018. It recommended removal of additional concrete and soil containing PCBs followed by construction of a concrete cap. This would allow the site to be reclassified to Class 4, a site that has been properly closed but that requires continued site management consisting of operation, maintenance, and/or monitoring.

In 2016, delineation of the petroleum spill related to Tank 17 was completed. A remedy for this spill was proposed to and has been approved by NYSDEC, but has not yet been implemented, and it is anticipated that the scope will be revised, subject to NYSDEC approval, prior to implementation.

In October 2016, a Phase I Environmental Site Assessment (ESA) of the project site was prepared in general conformance with the ASTM E 1527-13 Standard. It identified the following (including recognized environmental conditions or RECs, i.e., the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property):

- A No. 6 fuel oil release from an AST that contacted a grass area of the site. The spill was closed by NYSDEC in 1988. [Historic REC]
- The PCB-transformers, discussed above. [REC]
- A petroleum release in November 2014 during filling of an AST (Tank 17). Plans are to conduct an excavation under NYSDEC oversight, discussed above. [REC]
- An October 2016 site characterization identified the presence of petroleum in a soil boring located west of the southernmost 183,000-gallon AST. [REC]
- A subsurface investigation conducted as part of the PCB investigation near the Thompson Building identified the presence of historic fill materials in soil. The July 2016 preliminary site characterization confirmed presence of historic fill materials in soil throughout the majority of the site.
- Asbestos surveys were completed in four on-site structures, specifically the Thompson, Parker, BPC Buildings and the powerhouse. In reports, dated April 27, 2015, significant quantities of various types of ACM were identified in all four buildings.
- The buildings were constructed at a time when LBP was commonly used.

In October 2016, a Site Characterization Report was prepared that summarized the findings of 30 soil borings (installed for the purposes of determining the extent of the fill material), associated laboratory analysis of 22 soil samples and installation and sampling of six groundwater monitoring wells. Samples were analyzed for volatile organic compounds (VOCs), metals, polycyclic aromatic hydrocarbons (PAHs) and PCBs. Additional soil samples were collected in the vicinity of two USTs, (some of these samples were analyzed for VOCs and PAHs only). The laboratory analysis confirmed that, consistent with the presence of historical fill, concentrations of PAHs and metals in these fill samples were generally above the NYSDEC Unrestricted Use Soil Cleanup Objectives (SCOs), with certain samples also exceeding the Commercial Use SCOs (for PAHs, PCBs or metals). These widespread exceedances are indicative of the fill material as a source, as there is no obvious prior site use contributing to the detected levels. Groundwater sample laboratory data was compared with the NYSDEC's Groundwater Class GA criteria obtained from Division Technical and Operational Guidance Series 1.1.1 (TOGS). It should be noted that these standards and guidelines were developed assuming use as a drinking water source, whereas in fact, drinking water in the Bronx originates in upstate reservoirs. Exceedances of GA criteria for PAHs and certain metals were found, but again the fill material is the likely source.

In March 2019, NYSDEC issued a Record of Decision (ROD) for the IHWDS, i.e., the selected remedy. It includes the following elements:

- The transformers will be taken out of service and removed. The concrete floor will be removed and disposed of, and soil which exceeds the restricted-residential SCOs for PCBs (1 ppm) will be excavated, in the top two feet and deeper to the extent practical, and transported off-site for disposal. Confirmatory end point samples will be collected.
- Clean fill will be brought in to replace the excavated soil, or excavated site soil which does not exceed the 1 ppm PCB criterion may be used as backfill
- A site cover will consist either of concrete, or soil where the upper two feet of exposed surface soil meets restricted-residential SCOs.
- Institutional controls in the form of an environmental easement will require the remedial party or site owner to complete and submit to NYSDEC a periodic certification of the remedy's institutional and engineering controls, of its land use and restrictions on use of groundwater; and compliance with the NYSDEC-approved Site Management Plan (SMP). The SMP will include an Excavation Plan (provisions for management of future excavations in areas of remaining contamination); provisions for maintaining site access control, and a schedule of monitoring and submittals to NYSDEC.

BUILDING HAZARDOUS MATERIALS

As a part of the site characterization work, testing of suspect ACM was performed. It revealed extensive ACM throughout the existing buildings. Although not tested, given the age of the buildings it is likely that LBP is also present.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

This analysis assumes that without the proposed project in 2023 and 2028, the project site buildings would not be demolished or renovated, but would remain vacant. The steam generating powerhouse, two metal shelters, and small storage building on the project site would also be vacated and decommissioned. The ball fields would remain as in existing conditions.

- The NYSDEC ROD would need to be implemented, including removal of the existing transformers, concrete slab and underlying contaminated soil, followed by capping. Following implementation of the remedy, a Site Management Plan (SMP) would be prepared and an environmental easement recorded on the property.
- Any decommissioning with the potential to affect ACM or disturb LBP would need to be performed in compliance with applicable regulations.
- Any medical or chemical wastes or other wastes in containers, drums or other storage would need to be disposed of off-site at appropriate facilities in accordance with applicable regulatory requirements.
- Unless there were to be labeling or test data which indicated that fluorescent lights did not contain mercury, and that the lighting fixtures were not PCB-containing, any disposal that would need to be performed, e.g., as part of mothballing the facility, would be in accordance with applicable regulations and guidelines.
- Removal (or closure-in-place) of all USTs and ASTs (and associated piping, pumps etc.) would need to be performed in accordance with NYSDEC requirements, including those related to spill reporting and tank registration. It is likely that as a part of the tank removal/closure NYSDEC would require completion of additional subsurface investigation and, if contaminated soil or groundwater were found, potentially other measures.

D. THE FUTURE WITH THE PROPOSED PROJECT

Unlike conditions in the No-Action condition, the proposed project in both Phase I (2023) and Phase II (2028) would require extensive demolition/renovation, and excavation associated with construction of new buildings, utilities, new ballfields, parking and landscaping. Although these activities could increase the potential for exposure to the project site's hazardous materials (in the buildings and the subsurface), the potential for adverse impacts associated with these activities would be avoided by adhering to the measures set out below:

- The NYSDEC ROD would need to be implemented, including removal of the existing transformers, concrete slab and underlying contaminated soil, followed by capping. This work would need to be implemented prior to (or in conjunction with) project development work. Following implementation of the ROD, a Site Management Plan (SMP) would be prepared and an environmental easement recorded on the property. The easement would establish the institutional and engineering controls needed to manage residual PCB contamination, including monitoring and health and safety procedures that would ensure that future site workers and occupants would not be exposed to residual contamination.
- Based on the findings of the 2016 site characterization investigation, the future site owner plans to enter the areas of the project site outside of the IHWDS into the NYSDEC's Brownfield Cleanup Program (BCP), a voluntary program. Remediation related to petroleum contamination near the 183,000-gallon AST and any other required remediation would be conducted in accordance with the BCP requirements, including preparation of BCP-required Remedial Action Plan (RAP), and summary/completion reports. The contemplated remedial actions would likely include engineering controls to be incorporated into project construction, such as soil vapor intrusion controls for new buildings and capping of newly created landscaped areas. The RAP would address soil management (including stockpiling and characterization, transportation, and disposal off site of excess or contaminated soil), health and safety procedures and procedures to

address unanticipated contamination discovered during construction. Upon completion of the BCP, NYSDEC would issue a certificate of completion including a liability release and covenant not to sue.

- Prior to or as a part of new construction, removal of all USTs and ASTs (and associated piping, pumps etc.) would be performed in accordance with NYSDEC requirements including those related to spill reporting and tank registration. It is likely that as a part of the tank removal/closure NYSDEC would require completion of additional subsurface investigation and, if contaminated soil or groundwater were found, remedial measures to address such conditions.
- If dewatering is required, e.g., for new construction or utility installation, groundwater testing would be performed to ensure that the discharge would meet the New York City Department of Environmental Protection (DEP) sewer discharge requirements. If necessary, pretreatment would be conducted prior to discharge to the City's sewer system, as required by DEP permit/approval requirements.
- All demolition/renovation with the potential to affect ACM or disturb LBP would be performed in compliance with applicable regulations. This would entail a detailed asbestos abatement plan and removal of the ACM prior to the demolition/renovation. Similarly, LBP regulatory requirements, e.g., to avoid unacceptable exposure to demolition workers, would be adhered to.
- Any medical or chemical wastes or other wastes in containers, drums or other storage would be disposed of off-site at appropriate facilities in accordance with applicable regulatory requirements.
- Unless there were to be labeling or test data that indicated that fluorescent lights do not contain mercury, and that the lighting fixtures are not PCB-containing, any disposal would need to be performed in accordance with applicable regulations and guidelines.

Because the BCP is a voluntary program, the testing and required remedial measures will be memorialized in the development agreement between Empire State Development and the developer. With the above measures, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the proposed project. Following construction, there would be no potential for the proposed project to result in significant adverse impacts related to hazardous materials. ✷