

**16.1. INTRODUCTION AND SUMMARY OF FINDINGS**

This Chapter assesses the potential for increased exposure to environmental contamination or hazardous materials during construction and operation of the Proposed Project, and the specific measures that would be employed to protect public health, worker safety, and the environment. A “hazardous material” is generally defined as any substance that poses a threat to human health or the environment.

To identify historic and current uses of the Project Site, and potential sources of hazardous materials, reports from prior investigations were reviewed to assess the potential presence of contamination on the Project Site. The reports reviewed included a Phase I Environmental Site Assessment (ESA), a New York State Department of Conservation (NYSDEC) Restrictive Covenant, laboratory sampling data collected during subsurface investigations prior to the Applicant’s acquisition of the Project Site, and correspondence from NYSDEC. Additionally, in 2017 AKRF, Inc. performed an on-Site assessment to confirm the findings of the previously completed Phase I ESA (2014) and existing Site conditions. These documents are provided in **Appendix I**.

This analysis concludes that although a Fill Area containing construction and demolition (C&D) debris exists on-Site, and the potential for subsurface contamination has been identified in some other areas of the Project Site, construction of the Proposed Project would not result in adverse impacts provided that standard measures contained in a Remedial Action Work Plan (RAWP) and Construction Health and Safety Plan (CHASP) are implemented during construction. New buildings and ground cover would incorporate elements such as vapor barriers for buildings and a geomembrane liner for ground cover, as necessary, which would avoid adverse impacts from any hazardous materials remaining in the subsurface after Project construction.

**16.2. EXISTING CONDITIONS****16.2.1. TOPOGRAPHY AND SUBSURFACE CONDITIONS**

Based on data from the U.S. Geological Survey (USGS) and Westchester County, the Project Site is approximately 235–305 feet above sea level, sloping down toward the east. Based on topography, groundwater is anticipated to flow to the east. However, flow can be affected by many factors including past filling, bedrock configuration, underground utilities, and other subsurface openings or obstructions.

**16.2.2. PHASE I ENVIRONMENTAL SITE ASSESSMENT**

To determine the potential for the presence of hazardous materials at the Project Site, a Phase I ESA was prepared by Woodard and Curran in January 2014 (see **Appendix I-11**). The ESA was conducted to identify recognized environmental conditions (RECs) and other environmental concerns in, on, or at the Project Site resulting from past or current Project Site usage and usage of neighboring properties. RECs are defined in ASTM

International (ASTM) Standard Practice E 1527-05 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property. The Phase I ESA included a reconnaissance of the Project Site; a review of regulatory databases, NYSDEC, and U.S. Environmental Protection Agency (EPA) records; a review of historic fire insurance (Sanborn) maps, aerial photographs, USGS topographic maps, and City of White Plains directories; and a review of existing area geology and hydrogeology data.

The Phase I ESA for the Project Site documented the following findings:

- No manufacturing was reported on the property;
- *De minimis* conditions included proper storage of cleaning products and chemistry/biology classroom chemicals;
- The steam heating system for main Site buildings is fueled by natural gas with one active 15,000 gallon fuel oil underground storage tank (UST) used as a back-up fuel source;
- Coal was used to fuel the steam boilers prior to using natural gas and/or heating oil;
- One 1,000-gallon fuel oil UST at the Mapleton building is used for heating;
- Two aboveground storage tanks (ASTs) ranging from 250 to 275 gallons used for heating the St. Ann and St. Jean residential buildings;
- Over 30,000 cubic yards of soil fill containing C&D was imported in 2004 to the area south of the existing gymnasium. An inspection by NYSDEC confirmed that the fill contained C&D and, as the material was imported without proper permitting, was in violation of the NYSDEC solid waste regulations. NYSDEC used a mechanism called an Order on Consent (Order), which required investigation and any needed remediation to address the Fill Area in accordance with State requirements. At the time of the Phase I ESA, documentation was not available indicating that the Order had been fulfilled<sup>1</sup>; and
- Petroleum spills and/or hazardous waste releases were documented on neighboring properties, but based on distance, location, or regulatory status, the spills were not considered to have the potential to affect the Project Site.

Based on these findings, the Phase I ESA identified the following RECs:

- Historic fill in the southeast portion of the subject property; and
- The potentially leaking 250-gallon AST in the former boiler room of the St. Jean building.

In addition to the above RECs, the Phase I ESA noted other potential hazardous material concerns including: suspect asbestos-containing material (ACM), potential lead-based paint (LBP), and electrical and hydraulic equipment that may include polychlorinated biphenyls (PCBs) or mercury-containing components.

### **16.2.3. CONFIRMATION ESA**

In March 2017, AKRF performed an assessment to confirm the findings in the previously completed (January 2014) Phase I ESA and to determine whether any material changes to the Site were evident since its completion. The 2017 ESA included

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<sup>1</sup> Subsequent to the Phase I ESA, additional information regarding the status of the Order was provided by the NYSDEC (June 2014). As described below, the NYSDEC indicated that there are no “open or pending enforcement proceedings regarding the property or the Consent Order.”

an updated federal and state database search (see **Appendix I-12**) and an on-Site inspection. AKRF confirmed each of the findings of the 2014 Phase I ESA, with the exception of the following items:

- Evidence of a residual release of fuel oil (surface staining on the basement floor) from a 275 gallon AST was observed in the basement of the St. Ann's Cottage;
- In June, 2014, the NYSDEC issued a letter stating, among other things, that there were no "open or pending enforcement proceedings regarding the property or the Consent Order"; and
- The geomembrane liner covering the Fill Area was exposed at isolated locations along the steep sloped portions of the Fill Area.

#### **16.2.4. PREVIOUS ON-SITE FILL OPERATIONS**

The on-Site filling activities and associated Order included several phases of investigation and construction of a landfill cap that occurred under oversight of the NYSDEC. This section provides a summary of those activities, and the existing status of the Fill Area.

##### *16.2.4.1. Filling Activities*

As documented in the January 2005 Site Investigation Report & Remediation Plan filed with the NYSDEC (see **Appendix I-3**), the former property owner, the Sisters of the Divine Compassion (the "Sisters"), received a Special Permit from the City of White Plains to construct an athletic field on the southeastern portion of the Site. In 2004, WJL Equities Corporation (WJL) imported over 30,000 cubic yards of backfill to the Site in the area south of the existing gymnasium building as part of the planned construction of the athletic field. NYSDEC inspected the backfilled area on April 23, 2004, and identified that the fill contained C&D debris, mainly consisting of soil mixed with broken up asphalt and crushed concrete. C&D debris is a typical by-product of the construction industry and can include concrete, wood products, drywall/plasters, brick, tile, steel, and asphalt (paving and roofing shingles). Fill containing C&D is a NYSDEC-regulated material, cannot be imported to a site without NYSDEC approval, and, therefore, the filling operation was identified as being in violation of NYSDEC's solid waste regulations.

##### *16.2.4.2. NYSDEC Action Requirements*

In September 2004, NYSDEC indicated that the Fill Area needed to be addressed, and utilized an Order on Consent to identify the actions required to be completed (see **Appendix I-1**). The Order required, and both the Sisters and WJL agreed to conduct, an investigation of the Fill Area and to complete any NYSDEC-required remediation/landfill capping to be protective of public health and the environment. The Order also required that all investigation and remediation work be conducted in accordance with plans that were reviewed and approved by NYSDEC, and that all work be documented in a final report to be certified by a professional engineer.

##### *16.2.4.3. Site Investigation*

In August 2004, NYSDEC approved an investigation work plan that was prepared on behalf of the previous property owner and WJL (see **Appendix I-2**). The work plan also included the results of soil sampling that took place during

the initial filling activities by WJL. The NYSDEC-approved subsurface investigation was completed in November 2004 and included the excavation of test pits and the collection and laboratory analysis of samples collected from the fill material. A Site Investigation Report & Remediation Plan submitted by EnviroClean Services, LLC, to NYSDEC in January 2005 documented that the fill material contained a group of compounds called semivolatile organic compounds (SVOCs) at concentrations that exceeded the State clean-up standards applicable to sites with no use restrictions (see **Appendix I-3**). SVOCs are components of petroleum products such as fuel oil and diesel, are present in asphalt, and are by-products of combustion (e.g., wood, fuel oil, and coal), car exhaust, and even charred foods. The SVOC compounds identified during the investigation were attributed to the bits of asphalt that were observed to be present in the fill. Groundwater was not encountered during the investigation.

On July 1, 2005, NYSDEC conditionally approved the Site Investigation Report & Remediation Plan, which allowed the previous owner to complete the importation of fill (an additional approximately 30,000 cubic yards) to construct the athletic field under certain conditions. Only uncontaminated, recognizable concrete, brick, asphalt, and soil was allowed to be received at the Site. The remaining backfilling occurred from August 2005 to October 2005, as allowed by NYSDEC. Soil samples collected from the additional fill material that NYSDEC allowed to be imported also contained SVOCs at concentrations consistent with previous sampling. NYSDEC's approval of the soil importation confirmed that the material was suitable for the intended use.

#### *16.2.4.4. Remediation/Landfill Capping*

The potential for health impacts from the SVOCs present in the fill material would be through direct exposure (e.g., ingestion, dust inhalation) to the fill material. The data from Site investigations, as documented in the July 2005 approved Site Investigation Report & Remediation Plan, confirmed that the NYSDEC-approved remediation plan would allow for the fill material to stay on-Site, subject to certain conditions. The NYSDEC remediation protocol required the following measures:

- A geomembrane liner and soil cap with vegetated cover over the Fill Area to prevent direct exposure to the fill material and prevent the infiltration of groundwater;
- An amendment to the property's deed (e.g., deed notice) to identify the boundary of the Fill Area, prevent disturbance of the cap covering the Fill Area, maintain the condition of the liner and soil over the Fill Area, and restrict the use to open space (see **Figure 16-1** and **Appendix I-4**); and
- NYSDEC notification prior to disturbance of the Fill Area, and NYSDEC review and approval of any plan to change the use of the Fill Area.

The NYSDEC-required remediation/landfill capping activities, including installation of a liner and soil cap with vegetative cover, were completed after NYSDEC approval of the work plan in July 2005. In February 2007, the NYSDEC issued a Notice of Violation (NOV) to WJL for failure to submit a

Final Engineer's Report within the timeframe required by the Order (see **Appendix I-5**). In March 2007, the Sisters and WJL submitted the Final Engineers Report to NYSDEC to complete their requirements under the Order (see **Appendix I-6**). In October 2014, the NYSDEC issued a letter to the former owner of the property stating that, "DEC staff conclude that [the Sisters] has complied with the terms and conditions of the Order, including Schedule A of the Order and do not believe that there are any continuing obligations under it." The NYSDEC letter also stated that there are no "open or pending enforcement proceedings regarding the property or the Consent Order," indicating that the Fill Area was addressed to NYSDEC's satisfaction and was closed in a manner that was protective of public health and safety for its intended use as open space (see **Appendix I-7**).

### 16.2.5. ADDITIONAL SUBSURFACE INVESTIGATIONS

#### 16.2.5.1. *Soil & Soil Gas Investigation—2012*

In 2012, the previous owner of the property conducted an additional investigation to evaluate the Fill Area in relation to a potential redevelopment opportunity. The investigation, performed in accordance with a NYSDEC-approved plan, included the collection of soil and soil gas samples for laboratory analysis. Collection of these samples required penetration of the geomembrane liner. As documented in the Soil & Soil Vapor Analysis Report prepared by EnviroClean Services, LLC, in August 2012 (see **Appendix I-8**), the investigation concluded that the C&D fill material contained SVOCs at concentrations consistent with previous investigations and that soil gas contained petroleum compounds (gasoline components), refrigerants, and propellants at concentrations consistent with urban fill and/or established background conditions and did not indicate the presence of any contamination hot spots. Chlorinated solvent compounds, which include degreasers and dry cleaning products, were not detected. Methane, a gas attributed to anaerobic decomposition of vegetation was detected below the liner. The Soil & Soil Vapor Analysis Report concluded that the Fill Area could be disturbed for redevelopment as long as appropriate protective measures were in place in advance of initiating any work. These measures would have included monitoring the work zone during construction, using mitigation measures (i.e., wetting) for dust, and incorporating mechanical items, such as a venting system, into the foundation of any new building. The report documenting the results of this investigation was sent to the NYSDEC for their review. The potential redevelopment was not pursued by the previous owner.

#### 16.2.5.2. *Geotechnical Investigation—2016*

In 2016, the Applicant's geotechnical consultant completed a single test boring within the Fill Area as part of a Site-wide preliminary geotechnical investigation. This investigation did not include laboratory analysis of soil samples. The boring penetrated the geomembrane liner and upon completion, the borehole was filled with concrete.

*16.2.5.3. Notice of Violation–June 2017*

The Applicant received an NOV from the NYSDEC on June 26, 2017, concerning the prior owner's Order (see **Appendix I-10**). The NOV included two violations: exposure of the geomembrane liner in a portion of the Fill Area; and, compromises to the barrier layer through the installation of gas monitoring ports and a chain link fence. The Applicant notes that the gas monitoring ports were installed as part of the NYSDEC approved sampling plan in 2012, which was undertaken by the previous owner (see **Appendix I-8**). In addition, as shown on property surveys and the 2012 sampling plan submitted to and approved by NYSDEC, the chain link fence was installed prior to 2012 by the previous owner (see **Appendix I-8**). As such, the potential for these actions to have compromised the geomembrane liner was known to NYSDEC by 2012, prior to the Site's acquisition by the Applicant and prior to the October 2014 NYSDEC letter indicating that the Site was addressed to NYSDEC's satisfaction. Subsequent to the NOV, NYSDEC has acknowledged that these actions occurred prior to the Applicant's purchase of the property. The Applicant, however, has agreed to repair the liner in these locations prior to redevelopment of the Site. This work would be completed pursuant to a plan that is reviewed and approved by the NYSDEC.

With regard to the exposure of the geomembrane liner, a portion of the liner on the steep slope directly behind the former gymnasium is exposed. This area has been exposed for several years, as documented by historical aerial photography.<sup>2</sup> The Applicant, however, is working with the NYSDEC to develop a plan that would provide coverage of the exposed portion of the geomembrane liner prior to redevelopment of the Site in a manner that would not require the existing liner to be removed or the existing fill material to be disturbed prior to redevelopment. This work would be completed pursuant to a plan that is reviewed and approved by the NYSDEC and appropriate City departments. As part of the Site's eventual redevelopment, a portion of the Fill Area would be covered by a new structure, which would serve as a permanent cap. For the balance of the Fill Area, the Applicant proposes to install a new geomembrane liner and vegetated soil cap.

### **16.3. FUTURE WITHOUT THE PROPOSED PROJECT**

In the Future without the Proposed Project, the Project Site would remain unchanged. The potential for on-Site hazardous materials to have a significant adverse impact on either users of the Project Site or neighboring properties would remain low. Potential ACM, LBP, and equipment containing PCBs or mercury would continue to require management in accordance with applicable regulatory requirements and the Fill Area would need to be maintained in accordance with the Restrictive Covenant. The active USTs and ASTs would continue to have the potential to release petroleum, which, if not properly remediated, could potentially result in an adverse environmental impact.

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<sup>2</sup> The exposed geomembrane liner appears on the 2007, 2010, 2011, and 2013 aerial imagery provided on [giswww.westchestergov.com](http://giswww.westchestergov.com). In addition, the exposed geomembrane liner appears on GoogleEarth imagery from April 2007, June 2010, and October 2014.

#### 16.4. POTENTIAL IMPACTS OF THE PROPOSED PROJECT

Development on the Project Site would involve demolition of existing buildings, followed by excavation for the proposed new construction. During building demolition, UST and/or AST removal, and subsurface disturbance associated with construction of the new building(s) and UST removal there is the potential for exposure of contaminated materials. The Proposed Project, however, would incorporate standard and appropriate controls, as described below, to avoid the potential for adverse impacts to construction workers and community members.

#### 16.5. MITIGATION MEASURES

The potential for adverse impacts to on-Site construction workers and off-Site residents would be avoided by incorporating the following measures into the construction of the Proposed Project:

- Any existing ACM, LBP, and equipment containing PCBs or mercury would be disposed of in accordance with all applicable state and federal requirements;
- All underground and above ground tanks would be properly closed and removed in accordance with state and local regulations;
- Appropriate erosion and sediment controls would be implemented in accordance with a Stormwater Pollution Prevention Plan (SWPPP) approved by NYSDEC, as described in Chapter 6, "Stormwater Management." Implementation of the SWPPP would minimize the potential for off-Site migration of sediment in stormwater during the soil disturbance activities.

Prior to disturbing any soil in the Fill Area, including clearing, excavation, grading, or any other construction activities as described in Chapter 17, "Construction," and to fulfill the requirements of the Restrictive Covenant, the Applicant will prepare a plan for NYSDEC review and approval that details the planned construction activities, the measures to limit exposure to workers and the surrounding community during disturbance of the Fill Area, and the measures for permanent controls to properly secure and manage the Fill Area after construction. The protocol developed for the Proposed Project, which would be submitted to NYSDEC for review and approval, would include the following measures, which have been reviewed and approved by NYSDEC for projects similar in size and scope to the Proposed Project:

- A RAWP would be prepared and submitted to NYSDEC for review and approval. No construction activities would occur within the Fill Area until such time as the NYSDEC approves the RAWP. The NYSDEC-approved RAWP would be implemented to manage disturbance of soil and fill within the area regulated by the Restrictive Covenant. The RAWP would include the following elements:
  1. Management of all soil and fill excavated as part of Site construction activities in accordance with all applicable local, state, and federal regulations. All soil intended for off-Site disposal would be tested in accordance with the requirements of the intended receiving facility. Transportation of all 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. If dewatering is required for construction, it would be conducted in accordance with all applicable regulations.
  2. Perimeter air monitoring of organic vapors and dust would be completed as a protective measure for the surrounding community. The monitoring, which would consist of continuous air screening at fixed perimeter stations located upgradient and downgradient

of the area of disturbance, would be conducted in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring (CAMP).

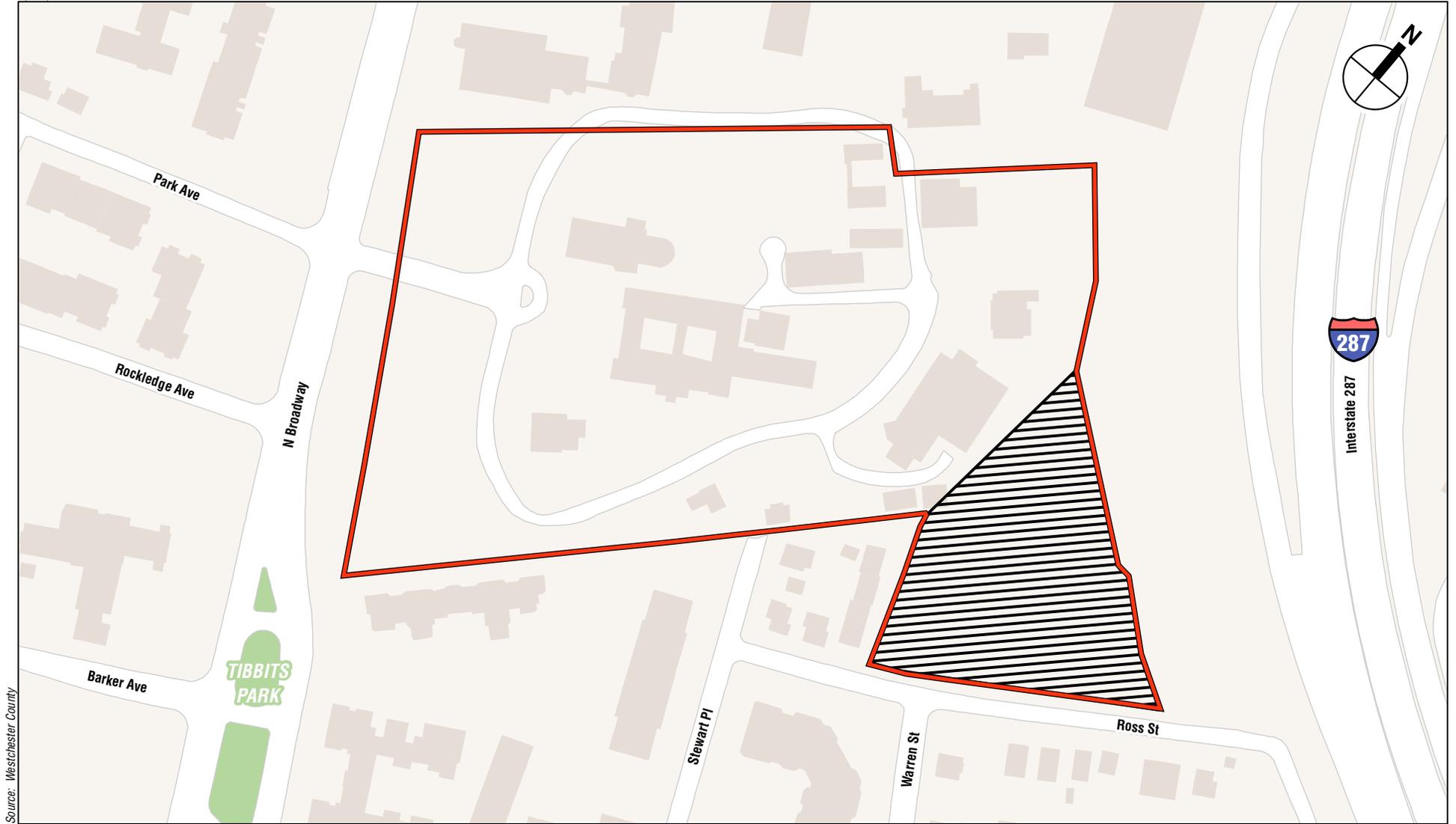
3. Vapor mitigation measures would be developed and implemented for future buildings located within the area regulated by the Restrictive Covenant to prevent subsurface vapors from entering the overlying building. Approved measures typically consist of a vapor barrier and a network of screened pipes to prevent vapors from intruding into the building. Placement of a building foundation over a portion of the Fill Area, as is currently proposed, is typically viewed as a comparable level of protection relative to a site cap consisting of a geomembrane and soil.
  4. The existing geomembrane liner covering the portion of the Fill Area outside of the buildings' footprint would be replaced. The new liner would be installed according to NYSDEC standards and would be covered with 2 feet of clean fill and vegetated to create maintained lawn/shrub areas. In addition, the perimeter slopes of the Fill Area, particularly those to the south and east of the Site, would be inspected and repaired as necessary.
  5. The RAWP would include contingency plans to address any potential unknown sources of contamination (i.e., unknown tanks, contaminated soil, or contaminated fill) that are encountered during construction activities.
- A CHASP would be prepared and implemented to provide for work place safety and to minimize the potential for exposure to contaminants during construction. The CHASP would also include procedures for air screening and dust monitoring, and mitigation measures to minimize dust generation. The CHASP would be subject to review and approval by the NYSDEC prior to any construction activity in the Fill Area.

The CHASP and RAWP would be provided to NYSDEC for required review and approval of the on-Site construction activity within the Fill Area. No construction activity would occur in the Fill Area without prior approval by the NYSDEC. Data compilation and reporting of all screening, monitoring, soil handling, disposal, and site remediation would be included in a site closure report, which would be available for public review.

With the implementation of these measures, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the construction activities for the Proposed Project. Following construction of the Proposed Project in accordance with the RAWP and the maintenance and monitoring requirements of the closure report, there would be no potential for adverse impacts.

**16.6. REFERENCE MATERIALS (APPENDIX I)**

- I-1. *Order on Consent*. DEC Case No.: R3-20040511-68. September 17, 2004.
- I-2. *Site Investigation Plan*, August 18, 2004. NYSDEC Case No. R3-20040511-68. Prepared on behalf of the Sisters of the Divine Compassion.
- I-3. *Site Investigation Report & Remediation Plan*, January 10, 2005. NYSDEC Case No R3-20040511-68. Prepared by EnviroClean Services, LLC., on behalf of The Sisters of the Divine Compassion and WJL Equities Corporation.
- I-4. *Property Deed*, August 24, 2006 for the property at 52 North Broadway, White Plains, NY. Recorded September 28, 2006 with the Westchester County Clerk.
- I-5. *Notice of Violation*, February 28, 2007. Correspondence from NYSDEC to WJL Equities re: NYSDEC Case No. R3-20040511-68.
- I-6. *Final Engineer's Report*, March 28, 2007. NYSDEC Case No. R3-20040511-68. Prepared by EnviroClean Services, LLC., on behalf of The Sisters of the Divine Compassion and WJL Equities Corporation.
- I-7. Correspondence from NYSDEC to Sisters of the Divine Compassion re: NYSDEC Case No. R3-20040511. October 22, 2014.
- I-8. Correspondence from EnviroClean Services, LLC. With Attached Soil & Soil Vapor Analysis Report to NYSDEC. August 12, 2012.
- I-9. Correspondence from NYSDEC to WP Development NB, LLC. September 15, 2016.
- I-10. *Notice of Violation* from NYSDEC to WP Development NB, LLC., re: Order on Consent R3-20040511-68. June 26, 2017.
- I-11. *Phase I ESA for 52 North Broadway, White Plains, NY.*, January 2014. Prepared by Woodard & Curran, Inc.
- I-12. *Environmental Record Search for 52 N Broadway, White Plains, NY.*, March 10, 2017. Environmental Data Resources, Inc. \*



Source: Westchester County

-  Project Site
-  NYSDEC Restrictive Covenant

