2.9 HAZARDOUS MATERIALS

2.9.1 INTRODUCTION

This section analyzes the potential presence and type of hazardous materials that may be encountered as a result of the construction and operation of the developments associated with the Proposed Project, and the potential impacts of hazardous materials to those proposed uses. The potential for significant hazardous material impacts can occur when hazardous materials exist at a site and an action would increase pathways for human or environmental exposure to the materials. Hazardous materials are toxic or potentially harmful substances that may be present in soil, groundwater and structures; and are frequently encountered during construction activities in urban areas that have been subject to past disturbance from construction, excavation, and commercial uses. Since there are no existing structures on the Project Area, this hazardous material assessment focuses on evaluating the presence of hazardous materials in soil and groundwater.

As further discussed in **Chapter 1**, the Proposed Project involves the development of an approximately 66-acre Development Area located in Charleston, Staten Island. The approximately 93-acre Project Area, which includes the mapping of an adjacent 20-acre Conservation Area and privately-owned streets, is generally bounded to the north by Englewood Avenue and CPPSPP, to the south by Veterans Road West, to the west by Arthur Kill Road, and to the east by the shopping center known as Bricktown Centre.

2.9.2 METHODOLOGY

A Phase I Environmental Site Assessment ("Phase I ESA") was performed for the Project Area in general accordance with the American Society of Testing and Materials ("ASTM") Standard Practice E 1527-05. The Phase I ESA (dated October 2012) was conducted to identify sources of hazardous materials on or in close proximity to the Project Area that have a reasonable potential to impact the Project Area. The Phase I ESA Report is provided as **Appendix D**. On-site inspections performed in 2012 were limited to the Development Area.

Research for the Phase I ESA included: (1) a physical site inspection in August 2012 to identify obvious visual evidence of potential or actual hazardous materials on or close to the ~~Project~~Development Area; (2) an assessment of historic Sanborn Maps dating to 1910 and aerial photography dating to 1943 to identify former land use in the vicinity of the Project Area with the potential to have released hazardous materials to underlying soil or groundwater; and (3) a review of available Federal, State, and local agency environmental records to identify sites with the documented use, storage or release of hazardous materials. The environmental databases reviewed for this assessment include the:

- Federal National Priority List ("NPL");
- Federal Comprehensive Environmental Response, Compensation and Liability Information System ("CERCLIS") list;
- Federal Resource Conservation and Recovery Act ("RCRA") hazardous waste treatment, storage, and disposal facilities list;
- State Inactive Hazardous Waste Disposal Sites list and Hazardous Substance Disposal Sites;
- State Major Oil Storage Facilities list (sites storing more than 400,000 gallons of petroleum products);
- Federal and State Hazardous Waste Generators and Transporters list;
- NYC Historic Utility Facilities;
- NYC Historic Municipal Waste Landfills;
- State Chemical and Petroleum Bulk Storage ("PBS") Facilities list (under 400,000 gallons storage capacity);
- State Hazardous Material Spills database;
- Federal Toxic Release Inventory Sites list;
- State Brownfield Sites;

- NYC Environmental Quality Review Requirements ("E") Sites;
- Emergency Response Notification System ("ERNS") Sites;
- State Air and Toxic Wastewater Discharge Sites; and
- Federal Civil Enforcement Docket Sites (sites involved in environmental litigation).

2.9.2.1 Potential Contaminants of Concern

The contaminants described in this section are commonly found in urban settings, and certain background concentrations can be expected from both natural and human sources. When concentrations exceed regulatory thresholds, an analysis of potential environmental and health effects and the need for remedial measures may be necessary.

Soil and Groundwater Contaminants

The soil and groundwater of an area can be impacted with contaminants associated with historical uses. Some, like petroleum products, may have been released during surface spills or from leaking petroleum storage tanks. Others, such as PAHs, metals, and PCBs may be present due to commercial or industrial operations. The characteristics of these contaminants are discussed below:

- *Heavy Metals* - These include arsenic, cadmium, chromium, cobalt, lead, mercury, selenium, and silver. They are used in smelting, foundries, and metal works, and can be present in paint, ink, petroleum products, coal ash, and mechanical waste fluids.

- *Volatile Organic Compounds ("VOCs")* - VOCs include such aromatic compounds as benzene, toluene, ethylbenzene, and xylenes ("BTEX"), which are found in petroleum products, and chlorinated compounds like trichloroethene and tetrachloroethene, which are common ingredients in degreasing solvents and commercial cleansers.

- *Semi-Volatile Organic Compounds ("SVOCs")* - SVOCs include PAHs, which are common constituents of partially combusted coal or petroleum-derived products, such as waste oils, creosote, coal and coal ash, wood ash, and asphalt. Like metals, some PAHs are also persistent in the environment.

- *Polychlorinated Biphenyls ("PCBs")* - PCBs are commonly present in the dielectric fluid found in electrical transformers and feeders cables, and are often associated with electrical generation stations/substations and train yards. PCBs are also persistent in the environment.

- *Methane and Hydrogen Sulfide Gases* - Methane is a colorless, odorless, flammable gas that is typically generated during anaerobic biological processes, including degradation of buried wastes. Hydrogen sulfide is generated in similar fashion, has a rotten egg odor, and is a toxic and flammable gas.

2.9.2.2 Regulatory Limits and Regulations

Agencies such as the NYS Department of Environmental Conservation (NYSDEC) and US Environmental Protection Agency (USEPA) have set enforceable criteria for concentrations of various chemical compounds in soil and groundwater. These standards and reference values are generally based on the risks associated with the potential for direct contact with soils (ingestion, inhalation, or dermal contact) based on the use of the property (i.e., residential versus commercial), and the potential impacts associated with groundwater that is used as a source of drinking water. Relevant standards and guidelines are summarized below. These include federal hazardous waste regulations, New York State soil and groundwater reference values and standards, and regulations and guidelines for the removal of petroleum storage tanks. The characteristics of these regulatory limits and regulations are discussed below:

- *Hazardous Waste Regulations* - As defined by RCRA, waste (*e.g.*, excavated soil or building materials removed during demolition/construction activities) can be classified as "hazardous waste" if it is one of the federally "listed wastes" or if it possesses one of four hazardous characteristics: ignitability, reactivity, corrosivity, or toxicity. The USEPA has developed standard tests to measure these four characteristics. Three tests measure physical characteristics—ignitability, reactivity, and corrosivity—using numerical standards. The fourth, toxicity, the one most frequently exceeded by contaminated soils, is tested using the Toxicity Characteristic Leaching Procedure ("TCLP"), which provides a conservative estimate of the concentrations of contaminants that would leach into the groundwater if the material were disposed of in an environmentally unsecured landfill.

- *Soil Reference Values* - NYSDEC issued 6 NYCRR Part 375 Environmental Remediation Program Soil Cleanup Objectives (SCOs) in December 2006, which establishes soil contaminant thresholds for making site cleanup decisions based on the current or contemplated future use of a site as residential, commercial, or industrial. Soils containing contaminants above the applicable Part 375 SCOs could be subject to remedial action by NYSDEC.

- *Water Standards and Regulations* ~~- NYCDEP's~~ the NYC Department of Environmental Protection (NYCDEP) Bureau of Wastewater Pollution Control has regulations limiting the concentrations of certain materials in waters discharged into the municipal sewer system. NYCDEP's regulations are based, for the most part, on the effects of the contaminants on the receiving waters or treatment plant. Specific permits must be obtained prior to discharging such waters to the sewer. In addition, the NYSDEC has issued drinking water standards and uses them as reference values for groundwater. These potable groundwater standards (also known as Class GA Standards) are among the most stringent in the nation. Although these standards are intended for public drinking water supplies, they are generally applied by NYSDEC to other nonsaline groundwater to evaluate overall water quality.

- *Petroleum Storage Tanks* - Removal of petroleum storage tanks is regulated by NYSDEC under 6 NYCRR Part 613.9, which requires that tanks no longer in use be closed in place or removed. Contaminated soils surrounding the tanks, separate phase product on the water table, or contaminants dissolved in the ground water must also be removed.

2.9.3 EXISTING CONDITIONS

This section summarizes the findings of visual observations, the review of historic maps and aerial photography, the review of the regulatory databases previously referenced, and review of available previous environmental investigation reports. The potential sources of contaminants in the study area are discussed below relative to their potential to adversely impact the ~~Project~~Development Area with hazardous materials.

2.9.3.1 Historic Land Use

The Sanborn Maps reviewed depict the entire Project Area as undeveloped since at least 1910 with the exception of two to three residential structures located on the southwestern most corner of the Project Area near the intersection of Veterans Road West and Arthur Kill Road on the 1937 and 1951 maps. These residential structures are no longer present on the 1983 map.

The aerial photographs reviewed depict the Project Area as undeveloped and mostly densely vegetated with trees, brush and grasses since at least 1943 with exception of the residential structures discussed in the previous paragraph. The Bricktown Retail Development first appears adjacent to the southeast portion of the Project Area on the 2006 aerial, and the MTA Bus Depot Facility located adjacent to the west of the Project Area along Arthur Kill Road first appears on the 2011 aerial. The aerials depict evidence of scattered land clearing and cleared trails throughout the ~~site.~~portions of the Project Area. A

large cleared area is depicted on the north central region of the Project Area. These cleared areas were observed during the 2012 site inspection, and no obvious indication of major dumping was observed in these areas. Based on conversations with local inhabitants and visual observations during the site inspection, the cleared area on the north central portion of the Project Area and the trails throughout the site are used by riding horses.

No prior land uses on or in proximity to the Project Area were identified on the Sanborn Maps or aerial photographs that are considered to have the potential to have adversely impacted the Project Area with hazardous materials.

2.9.3.2 2012 Site Inspection Observations

A visual reconnaissance was conducted ~~at~~of the ~~Project~~Development Area on August 13, 2012. The ~~Project~~Development Area was observed to be vacant and primarily heavily vegetated with trees, brush, and grasses. Several cleared areas covered with shorter grasses and brush, and horse trails, were observed on portions of the site. Although evidence of significant dumping was not observed, minor dumping of general debris and several old rusted junk cars was observed within the ~~Project~~Development Area at the time of the inspection.

2.9.3.3 Environmental Database Review

One closed-status NYSDEC Hazardous Material Spill was reported in the database as occurring on the central north boundary of the Project Area in May 2004. The spill was reported by a NYC ~~Parks~~Department of Parks and Recreation (NYCDPR) representative upon discovering a suspected oil spill on the ground surface in this area. Upon further inspection by NYSDEC and ~~Parks~~NYCDPR, the suspected oil was determined to be water tainted with tannin from wood chips that had been dumped in this area to improve a horse trail, and this spill case was closed by NYSDEC in June 2004.

Three closed-status Hazardous Material Spills are reported for the residential property at 97 Englewood Avenue, located adjacent to the northwest corner of the Project Area along the north side of Englewood Avenue. The spills were reported by the residence at 97 Englewood Avenue but were attributed to the adjacent trucking company property. Most notable of these three spills was the reported observance by the inhabitant at 97 Englewood Avenue in 1994 of oil seeping through a retaining wall located between their property and the adjacent trucking company. The impacted soil was reportedly removed and the spill case closed by NYSDEC in April 1997. As discussed in the following section, a Phase II sampling investigation was performed on the northwestern region of the Project Area in 2002 to investigate, among other concerns, possible impacts from the closed spills reported at 97 Englewood Avenue. No impacts to the Project Area were discovered during the Phase II investigation, including in proximity to the closed petroleum spills at 97 Englewood Avenue.

2.9.3.4 Previous Investigations

The results of previous environmental investigations conducted on and in the vicinity of the Project Area were reviewed. The provided information is summarized below.

- *Charleston Retail Project Site: Phase I Environmental Site Assessment, AKRF, Inc., February, 2000.* This Phase I ESA investigated an area which included the Project Area as well as areas to the southeast now occupied by the Bricktown Retail Center. AKRF noted the presence of abandoned automobiles, empty motor vehicle fluid containers, automotive fuel tanks, and five-gallon buckets of paint on the Project Area. The AKRF report also summarized a 1990 Phase I ESA conducted by Vollmuth and Brush which noted that 20 automobile batteries and a 55-gallon drum with unknown contents were stored on Block 7494, Lot 95, located at the Project Area's southwestern corner. In addition, Vollmuth and Brush observed oil staining on the ground surface in the area.

- *Final Environmental Impact Statement ("FEIS") for the Bricktown Centre at Charleston, AKRF, Inc., May, 2002.* Included in this FEIS is a description of a Phase II soil sampling investigation conducted at the Project Area in April 2002, which reportedly included soil sampling on the Project Area in the vicinity of the three closed petroleum spills at 97 Englewood Avenue and within the area observed with surface oil staining by Vollmuth and Brush noted above. As reported in the FEIS, this sampling did not identify impacts to the Project Area in these areas, and it was concluded that no adverse impacts of hazardous materials occurred at the Project Area in the areas tested, and that no remedial actions or special precautions would likely be needed during construction.

- *Phase I Environmental Site Assessment: Charleston Retail Site "A~~,~~", Staten Island, New York, Carpenter Environmental Associates (CEA), Inc., November 11, 2011.* The study area for this Phase I ESA was an approximate 10-acre parcel located within the east central region of the Project Area. This area was reported to be heavily vegetated and undeveloped at the time of the site inspection in October 2011. ~~This~~The Phase I ESA did not identify any evidence of recognized environmental conditions on the study site.

2.9.4 FUTURE NO-ACTION CONDITION

Under the Future No-Action Condition, if the Proposed Project is not approved, the ~~Project~~Development Area is expected to remain in its existing vacant condition. No other projected or potential development is planned or considered likely to occur in the ~~Project~~Development Area by the 2015 or 2020 analysis years of the proposed Charleston Mixed-Use Development. As such, conditions related to hazardous materials would not change.

2.9.5 FUTURE WITH-ACTION CONDITION

The Proposed Project would result in changes to the uses within the ~~Project~~Development Area, which is currently vacant and undeveloped. The Proposed Project would promote the development of an approximately 65-acre city-owned parcel, construct a new public street, and map as parkland an existing Conservation Area located in Charleston, Staten Island. Overall, the ~~Project~~Development Area is divided into smaller sites for development and for street mapping and construction.

Component developments of the Proposed Project are expected to be completed over several years. Construction of Retail Site "A" and Fairview Park is expected to be completed by the analysis year 2015, along with the street mapping of privately-owned Bricktown Way and Tyrellan Avenue. Construction of the remainder of the sites is expected to be completed by the year 2020, including the developments of Retail Site "B", the school, the senior housing, and construction of Englewood Avenue.

2.9.5.1 Year 2015 Analysis

By the year 2015, ~~the NYC Department of Parks and Recreation ("DPR")~~NYCDPR would map and develop an approximately 23-acre park site (Fairview Park) with areas for both active and passive recreation. Adjacent to this new park, the existing approximately 20-acre Conservation Area would be mapped as parkland, creating approximately 43-acres of contiguous mapped parkland. To the east of the proposed Fairview Park new retail stores would be developed as part of Retail Site "A". A private developer has been selected to develop the approximately 11-acre Retail Site "A" with up to approximately 195,000 square feet of commercial space for medium- and large-format retail stores, along with a new library branch that will share parking with the retail stores. Access to both Retail Site "A" and Fairview Park would involve the mapping of Bricktown Way and Tyrellan Avenue, which are currently privately-owned streets that provide vehicular access to Bricktown Centre.

Based on the findings of the October 2012 Phase I ESA, a Phase II Subsurface Investigative Work Plan (Phase II Work Plan) and Site Specific Health and Safety Plan (HASP) ~~have been~~were prepared and

submitted to NYCDEP for review and approval for the proposed parkland and Retail Site "A". The approved Phase II Work Plan included soil, groundwater, and soil vapor testing at locations distributed across the two sites.

Site Investigation Findings

A Phase II ~~Work Plan includes~~ Environmental Site Investigation was completed in July 2013 which included the collection and laboratory analysis of soil, soil vapor, and groundwater~~, and soil vapor testing at~~ samples. The purpose of the investigation was to determine if historical manufacturing activities have impacted soil and groundwater quality on-site. The July 2013 subsurface investigation was focused on the areas within the proposed Fairview Park and Retail Site "A".

The subsurface investigation included the collection of 16 soil samples, one groundwater samples, and six soil gas samples in the areas of the proposed Fairview Park and Retail Site "A". The sample locations ~~distributed across the~~ are shown in **Appendix D1**. The soil and groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) by EPA Method 8260; semi-volatile organic compounds (SVOCs) by EPS Method 8270; Polychlorinated Biphenyls (PCBs) by EPA Method 8082; Pesticides by EPA Method 8081; and Target Analyte List (TAL) Metals by EPA Methods 6020 and 7471. The groundwater sample was analyzed for total and dissolved TAL Metals. The soil gas samples were analyzed for VOCs by EPA Method TO-15.

Soil results were compared to NYSDEC 6NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted, Restricted Residential, and Commercial Uses. Soil within the new parkland would be required to meet Unrestricted and Restricted Residential SCOs and soil on Retail Site "A" would need to meet Commercial SCOs.

Groundwater results were compared to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values (Class GA). It should be noted that the Class GA values are drinking water standards that do not directly apply to the Development Area since groundwater beneath the site will not be used as a potable water source. However, the Class GA values are used in this study to evaluate general groundwater quality.

Soil vapor results were compared to The New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006) which lists Air Guidance Values (AGVs) for four VOC compounds (carbon tetrachloride, tetrachloroethene, 1,1,1-trichloroethane, and trichloroethene). The NYSDOH guidance also contains a USEPA-compiled database of National Ambient Air Averages for various VOCs. The USEPA National Ambient Air Averages and NYSDOH AGVs were used in this study to evaluate the likelihood for future soil vapor intrusion at structures on-site.

In addition, paint chip samples were collected from two ~~sites. If~~ metal access gates located at the east and west entrances to the Project Area at Englewood Avenue. Samples of the yellow paint coating on each gate were collected and submitted for laboratory analysis for lead content using flame atomic absorption spectroscopy (AAS) by American Society for Testing Materials (ASTM) Method D3335-85A.

Soil Analysis Results

Laboratory analysis did not identify any VOCs, SVOCs, PCBs, or Pesticides in the soil samples collected at concentrations above their respective Unrestricted, Restricted Residential, or Commercial SCOs. The majority of these results were at non-detectable levels.

The metals arsenic, copper, and lead were detected in one soil sample at concentrations exceeding the Unrestricted SCOs for these metals, but below the respective Restricted Residential and Commercial SCOs. No other metals were detected in any of the soil samples at concentrations above Unrestricted SCOs.

Groundwater Analysis Results

No VOCs, SVOCs, PCBs, or Pesticides were detected in the groundwater sample collected at concentrations above the NYSDEC Class GA values, with the majority of results at non-detectable levels.

Total metals (non-filtered) aluminum, cobalt, iron, and sodium were detected above their respective NYSDEC Class GA values in the groundwater sample collected. Dissolved (filtered) cobalt, iron, manganese, and sodium were detected above respective NYSDEC Class GA values. No other metals were detected in the groundwater sample at concentrations above Class GA thresholds.

Soil Gas Analysis Results

The following VOCs were detected in several of the soil gas samples at concentrations slightly above their respective USEPA Ambient Air concentrations but not above NYSDOH AGVs: dichlorodifluoromethane; trichlorofluoromethane; methylene chloride; carbon disulfide; 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, acetone, and 2-butanone. None of these VOCs were detected in soil or groundwater samples collected.

Paint Chip Samples

Laboratory results of the paint chip samples indicated ~~by the results of the testing, a~~that the eastern gate's coating contained 0.37 percent lead and the western gate's coating contained 1.69 percent lead.

Conclusions

One soil sample collected on Retail Site "A" contained arsenic, copper, and lead at concentrations exceeding the respective Unrestricted SCOs, but below Restricted Residential and Commercial SCOs. However, all samples collected within the boundaries of the proposed Fairview Park met the standard for Unrestricted SCO. Other than the soil sample collected on Retail Site "A", no other compounds or metals were detected in any of the soil samples above their respective Unrestricted SCOsAny soil that requires offsite disposal will require waste classification sampling by the chosen disposal facility, and the final disposal classification of the material would depend on such results.

The metals aluminum, cobalt, iron, manganese, and sodium in the collected groundwater samples were detected at concentrations above the respective Class GA values. Since groundwater beneath the Development Area is not intended as a potable water source, and construction dewatering would be performed in accordance with applicable regulations, the presence of these metals is not expected to impact the site.

None of the soil gas samples exceeded AGVs for the four compounds for which NYSDOH has established mitigation action levels however several VOCs were detected above EPA National Ambient Air Averages. Therefore, a vapor barrier will be incorporated in to the design and construction of structures on-site to prevent the potential for vapor intrusion.

Paint chip samples from the eastern and western access gates detected concentrations of lead at 0.37 and 1.69 percent, respectively. Any disturbance to these gates must be conducted in accordance with OSHA Lead In Construction Standard (29 CFR 1926.62) requirements, and waste generation, handling, transport and disposal must be conducted in accordance with NYS Parts 360-364 Regulations and Federal Resource Conservation and Recovery Act (RCRA) requirements.

Recommendations

Based on the findings of the Phase I ESA and Phase II ESI, the following remediation and environmental control measure would be implemented:

- As per NYCDEP recommendations, a moisture/vapor barrier would be incorporated into the design plans of any proposed structures on the Retail Site "A," public library and Fairview Park sites.

- NYCDPR and the developer for Retail Site "A" will submit a Site Management Plan (SMP) and Remedial Action Plan (RAP~~) and Site Specific~~), respectively, to NYC DEP for review and approval. The SMP and RAP will indicate that contaminated soils would be properly disposed of in accordance with the applicable NYSDEC regulations. If re-use of soil is proposed on-site, the SMP and the RAP will detail the amount of cut/fill, the proposed testing frequency and applicable standards, and for the park – the proposed locations for the re-used soil. The Retail Site "A" RAP will include information regarding the library parcel which will be prepared and graded by the Retail Site "A" developer.

- NYCDPR and the developer for Retail Site "A" will each submit a Construction Health and Safety Plan (CHASP) ~~will be prepared and submitted to NYCDEP for review and approval. Required remediation will be performed in compliance with all federal, state, and local regulations. With the implementation of these measures prior to construction, no significant adverse hazardous material impacts are expected~~ to NYCDEP to protect workers' potential exposure to contaminants for the proposed construction project. Soil disturbance would not occur without NYCDEP's written approval of the CHASP. If excavated soils are expected to be temporarily stockpiled on-site, they would be covered with polyethylene sheeting while disposal options are determined. Additional testing would be conducted, as required, by the disposal/recycling facility.

- If any petroleum-impacted soils (which display petroleum odors and/or staining) are encountered during ~~construction or operation of these sites~~the excavation/grading activities, the impacted soils would be removed and properly disposed of in accordance with all NYSDEC regulations.

~~The Proposed Project would require excavation of soil within these sections of the Development Area, and possibly dewatering of groundwater from excavations depending on the depth and location of the excavations for the park structures and buildings for Retail Site "A." If necessary, the RAP would govern all soil disturbances and would include procedures for handling, stockpiling, testing, transportation, and disposal of excavated materials, including any unexpectedly encountered contaminated soils. If unexpected areas of contamination are discovered during construction, these materials would be removed in accordance with all applicable local, state, and federal regulations. The general debris and junk vehicles observed on-site would be removed and properly disposed of in accordance with applicable requirements.~~

~~In the event that unexpected areas of contamination are encountered during construction, the following mitigation measures would be undertaken as necessary to protect project workers and the surrounding community from exposure to hazardous materials:~~

- ~~A Construction Health and Safety Plan ("CHASP") would be prepared prior to construction to include contingency procedures for protecting project workers and the surrounding community from exposure to hazardous materials if encountered;~~
- ~~Contaminated soils would be separated from non-contaminated soils and stored to prevent runoff and public exposure pending testing for disposal; and~~
- ~~Contaminated soils would be transported from the site in covered vehicles and disposed at a licensed facility with chain-of-custody documentation.~~

- Dust suppression would be maintained by the contractor during the excavating and grading activities at the site. Any underground storage tanks (including dispensers, piping, and fill-ports) that are encountered would be properly removed/closed in accordance with all applicable NYSDEC regulations.

If de-watering into City storm/sewer drains occurs during the proposed construction, a NYCDEP Sewer Discharge Permit would be obtained prior to the start of any de-watering activities at the site.

2.9.5.2 Year 2020 Analysis

By the year 2020, the remainder of the Development Area is expected to be developed. An additional 7.3-acre site along Arthur Kill Road would be developed as Retail Site "B," with an anticipated 90,000 square feet of neighborhood retail space. Englewood Avenue would be mapped and constructed across the northern border of the Project Area and would connect Veterans Road West on the east to Arthur Kill Road on the west. Along the south side of Englewood Avenue, the City would offer an approximately 9.1-acre site to developers for senior housing in the future for up to 162 units. To the east of the senior housing, the NYC School Construction Authority (NYCSCA) would construct a combined elementary/middle school on the approximately 5.9-acre site with an approximately 750-seat capacity for kindergarten through 8th grade.

Prior to construction, as part of the Due Diligence process for all schools, the NYCSCA will perform further environmental studies (if necessary) and investigations to determine the environmental conditions at the proposed school site. Environmental Due Diligence includes, but is not limited to, Phase I Environmental Site Assessments, Phase II Environmental Site Assessments and Mitigation as appropriate.

~~At this time there are no specific development proposals for Retail Site "B" and the housing site and future developers will be selected pursuant to a Request for Proposal. Further subsurface investigations will be required to be undertaken by the developer(s) after selection. For Retail Site "B" and the senior housing site~~For all developments in the Project Area to be completed by the year 2020, Phase II Environmental Site Assessments and mitigations as necessary, through continued consultation with NYCDEP, will be required to be undertaken. These further subsurface investigations will be required to be undertaken by the developer(s) through provisions in the ~~Contract~~contract of ~~Sale~~sale, lease or other legally binding agreement between ~~NYC~~NYCEDC or the City and the developer(s). With the implementation of these measures prior to construction no significant adverse hazardous material impacts are expected during construction or operations within the entire Development Area.

As noted above, if unexpected areas of contamination are discovered during construction, these materials would be removed in accordance with all applicable local, state, and federal regulations. The general debris and junk vehicles observed on-site would be removed and properly disposed of in accordance with applicable requirements.

The Proposed Project would require excavation of soil within the remaining sections of the Development Area, and possibly dewatering of groundwater from excavations depending on the depth and location of the excavations for the remaining proposed buildings. In the event that unexpected areas of contamination are encountered during construction, the same preventative and mitigation measures noted in the Year 2015 Analysis above would be undertaken as necessary to protect project workers and the surrounding community from exposure to hazardous materials.