
CHAPTER 13: HAZARDOUS MATERIALS

A. INTRODUCTION

This chapter assesses the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the Reasonable Worst-Case Development Scenario (RWCDs). Measures are proposed to remediate contamination and reduce exposure to future occupants and workers. The measures (described in detail below) would be included as part of the Proposed Action and would preclude the potential for significant adverse impacts related to hazardous materials.

An assessment of potential hazardous materials impacts was performed for the projected and potential development sites where ground disturbance or renovation of existing structures is anticipated for future developments.

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

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

B. OVERVIEW

The Proposed Action would not result in significant adverse hazardous material impacts.

Analysis of available land use data, environmental regulatory agency databases, Sanborn fire insurance maps and visual reconnaissance, revealed numerous instances where land uses throughout the Project Area are currently - or have been historically - consistent with land uses that would warrant subsurface testing and potential remediation. Such land uses throughout the Project Area consist predominantly of automobile repair and service, pharmaceutical manufacture, metal manufacture and fabrication shops, printing shops, and dry cleaners. As discussed below, all projected and potential development sites are potentially affected by contamination because they are (1) currently (or historically) comprised of uses consistent with Chapter 24 of Title 15 of the Rules of the City of New York; *or* (2) are adjacent to such historic or existing land uses.

C. METHODOLOGY

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

The mapping of an (E) designation is a mechanism to require hazardous materials testing and remediation of potentially contaminated, privately-owned sites that are subject to a zoning map change. As discussed above, the Proposed Action would change the zoning of the Project Area from zoning districts that allow manufacturing and auto-related uses to zoning districts that allow residential use.

A screening methodology was implemented to evaluate potential effects due to hazardous materials. In accordance with Chapter 24 of Title 15 of the Rules of the City of New York, the visual or historical documentation of any of the following past or current uses at a development site or adjacent parcels that might have affected a development site can result in the placement of an (E) designation on the amended zoning map:

1. Incinerators;
2. Underground and/or above ground storage tanks;
3. Active solid waste landfills;
4. Permitted Hazardous waste management facilities;
5. Inactive hazardous waste facilities;
6. Suspected hazardous waste sites;
7. Hazardous substances or petroleum spill locations;
8. Areas known to contain fill material;
9. Petroleum spill locations;
10. Any past use identified in Appendix A (*List of Facilities, Activities, or Conditions Requiring Assessment*)

To identify these past or current land uses, the screening effort involved: 1) a visual reconnaissance of the Project Area from public rights-of-way; 2) a review of historical Sanborn fire insurance maps; and 3) a review of an environmental regulatory agency database report which was obtained from Environmental Data Resources (EDR) of Milford, Connecticut¹. In the event that these information sources indicate either a past or present land use consistent with land uses listed in § 24-04a(1) through (10), measures will be recommended to further assess the potential for contamination, including subsurface investigation and if necessary, remediation.

An EDR environmental regulatory agency database report included the following databases:

- Resource Conservation and Recovery Act Information (RCRAInfo) List
- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List
- CERCLIS No Further Remedial Action Planned (NFRAP)
- National Priority List (NPL)
- Proposed National Priority List Sites (Proposed NPL)

¹ Environmental Data Resources (EDR). EDR Radius Map Report, Broadway Triangle. January 7, 2009.

- Delisted National Priority List Sites (Delisted NPL)
- Federal Engineering and Institutional Controls Registries
- Emergency Response Notification System (ERNS) List
- NY CERCLA/Uncontrolled Sites File List (SHWS)
- NY Solid Waste Facilities/Landfill Sites (SWF/LF)
- NY Underground Storage Tanks (USTs)
- NY Aboveground Storage Tanks (ASTs)
- NY Chemical Bulk Storage Database (CBS)
- NY Sites with Engineering/Institutional Controls
- NY Leaking Storage Tank Incident Reports (LTANKS)
- NY Voluntary Evaluation Program Sites (VCP)
- NY Brownfield Cleanup Program Sites
- NY Environmental Remediation Program Sites
- New York Spills
- Drycleaners
- (E) Designation

D. HISTORICAL DEVELOPMENT

The historical development of the Project Area and vicinity is discussed in greater detail in Chapter 8, “Historic Resources.” A summary of the historical development of the area as it relates to potential hazardous material impacts is summarized in the paragraphs below.

Throughout the mid-nineteenth century, Brooklyn, particularly the Williamsburg and Greenpoint neighborhoods, experienced tremendous population and industrial growth. Given the dense and congestive growth of commercial and industrial districts within lower Manhattan, northern Brooklyn offered space for the construction of large-scale facilities within which production could be centralized.

Pfizer and Company (pharmaceuticals) moved to Brooklyn in 1849, occupying a building on Bartlett Street and Harrison Avenue, to the immediate west of the Project Area. Williamsburg Flint Glass Works was established sometime between 1863 and 1865 on a parcel located just east of the Project Area, at the corner of Gerry Street and Throop Avenue. The glass works operation occupied six lots and was active until 1886.

Additional industrial uses occurred to the east and west of the Project Area in the 1880’s, including an iron foundry, a second flint glass works, and a varnish factory to the east, and the North American Iron Foundry to the west. Historical Sanborn fire insurance maps of 1887 indicate that the Project Area was dominated by low-rise domestic structures and storefronts. Industries within the Project Area appear to represent smaller, more localized ventures than the larger Pfizer and Flint Glass Works factories to the immediate east and west. At this time, facilities located within the Project Area included the Brooklyn Pottery Company on Wallabout Street, a bowling alley, a fur factory, a wagon maker, a truck maker, a chair factory, a soft soap factory, and several bakeries near Flushing Avenue. Auto-related or “transportation” uses (e.g., automotive repair, gasoline filling station, auto body repair, and auto salvage) began to appear in the Project Area in the 1920’s and continue today.

By the 1950s, many residential parcels in the Project Area had been replaced with parking areas, garage spaces, auto-related businesses, a book binding operation, and a metal plating facility. By this time, the Pfizer complex had expanded to the north and to the east.

Broadway Triangle

The 1961 zoning established C8-2, M1-3 and M3-1 zoning districts that encouraged the development of industrial uses while prohibiting residential development. Occupied residential buildings that existed in the area at the time of the 1961 zoning were “grandfathered” in as legal nonconforming uses. Currently the Project Area lies largely underutilized. Industrial use in the Project Area has declined and former industrial buildings now stand vacant or have been demolished, resulting in vacant parcels currently used for parking and storage.

E. EXISTING CONDITIONS

TOPOGRAPHY AND SUBSURFACE CONDITIONS

The Project Area is situated on level surface topography with elevations ranging from 13 to 17 feet above mean sea level (amsl). Based on information contained in the EDR Radius Map Report, groundwater in the Project Area is located at a depth of approximately 14 feet below grade surface. Bedrock is present at an estimated depth of 100 feet. These data, as presented in the EDR Radius Map Report, were collected from a CERCLIS Investigation Report for activities conducted at the Brooklyn Navy Yard site, which is located approximately 1.25 miles west southwest of the Project Area.

Groundwater flow direction for a particular site is best determined using site-specific well data. No site specific groundwater data was available for review. In the absence of site-specific information, other sources of information such as surface topographic information or hydrogeologic data collected on nearby sites can be used to interpret groundwater flow direction. Based on local topography, interpreted groundwater flow direction is to the northwest. Groundwater is not used as a source of drinking water in the Project Area, but is part of the Brooklyn-Queens sole source aquifer.

LAND USES AND KNOWN CONTAMINATION IN THE PROJECT AREA

All projected and potential development sites, as identified in the RWCDs, are potentially affected by contamination because they (1) historically or currently comprise uses consistent with land uses listed in Chapter 24 of Title 15 of the Rules of the City of New York [§ 24-04a(1) through (10)]; or (2) are adjacent to such historic or existing land uses.

The following sections discuss existing land uses in the context of hazardous materials across the nine Tax Blocks that make up the Project Area. Land uses with the potential to result in hazardous material impacts are highlighted. Refer to the Hazardous Materials Appendix D for a more detailed description of development parcels with respect to their spatial relationship with potentially contaminated sites and the basis for requiring measures to further assess subsurface conditions. The Tax Blocks will be notated by their ascending Block numbers from the northern edge to the southern edge of the Project Area. These Blocks are numbered 2238, 2242, 2245, 2246, 2250, 2266, 2269, 2272 and 2274. A graphic depiction of the land uses by block is provided in Chapter 2, “Land Use,” along with photographs (Figures 2-4 to 2-12)

BLOCK 2238

This Block is located at the northern corner of the Project Area bounded by Lynch Street to the north, Broadway to the east, Middleton Street to the south and Union Avenue to the west. Projected Development Sites 33, 34, and 35 are located on this block. Auto-related uses dominate the blockfront at the northwestern corner on Projected Development Site 33; the site also appears on the registered UST database. Further east, a vacant parcel abuts a large five-story residential building. A gasoline service station is present on Tax Block 2234, which is located immediately to the north across Lynch Street. This

gasoline service station facility is also listed in the LTANKS and UST databases. The LTANKS database contains a New York State Department of Environmental Conservation (NYSDEC) inventory of reported leaking underground storage tanks.

BLOCK 2242

Situated immediately south of Block 2238, Block 2242 is bounded by Middleton Street to the north, Throop Avenue to the east, Lorimer Street to the south and Union Avenue to the west. Projected Development Sites 29, 30, 31, and 32 are located on this block. This block features auto-related uses and long-term parking facilities for those services. Auto-related uses occur on Projected Development Sites 29, 31, and 32. Development Site 29 also appears on the UST database.

BLOCK 2245

Further south from Block 2242, Block 2245 is a small triangular block composed of nine compact or irregular, narrow lots bounded by Lorimer Street to the north, Union Avenue to the west, Walton Street to the south and Harrison Avenue to the east. Projected Development Site 36 comprises the entire block. All buildings on this block have been demolished. Projected Development Site 36 appears on the UST and RCRA-Large Quantity Generator (LQG) databases. The RCRA-LQG listing indicates that the facility generates over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month, as defined by the Resource Conservation and Recovery Act (RCRA). Historical Sanborn fire insurance maps also indicate that automobile salvage was a recent land use on this site.

BLOCK 2246

East of Block 2245, Block 2246 is entirely occupied by a community facility use, the I.S. 318 Eugenio Maria De Hostos Intermediate High School, and is bounded by Lorimer Street to the north, Throop Avenue to the east, Walton Street to the south and Harrison Avenue to the west. No development sites are present on Block 2246.

BLOCK 2250

Situated at the center of the Project Area bounded by Walton Street to the north, Throop Avenue to the east, Wallabout Street to the south and Harrison Avenue to the west, Block 2250 features a diverse mix of land uses and buildings that are generally occupied and productive. Some vacant land exists along Wallabout Street, but on the whole the block is active. Projected Development Sites 22, 23, 24, 26, and 27 and Potential Development Sites 25, 28 and 37 are present on Block 2250.

At the southwestern corner of Walton Street and Harrison Avenue, the close proximity of industrial and residential uses is evident. Along Wallabout Street on the south side of the block, the streetfront is dominated by expansive, low-rise industrial buildings and by residential buildings on Harrison Avenue. The specific industrial activities of these buildings could not be identified via site reconnaissance and Sanborn Map review. Registered USTs are present on Projected Development Site 24 and Potential Development Site 28.

BLOCK 2266

Immediately south of Block 2250, Block 2266 is bounded by Wallabout Street to the north, Throop Avenue to the east, Gerry Street to the south and Harrison Avenue to the west. Projected Development Sites 14, 15, 16, 17, 18, 19, 20, and 21 are located on this block. Of all blocks contained within the

Broadway Triangle

Project Area, this block is the least utilized and includes vacant and ad-hoc vehicle storage spaces that dominate the land use pattern across the entire block.

Automobile repair operations were observed at Development Site 16 and unknown industrial operations were observed to be occurring on Development Sites 17 and 18. Sanborn fire insurance maps indicate that auto repair operations have recently occurred on Development Site 19 and historical Pfizer, Inc. (pharmaceutical plant) operations have recently occurred on Development Site 21.

BLOCK 2269

Further south towards the southern edge of the Project Area, bounded by Gerry Street to the north, Throop Avenue to the east, Bartlett Street to the south and Harrison Avenue to the west, Block 2269 resembles Block 2266 as it is generally vacant and underutilized with residential and industrial buildings interspersed among vacant lots. Projected Development Sites 8, 9, 10, 11, 12, and 13 comprise the entire block. Low-rise industrial buildings occupy the middle of the block along Gerry Street and are bordered on both sides by vacant land and buildings. Along Bartlett Street (the southern edge of the block), mixed use and residential buildings stand amongst a predominance of vacant land.

Although it currently appears vacant, Development Site 9 is listed on the RCRA-Small Quantity Generator (SQG) database. RCRA-SQG facilities generate between 100 kg and 1,000 kg of hazardous waste per month, as defined by the Resource Conservation and Recovery Act. Projected Development Site 10 currently houses iron works and manufacturing operations. Manufacturing uses also occur on Projected Development Site 12.

BLOCK 2272

Immediately south of Block 2269, Block 2272, bounded by Bartlett Street to the north, Throop Avenue to the east, Whipple Street to the south and Harrison Avenue to the west, resembles the vacant and underutilized blocks to the north; however, the eastern half of the block is dominated by community facility and open space uses. The western half of the block is projected to be developed under the RWCDs and includes Projected Development Sites 3, 4, 5, 6, and 7.

Auto Repair operations and associated activities currently exist on Projected Development Sites 4 and 5. Projected Development Site 5 also appears on the UST database. A dry cleaner is located on the block adjacent to Projected Development Site 3.

BLOCK 2274

Located in the southeastern corner of the Project Area, this irregular shaped block is atypical of the larger Project Area as it features a swath of vibrant local businesses in close proximity to both the Flushing Avenue and Broadway commercial corridors. Projected Development Sites 1 and 2 are located on this block. At the corner of Whipple Street and Flushing Avenue, an irregular shaped, low rise industrial building stands vacant—an exception to the generally active block along Flushing Avenue. At the far corner of Throop and Flushing Avenues at Projected Development Site 1, an auto repair business and abutting parking facilities front this busy intersection.

F. FUTURE CONDITION WITHOUT THE PROPOSED ACTION

In the future without the Proposed Action, new building construction is anticipated at three sites within the Project Area, as described in Chapter 1, “Project Description.” The development sites are expected to continue in their current uses. However, any as-of-right development involving soil disturbance could potentially increase pathways for human exposure to any subsurface hazardous materials present. In the event that any of the development sites are contaminated, exposure to workers and occupants may occur.

For developments anticipated as a result of Board of Standards and Appeals (BSA) variance, the BSA requires the completion of an Environmental Assessment Statement for each project. For projects where there is a history of industrial uses, typically a Phase I Environmental Site Assessment is required.

G. FUTURE CONDITION WITH THE PROPOSED ACTION

In the future with the Proposed Action, the Project Area would be redeveloped with new, predominately residential developments. Potential hazardous material concerns could include the potential for impacts to the health and safety of workers during construction, the potential for the transport of contaminated soil, or the potential for impact on future residents or employees occupying the new developments.

These adverse impacts are principally associated with the following current or historical land uses on or in the vicinity of the development sites:

- Auto-related or “transportation” uses (e.g., automotive repair, gasoline filling station, auto body repair, and auto salvage);
- Industrial uses such as pharmaceutical manufacturing, metal manufacture and fabrication shops, printing shops, and dry cleaners;
- Records of underground storage tanks, above ground storage tanks, or leaking underground storage tanks; and
- Records of spills of petroleum or chemicals.

The future condition with the Proposed Action would result in greater in-ground disturbance when compared with the future condition without the Proposed Action, thereby resulting in an increase in the potential for adverse impacts associated with subsurface hazardous materials. However these impacts would be reduced via the use of (E) designations and associated precautionary measures, as discussed below.

The mapping of an (E) designation for hazardous materials on the zoning map for all privately-owned development sites is recommended as part of the Proposed Action. See the Hazardous Materials Technical Appendix D for a description of development parcels with respect to their spatial relationship with potentially contaminated sites. Recommendations for (E) designations are based on whether the projected and potential development sites may have been adversely affected by current or historical uses at or adjacent to these sites. The (E) designation would require that the fee owner of such a site conduct a Phase I Environmental Site Assessment (ESA) in accordance with the American Society of Testing Materials (ASTM) E1527-05, a subsurface testing and sampling protocol where appropriate, and remediation where appropriate, to the satisfaction of New York City Department of Environmental Protection (DEP). The (E) designation also includes a mandatory Construction Health and Safety Plan (CHASP) which must be approved by DEP prior to construction activities. Refer to the following section for the detailed measures required to avoid impacts from hazardous materials. Zoning Resolution § 11-15 indicates that the New York City Department of Buildings (DOB) may not issue a building permit for

Broadway Triangle

work on a tax lot labeled with an (E) designation due to potential hazardous materials contamination, if the building permit would allow: (1) a development; (2) an enlargement, extension or change of use involving a residential or community facility use; or (3) an enlargement that disturbs the soil, unless the DOB is provided with a report from the DEP stating that the hazardous materials requirements for the lot have been satisfied. The mapping of (E) designations precludes the potential for significant adverse hazardous materials impacts that could result from the Proposed Action.

For city-owned development sites, (E) designations are not recommended. Since development of these sites would occur through disposition to a private entity, similar mechanisms would be required through the Land Disposition Agreement (LDA) between HPD and a private entity. The provisions would be similar to an (E) designation and would ensure that further investigative and/or remedial activities (as well as health and safety measures) prior to and/or during construction would be required under the City's contract of sale with the private entity selected to develop the site.

In 2005, HPD submitted Phase II Investigation Reports to DEP for the city- owned properties within the Broadway Triangle URA, located on Blocks 2266, 2269, and 2272. The Phase II Investigation Reports for the above referenced parcels revealed elevated concentrations of contaminants including VOCs, SVOCs, and Heavy Metals in soil and/or groundwater. Following review of these reports, DEP recommended various site-specific measures related to remediation at these sites should future development take place. These measures include the preparation of Remedial Action Plans (RAPs) and CHASPs, the incorporation of vapor barriers into the design of proposed structures, the import of (2) two feet of clean fill from an approved facility to be graded across all landscaped/grass covered areas of the site not capped with concrete/asphalt, and dust suppression for any temporarily stockpiled excavated soils during excavation and grading activities. In addition, all known or found USTs or ASTs (including dispensers, piping and fill-ports) must be properly removed/closed in accordance with all applicable NYSDEC Regulations. The correspondence from DEP outlining these recommendations is included for reference in Appendix A. Measures similar to those outlined above are anticipated for the City-owned lots on projected and potential development sites in the Project Area. These measures would be required as part of the Proposed Action through provisions contained in the LDA between HPD and a private entity.

All demolition or rehabilitation on development sites would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspected lead-paint and asbestos-containing materials. In addition, the NYSDEC may have jurisdiction over some or all activities should petroleum tanks and/or spills be identified.

DETAILED MEASURES TO AVOID IMPACTS

As described under existing conditions, the Project Area, including the potential and projected development sites, has the potential to contain hazardous materials. Preventative measures would be undertaken to protect the safety of the public, future occupants, and construction workers, as well as the larger environment for areas where redevelopment has the potential to encounter areas of contamination. This would include subsurface investigations to determine the nature and extent of contamination and prescribed construction measures to manage contaminated materials prior to and/or during construction.

When there is known or potential contamination, subsurface testing is necessary to guide health in the development of and safety procedures and measures necessary to protect both workers and the community, and to indicate whether special handling or disposal of soils or excavated materials is likely to be required during construction. A Subsurface Testing Work Plan would be prepared for submission and approval by DEP. The Work Plan would specify soil sampling locations and analytical parameters based on both the potential sources of contamination and the proposed construction activities. The Work

Plan would also detail any proposed groundwater monitoring well locations. The parameters that would be analyzed would include, at a minimum, those classes of chemicals that were identified as having the potential to have impacted on-site soil and groundwater conditions.

Following approval of the Work Plan, a Subsurface Investigation Report would be prepared. The Report would document field activities, present field and laboratory data, and discuss conclusions and recommendations drawn from the results of the investigation. The Report would compare the analytical results to appropriate city, state, and federal standards and guidelines and would be submitted to DEP for review and approval. Based on the recommendations provided by DEP, further investigation and/or remediation would occur on the development sites, as necessary, either prior to and/or during construction. The protocols for further investigation and/or remediation would be presented in site-specific RAPs, as necessary, which would also include CHASPs.

Excavation of contaminated soils and proper off-site disposal are the procedures most commonly used for remediating contaminated soils. However, on sites with VOC contamination, measures such as a vapor barrier and/or a soil vapor extraction system might be used. If groundwater contamination exceeds the sewer use limitations set by DEP and dewatering were required, the water would be treated by readily available technologies (such as oil water separators for petroleum related VOC and SVOCs, or activated carbon for VOCs). The decision about which treatment procedures to use would depend on the types and levels of contaminants, and the quantity and discharge rate of water requiring treatment. Discharges would be subject to DEP permitting.

On development sites where contaminants might remain in soil and/or groundwater after construction, any remaining soil would be “capped” by paved areas and/or two feet of clean fill material. In this manner, potential pathways of exposure would be eliminated with the possible exception of the migration of VOCs. However, if elevated levels of VOCs would remain at the site, the building design would incorporate sufficient measures (e.g. vapor barriers and/or venting systems) to eliminate the potential for exposure.

H. CONCLUSION

As discussed above, the potential for significant adverse impacts related to hazardous materials resulting from the Proposed Action would be precluded through the placement of (E) designations on the zoning map for all privately- owned potential and projected development sites in the Project Area, and through the provisions contained in the LDA between HPD and a private entity for all city-owned sites.

I. NEPA CONSIDERATION

No significant adverse impacts are anticipated with respect to NEPA consideration. Pursuant to HUD’s “NEPA Environmental Assessment Checklist,” areas of concern under NEPA addressed in this chapter include:

Broadway Triangle

- **24 CFR 50.3(i) – Hazardous, Toxic, or Radioactive Substances**

It is HUD policy, as described in 24 CFR 50.3(i), that all property proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property.

The potential for significant adverse impacts related to hazardous materials will be precluded through the placement of (E) designations on the zoning map for privately-owned development sites and through additional provisions such as the LDA between HPD and a private entity on publicly-owned development sites. No significant impacts regarding hazardous materials are anticipated. Thus, the Proposed Action will be in compliance with 24 CFR 50.3(i) and all federal mandates regarding toxic or hazardous substances and radioactive materials and no significant adverse impacts are anticipated.

- **24 CFR Part 51 Subpart C - Siting of HUD-Assisted Projects near Hazardous Operations**

An assessment of the potential dangers resulting from explosion and thermal radiation (fire) originating at stationary hazardous operations which store, handle, and process hazardous substances was conducted in accordance with 24 CFR Part 51 Subpart C, *Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature*. A determination of Acceptable Separation Distances (ASD) from such stationary hazards has also been made and is presented below.

An inventory of storage tanks located within ¼ mile of the Project Area was compiled based on AST and CBS facilities registered with NYSDEC, as presented in the EDR environmental regulatory agency database report. The CBS facilities store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size. EDR last updated these databases on October 22, 2008. AST and CBS facilities storing the hazardous substances listed in Appendix I of 24 CFR Part 51 Subpart C is presented in Table 13-1 below.

Table 13-1 Aboveground Storage of Hazardous Substances within ¼ Mile of the Project Area			
Owner/Identification	Address	Capacity	Contents
Pfizer Inc.	630 Flushing Avenue	62	Diesel
Pfizer Inc.	630 Flushing Avenue	275	Diesel
Pfizer Inc.	630 Flushing Avenue	300	Diesel
Pfizer Inc.	630 Flushing Avenue	275	Diesel
Engine 216/Ladder 108	187 Union Avenue	550	Diesel
Woodhull Medical Center	760 Broadway	4,000	Diesel
Woodhull Medical Center	760 Broadway	4,000	Diesel
Woodhull Medical Center	760 Broadway	1,250	Diesel
Woodhull Medical Center	760 Broadway	1,250	Diesel
Woodhull Medical Center	760 Broadway	1,100	Diesel
Woodhull Medical Center	760 Broadway	275	Diesel
Woodhull Medical Center	760 Broadway	275	Diesel
Engine Company 230	701 Park Avenue	550	Diesel
<i>Source: EDR Radius Map Report, January 7, 2007</i>			
Notes: Storage tanks with contents appearing in Appendix I to Subpart C of Part 51—Specific Hazardous Substances			

HUD has developed an electronic-based assessment tool that allows the calculation of the ASD from stationary hazards². The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD-assisted project can be located. The ASD is consistent with HUD's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft²- hr) for people and (10,000 BTU/ft² -hr) and buildings. ASDs were calculated for the four above facilities based on the largest tank present at each of the respective facilities, as presented in Table 13-2 below.

Facility	People (feet)	Buildings (feet)
Pfizer Inc.	167	29
Engine 216/Ladder 108	216	39
Woodhull Medical Center	493	96
Engine Company 230	216	39

The above ASDs were applied independently to each facility from the edge of each parcel via the use of buffers in ESRI 9.2 ARC-GIS software.³ Based on this analysis it was determined that none of the projected or potential development sites are within the ASDs. The Proposed Action is therefore compliant with 24 CFR 51C Subpart C, *Siting of HUD-Assisted Projects near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature* and no significant adverse impacts are anticipated.

² <http://www.hud.gov/offices/cpd/environment/asdcalculator.cfm>

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