

## 8.14 HAZARDOUS MATERIALS

### 8.14.1 Introduction

Following the methodology described in Section 3.14, “Hazardous Materials” of Chapter 3, “Impact Methodologies,” this Section evaluates whether the construction of the shaft at the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would create an increased potential exposure of the public or the environment to hazardous materials. These substances could include heavy metals, volatile and semivolatile organic compounds, methane, polychlorinated biphenyls (PCBs), and other substances deemed hazardous or toxic by the U. S. Environmental Protection Agency (USEPA) and/or New York State Department of Environmental Conservation (NYSDEC). Consistent with the guidance presented in the *CEQR Technical Manual*, the hazardous materials assessment evaluates whether past activities in the vicinity of the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would have resulted in the presence of hazardous materials at the site. Such activities could include land uses known to require the use of such materials, the presence of leaking underground storage tanks, or a history of past spill activity.

A Phase I Environmental Site Assessment (ESA) was conducted in March 2004 (revised in December 2005) to determine the potential for hazardous materials impacts as a result of construction of the shaft at this Shaft Site. The results of the Phase I ESA are summarized in this Section. A Phase II ESA, which involves environmental testing of soil and groundwater in the areas of potential disturbance to determine the presence, type and levels of contaminants that may be present, was not conducted for the EIS, but will be conducted if this Shaft Site is selected and prior to in-ground construction at the site.

### 8.14.2 Existing Conditions

#### Current Site Conditions

The E. 54<sup>th</sup> Street/Second Avenue Shaft Site is located at the intersection of E. 54<sup>th</sup> Street and Second Avenue. The site consists of an ‘L’ shaped area located in street and sidewalk area east of Second Avenue and on the north side of E. 54<sup>th</sup> Street.

The following conditions were observed at the E. 54<sup>th</sup> Street/Second Avenue Shaft Site during the preparation of the Phase I ESA:

- The Shaft Site is covered by pavement, asphalt, curbing, streetbed, and sidewalks and a sidewalk café area of Lenny’s Restaurant.
- There are underground electrical utilities serving the area.
- The site is located partially in a streetbed of midtown Manhattan and is heavily trafficked.

The E. 54<sup>th</sup> Street/Second Avenue Shaft Site is immediately adjacent to a number of heavily traveled roadways. As a result, historic deposition of lead from vehicle exhausts is likely to have

occurred at the site. In this area, it is also common to find historic fill that contains contaminants such as polycyclic aromatic hydrocarbons (PAHs) from coal ash or other sources of fill material.

The water main connection route that travels from the Shaft Site along Second Avenue to the water main route along E. 55<sup>th</sup> and E. 56<sup>th</sup> Streets is paved with asphalt and often congested with traffic.

### **Adjacent and Vicinity Land Uses**

The E. 54<sup>th</sup> Street/Second Avenue Shaft Site and water main extension to E. 55<sup>th</sup> and E. 56<sup>th</sup> Streets is located in an area of residential and commercial uses. Land uses immediately adjacent to the Shaft Site include a restaurant named Lenny's, multi-family residences with ground floor retail and garages. Other uses in the vicinity of the Shaft Site and water main extension are similar.

### **Geology and Hydrogeology**

Recent geotechnical borings in the area show that bedrock is encountered at approximately 3 feet below ground level. Groundwater is located within the bedrock and is encountered at approximately 25.7 feet below ground level. Based on topographic maps of the area, the overland flow of water (i.e. storm water and environmental releases) would also flow in a west to east direction.

### **Records Search**

A listing of Federal and State environmental enforcement sites in the area of the E. 54<sup>th</sup> Street/Second Avenue Shaft Site was obtained. The search was conducted to evaluate past and present activities involving hazardous materials on and in the vicinity of the site. The database search identified incident locations or facilities where hazardous materials may be present and are either known to have been released to the environment (e.g., spills, leaks) or may be sources of future releases.

An environmental database search for the E. 54<sup>th</sup> Street/Second Avenue Shaft Site did not reveal any historic on-site uses of hazardous materials. The environmental database did identify leaking underground storage tanks (LUSTs), reported spills (mostly petroleum products), environmental releases including 1,1,1 trichloroethylene and asbestos all within 0.25 miles of the Shaft Site, but no direct spills or releases at the site. Many of these incidents are identified as having been closed or mitigated. Although there is no history of hazardous materials use at E. 54<sup>th</sup> Street/Second Avenue Shaft Site, off-site sources of hazardous materials from adjacent properties and the surrounding area may have migrated onto the Shaft Site. Results of the records search for the area within a 0.25 mile radius are provided below.

#### *Resource Conservation and Recovery Information System (RCRIS)*

A number of registered hazardous waste generators in the USEPA database are located within 0.25 miles of the Shaft Site, including:

- 2 RCRIS Large Quantity Generators
- 14 RCRIS Small Quantity Generators
- 10 RCRIS Conditionally Exempt Small Quantity Generators.
- 3 RCRIS Transporters

*NYSDEC Registry of Inactive Hazardous Waste Disposal Sites*

There were 29 spills within 0.15 miles of the site at E. 54<sup>th</sup> Street/Second Avenue and another 15 spills within 0.25 miles of the site in the records database updated in December 2004. These spills included:

- Dielectric fluid
- #2, #4, and #6 fuel oils
- Antifreeze
- Unknown solid material
- Unknown petroleum
- Hydraulic oil
- Waste oil
- Asbestos
- Transformer oil
- Diesel fuel
- Gasoline

*Emergency Response Notification System (ERNS)*

There is one ERNS site indicated in the USEPA database of response action to emergency spill incidents that is located within 0.15 miles of the site. Two additional sites were located within 0.25 miles of the site. The following materials were reported:

- Hydraulic oil
- Unknown oils

There was one air and surface water reported release site within 0.15 miles and another 4 within 0.25 miles of the site. These sites are a subset of the ERNS database which has impacted only air or surface water. The following materials were reported:

- Hydraulic oil
- Transformer oil
- Asbestos
- Heavy smoke

#### *Hazardous Materials Incident Response System (HMIRS)*

There are seven HMIRS sites in the US Department of Transportation's database that are located within 0.25 miles of the site; five are within 0.15 miles of the site. The following materials were reported:

- #1, #2, #4, #5, and #6 fuel oils

#### *Regulated Underground and Aboveground Storage Tanks (UST/AST)*

There are 41 Regulated UST/AST sites in the NYSDEC database that are located within 0.15 miles of this site and another 19 within 0.25 miles of the site. There are three LUST sites within 0.15 miles and another seven within 0.25 miles. The following materials were reported:

- #2, #4, and #6 fuel oils
- Diesel fuel
- Gasoline

#### **Historical Uses of the Shaft Site and Adjacent Properties**

The following sources were reviewed to obtain information on the history of the Shaft Site from 1892 to the present:

- Sanborn/Fire Insurance Maps
- Aerial Photographs

Sanborn maps are used by the insurance industry to list properties for emergency or claims purposes. As a result, the maps identify properties (e.g., company name, generic title such as filling station, etc.), but generally do not provide detail on the nature of operations that were performed at that location. Nonetheless, since these maps go back as far as the late 1800's for older, more established communities, they are useful for identifying potential hazardous material sites, particularly prior to the era of current environmental regulations.

A total of 11 Sanborn maps were obtained dating from 1951 to the most recent maps published in 1996. A review of these maps indicate that, for the most part, only minor structural changes to adjacent properties have occurred within the past 50 years. The only significant change that occurred on an adjacent property during this period occurred on City Block No.1348. In 1951, the block consisted primarily of small, residential buildings, a hotel (Hotel Sutton), and a church (St. John's Evangelist Church). By 1976, the church had expanded to include a high school and the small residential buildings were replaced with a large multi-unit apartment building (The Bristol) and a parking garage.

The conclusions of the historical review indicate that there was no evidence of hazardous materials issues in connection with the history of the site. The Phase I ESA also concludes that although there is no history of hazardous materials use at this Shaft Site, off-site sources of hazardous materials from adjacent properties and the surrounding area may have migrated onto the site.

### 8.14.3 Future Conditions Without the Project

Currently, the soils left undisturbed on the E. 54<sup>th</sup> Street/Second Avenue Shaft Site do not represent a health or environmental concern in terms of hazardous material exposure to the public at or in the vicinity of the site based on information obtained and reviewed in conducting the Phase I ESA. There are no visible signs of surface contamination that would suggest that incidental contact with the Shaft Site soils would result in human health issues or diminish the environmental quality of the site or surrounding environment. Since there are no other planned construction or related activities that would directly affect the Shaft Site, the subsurface conditions should remain undisturbed in the Future Without the Project. Therefore it is expected that the present conditions at the site would be essentially the same without the project.

### 8.14.4 Future Conditions With the Project

If the E. 54<sup>th</sup> Street/Second Avenue Shaft Site is selected, subsurface soils would be excavated during construction. The subsurface soils may contain contaminants resulting from a number of sources including deposition and infiltration, contamination from off-site sources, and from historic fill material commonly used throughout the City of New York. Therefore, a number of preventative measures will be utilized to minimize exposure to potentially contaminated soils during construction.

Considerably more materials would be removed from this Shaft Site under the surface excavation method than under the raise bore method. The same amount and types of soil would be removed under both methods. However, the surface excavation method would also remove bedrock from this Shaft Site. Since the bedrock would not be contaminated with hazardous materials, there would be no difference in hazardous materials removed from the site under the two methods.

Based on the Phase I ESA for the E. 54<sup>th</sup> Street/Second Avenue Shaft Site, the areas of potential excavation may contain suspected contaminated soils similar to those at the preferred Shaft Site. Because the groundwater is within bedrock at this site, no dewatering will be required. A Phase II ESA, which would involve environmental testing of soil in the areas of potential disturbance to determine the presence, type and levels of contaminants that may be present, will be conducted if this Shaft Site is selected and prior to in-ground construction at the site. Based on the Phase I ESA, the remedial measures are the same as those for the preferred Shaft Site (see Section 4.14, “Hazardous Materials,” in Chapter 4, “Preferred Shaft Site”) and include:

- Subsurface investigation to determine disposal requirements in accordance with a NYCDEP Bureau of Environmental Planning and Assessment (BEPA)-approved sampling plan;
- Soil removal and disposal off-site in accordance with all applicable Federal, state, and local regulations; and
- Implementation of an NYCDEP-approved Construction Health and Safety Plan (CHASP); and

- Implementation of a NYCDEP BEPA-approved Remedial Action Plan (RAP).

During the final stage of construction, the site will be filled with certified clean fill that meets all NYSDEC recommended soil cleanup objectives in “Technical and Administrative Guidance Memorandum” (TAGM) #4046 and capped with an impervious surface.

With implementation of the measures discussed above, there would be no potential significant adverse hazardous materials impacts from construction of the shaft.

### **Activation and Operation**

As described in Chapter 2, “Purpose and Need and Project Overview,” activating the shaft includes shaft disinfection. During the disinfection step, chlorinated water would flow into the shaft from Tunnel No. 3 and be discharged to the local sewer system until a required chlorine residual was achieved within the shaft; no chlorine would be stored at the Shaft Site. However, prior to discharging the chlorinated water to local sewers, the water may need to be dechlorinated. Treatment of chlorinated water at the Shaft Site would require a maximum of one delivery of sodium bisulfite per day for a period of approximately three to five days. (See Section 4.14, “Hazardous Materials,” in Chapter 4, “Preferred Shaft Site” for more information on sodium bisulfite.) The same protective measures outlined in Section 4.14 for the preferred Shaft Site would be implemented at this Shaft Site for the handling, transport, and use of sodium bisulfite.

Operation of the shaft would not require the use of chemicals. Short-term maintenance and repair activities would routinely occur at the site, as discussed in Chapter 2, but are not anticipated to involve the use of hazardous materials. Based on the nature of sodium bisulfite, the protective measures that would be in place during its use, and the lack of any further chemical use on-site after activation, no potential significant adverse hazardous materials impacts would be anticipated to occur during activation and operation of the shaft.

