FACT SHEET

Brownfield Cleanup Program

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Site Name: 4566 Broadway Avenue (Nagle)
DEC Site #: C231054
Address: 4566 Broadway Avenue
New York, NY 10040

Have questions? See "Who to Contact" Below

Remedy Proposed for Brownfield Site Contamination; Public Comment Period Announced

The public is invited to comment on a proposed remedy being reviewed by the New York State Department of Environmental Conservation (NYSDEC) to address contamination related to the 4566 Broadway Avenue (Nagle) site ("site") located at 4566 Broadway Avenue, New York, New York County. Please see the map for the site location. Documents related to the cleanup of this site can be found at the location(s) identified below under "Where to Find Information."

Based on the findings of the investigation, NYSDEC in consultation with the New York State Department of Health (NYSDOH) has determined that the site does not pose a significant threat to public health or the environment.

How to Comment
NYSDEC is accepting written comments about the proposed plan for 45 days, from **February 20, 2013** through **April 6, 2013**. The proposed plan is available for public review at the location(s) identified below under "Where to Find Information." Please submit comments to the NYSDEC project manager listed under Project Related Questions in the "Who to Contact" area below.

Draft Remedial Work Plan and Proposed Decision Document
The cleanup plan is described in NYSDEC's Proposed Decision Document, which is based on a more detailed "Remedial Work Plan". The proposed remedy consists of:

- Excavation of tetrachloroethene (PCE) contaminated soil to pre-defined limits and transportation off-site for proper disposal. The soil excavation will occur near the eastern corner of the property, behind the one story on-site building. Physical constraints may not allow excavation of all of the soil above the restricted residential soil cleanup objectives (RRSCO) for PCE but most of the PCE contamination will be removed.

- A Soil Vapor Extraction (SVE) system will be installed to remediate the residual contamination. SVE is an in-situ technology used to treat volatile organic compounds in soil. The process physically removes contaminants from the soil by applying a vacuum to a SVE well which will be installed into the area below the ground but above the water table.

• Imposition of an institutional control in the form of an environmental easement for the controlled property that requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls, allows the use and development of the controlled property for restricted residential, commercial or industrial use, restricts the use of groundwater as a source of potable or process water, and requires compliance with the Department approved Site Management Plan.

The proposed remedy was developed by 4566 BROADWAY LLC ("applicant(s)") after performing a detailed investigation of the site under New York's Brownfield Cleanup Program (BCP).

Summary of the Investigation
Based upon investigations conducted to date, the primary contaminants of concern at the site include the petroleum related contaminants benzene, toluene, ethylbenzene, xylene (BTEX) and methyl tertiary butyl ether (MTBE), as well as the chlorinated solvent tetrachloroethene (PCE) in soil, groundwater and in soil vapor. The highest concentrations of petroleum contamination were found in the soil samples collected from near the bottom of the underground storage tank (UST) excavation located in the southwest side of the site. Benzene was detected at concentrations up to 7.3 parts per million (ppm), which exceeds the soil cleanup objective (SCO) for unrestricted use (0.06 ppm). Ethylbenzene (1 ppm to 150 ppm), toluene (0.7 ppm to 290 ppm), xylenes (mixed) (0.26 to 950 ppm) and MTBE (0.93 ppm to 23 ppm) were also detected at the site. Concentrations of PCE were found in on-site shallow (2.5 to 5 feet below grade) soil samples near the eastern corner of the site, behind the one story structure, at concentrations (1.3 ppm to 120 ppm) that exceed the soil cleanup objectives for the protection of groundwater (1.3 ppm).

Groundwater is contaminated at concentrations above groundwater standards. Groundwater samples taken on-site (or immediately adjacent to the site) had maximum concentrations of BTEX and MTBE of: 204 ppb for benzene (standard is 1 ppb); 26 ppb for toluene (standard is 5 ppb); 118 ppb for ethylbenzene (standard is 5 ppb); 240 ppb for xylene (standard is 5 ppb); and 21 ppb for MTBE (standard is 10 ppb). PCE was detected above its groundwater standard (5 ppb) in one on-site groundwater sample near the eastern corner of the site at a concentration of 17.1 ppb. PCE was also detected above its groundwater standard at one off-site location on the south side of Nagle Avenue at a concentration of 10.8 ppb; this detection was determined to not be site related because it is sidegradient from the site and there are groundwater samples between the site and this location where PCE was not detected. Degradation products of PCE (cis-1,2 dichloroethene and vinyl chloride) were also found in groundwater. The maximum on-site concentration of cis-1,2 dichloroethene was 7.12 ppb (standard 5 ppb). Vinyl chloride (44 ppb vs. the standard of 2 ppb) was detected at an off-site location (sidewalk) immediately adjacent to the site.

The highest concentration of PCE detected in on-site soil vapor samples was 5,280,0000 micrograms per cubic meter (µg/m3). Elevated, but significantly lower concentrations of PCE and its associated degradation products were also detected in off-site soil vapor samples. Approximately 100 feet downgradient (southeast) from the site along the northern sidewalk of Nagle Avenue the PCE and vinyl chloride concentrations in soil vapor were 136 and 187 µg/m3 respectively. The highest PCE concentration in off-site soil vapor detected was on the south side of Nagle Avenue at a concentration of 1,051 µg/m3; as discussed for the groundwater contamination

above, the detection of PCE on the south side of Nagle Avenue is not site related. BTEX and MTBE were also detected in on-site soil vapor and their concentrations were 230,650 and 9,660 µg/m3 respectively.

Sub-slab and indoor air sample results were compared with New York State's Soil Vapor Intrusion Guidance to evaluate the Soil Vapor Intrusion (SVI) in four surrounding structures. Results indicate that 'No Further Action' is recommended for two structures, and 'Take reasonable and practical actions to identify sources and reduce exposures' is recommended for one structure. 'Monitor/Mitigate' is recommended for another structure (based on sub-slab vapor sample results) but this structure is located on the south side of Nagle Avenue. As discussed above, the detection of PCE on the south side of Nagle Avenue is not site related.

Next Steps

NYSDEC will consider public comments, revise the plan as necessary, and issue a final Decision Document. New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The draft Remedial Work Plan and Proposed Decision Document are revised as needed to describe the selected remedy, and will be made available to the public. The applicant(s) may then design and perform the cleanup action to address the site contamination, with oversight by NYSDEC and NYSDOH.

NYSDEC will keep the public informed throughout the investigation and cleanup of the site.

Background

Location: The site is located in urban area on a triangularly shaped parcel in the upper west side of Manhattan, at the northeast corner of Broadway and Nagle Avenue. The area is referred as the "Inwood" section of upper Manhattan and the site is approximately 0.36 acres in size.

Site Features: The whole footprint of the site is now paved and fenced with a lockable gate. There is a small one story building at the east corner which is used by the parking attendant.

Current Zoning/Uses: The site's zoning district is C2-2/R-7-2 which is used for commercial and residential purposes. Currently, the site is used for a 24 hour parking facility, but until 2005 was used as a gasoline service station. The surrounding parcels are currently used for a combination of commercial and residential purposes. Adjacent to the site on the north side is an eight story residential apartment building; Intermediate School (IS) #218 is located further north; an open space and outdoor recreation area for IS #218 is located just northeast of the site. Fort Tryon Park is located west of the site across Broadway.

Historic Uses: From the 1920's through the 1950's, the site was used as a gasoline service station and auto repair shop. After that period until 2005, the site was used as only a gasoline service station under several ownerships. Prior use that appears to have led to site contamination includes leaks and spills from gasoline service operations and auto repair activities. During October 2005 all underground storage tanks (USTs) which had been used for gasoline/petroleum products, were removed for disposal off-site. During this removal noticeable petroleum staining of subsurface soil was detected. A Brownfield Cleanup Agreement was executed in September 2006.

Site Geology and Hydrogeology: The site is located approximately 30 feet above mean sea level. The site stratigraphy (from the ground surface down) consists of six inches of concrete or asphalt followed by a layer of six inches of sand; below that there is fill material which consists of coarse and fine sand, some silt, with varying amounts of coal, brick, wood and glass, encountered to a depth of approximately 11 feet below ground surface (bgs). Depth of groundwater ranges from 7 feet to 12 feet bgs and flows towards the east, southeast.

Additional site details, including environmental and health assessment summaries, are available on NYSDEC's website at:
http://www.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm?pageid=3&progno=C231054

Brownfield Cleanup Program: New York's Brownfield Cleanup Program (BCP) encourages the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and redeveloped. These uses include recreation, housing, business or other uses.

A brownfield is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination.

For more information about the BCP, visit: http://www.dec.ny.gov/chemical/8450.html

FOR MORE INFORMATION

Where to Find Information

Project documents are available at the following location(s) to help the public stay informed.

The New York Public Library, Inwood Branch
4790 Broadway Ave
New York, NY 10034-4916
phone: (212) 942-2445

Community Board 12
Attn: Pamela Palanque-North
711 W 168th Street
New York, NY 10032
phone: 212-568-8500

Project documents are also available on the NYSDEC website at:
http://www.dec.ny.gov/chemical/37550.html

Who to Contact

Comments and questions are always welcome and should be directed as follows:

Project Related Questions
Sadique Ahmed
Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7016
518-402-9656
sxahmed@gw.dec.state.ny.us

Site-Related Health Questions
Albert J DeMarco
New York State Department of Health
Empire State Plaza Corning Tower, Room 1787
Albany, NY 12237
518 402 7880
BEEI@health.state.ny.us

We encourage you to share this fact sheet with neighbors and tenants, and/or post this fact sheet in a prominent area of your building for others to see.

Receive Site Fact Sheets by Email

Have site information such as this fact sheet sent right to your email inbox. NYSDEC invites you to sign up with one or more contaminated sites county email listservs available at the following web page: http://www.dec.ny.gov/chemical/61092.html. It's quick, it's free, and it will help keep you *better informed*.

As a listserv member, you will periodically receive site-related information/announcements for all contaminated sites in the county(ies) you select.

Note: Please disregard if you already have signed up and received this fact sheet electronically.

Site Location Map