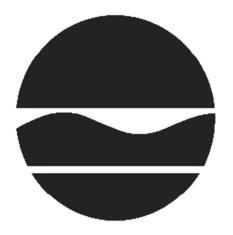
DECISION DOCUMENT

Jamaica 94th Avenue
Brownfield Cleanup Program
Jamaica, Queens County
Site No. C241184
June 2016



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

Jamaica 94th Avenue Brownfield Cleanup Program Jamaica, Queens County Site No. C241184 June 2016

Statement of Purpose and Basis

This document presents the remedy for the Jamaica 94th Avenue site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Jamaica 94th Avenue site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste:
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

Site excavation will include removal of any underground storage tanks, fuel dispensers, underground piping or other structures associated with a source of contamination, as well as any

identified grossly contaminated soils. In addition, all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet, will be excavated and transported off-site for disposal. Approximately 1,500 cubic yards of contaminated soil will be removed from the site. This includes excavation to a depth of approximately 2 feet below ground surface (bgs) as shown on Figure 2, which is based on the data gathered thus far. Endpoint samples will be collected and analyzed across the entire site to evaluate if Track 2 Restricted Residential Soil Cleanup Objectives (RRSCOs) are achieved and will inform the need for further excavation with respect to attainment of Track 2. If endpoint samples do not meet RRSCOs further excavation will either be completed until they are met, otherwise a contingent Track 4 remedy will be achieved.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. On-site soil which does not exceed the above-noted excavation criteria (RRSCOs) or the protection of groundwater SCOs for any constituent may be used anywhere on-site, including below the water table to back fill the excavation areas or re-grade the site.

3. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

4. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.

Engineering Controls: To be determined following the post-remedial SVI evaluation and receipt of the post-excavation endpoint samples. This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o descriptions of the provisions of the environmental easement including any land use or groundwater use restrictions;
- o a provision for evaluation of the potential for soil vapor intrusion (SVI) for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o provisions for the management and inspection of the engineering controls that may be necessary (e.g., if a sub-slab depressurization system [SSDS] is needed following the post-remedial soil vapor intrusion evaluation);

- o maintaining site access controls and Department notification; and
- o the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. Should an SSDS be needed as a result of the post-remedial SVI evaluation, an Operation and Maintenance (O&M) Plan to ensure SVI monitoring or continued operation, maintenance, inspection and report of any mechanical or physical components of an active vapor mitigation system. This plan includes, but is not limited to:
- o procedures for operating and maintaining the system(s);
- o compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting; and
- o monitoring for vapor intrusion for any new buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Contingent Remedial Elements

In the event that Track 2 restricted residential use is not possible, including achieving the soil vapor remedial action objective, the contingent remedy will achieve a Track 4 site-specific cleanup at a minimum and will include a site cover as described below.

The contingent Track 4 site-specific cleanup would require many of the same elements as the Track 2 restricted residential alternative, including UST removal, excavation, post-remedial soil vapor evaluation, and a site management plan and environmental easement. The site-specific Track 4 contingent remedy has a goal of achieving the following site-specific soil cleanup objectives (SSSCOs): 100 parts per million (ppm) for total polycyclic aromatic hydrocarbons (PAHs), 1,200 ppm for lead and 3 ppm for mercury. These objectives are acceptable since groundwater has not been impacted. Therefore, under the Track 4 contingency, a site cover will be required to allow for restricted residential use of the site. The cover will consist of the structures such as buildings, pavement, and sidewalks comprising the site development. Any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d).

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

AK J Gy
Robert Cozzy, Director Remedial Bureau B

DECISION DOCUMENT

Jamaica 94th Avenue Jamaica, Queens County Site No. C241184 June 2016

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Queens Central Library 89-11 Merrick Boulevard Jamaica, NY 11432 Phone: 718-990-0700

Queens Community Board 12 90-28 161st Street Jamaica, NY 11432

Phone: 718-658-3308

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The site is located in an urban area of Jamaica, Queens at the southwestern intersection of 94th Avenue and 148th Street. The approximately 25,000-square foot site is bound to the north by 94th Avenue, followed by industrial uses; to the east by 148th Street, followed by a vacant lot; and to the south and west by undeveloped lots.

Site Features:

The main site features include a small asphalt-paved parking area fronting 94th Avenue, oneand two-story buildings utilized as a food storage warehouse, and a vacant one-story warehouse.

Current Zoning and Land Use:

The site is currently used as a food storage warehouse in the western and central portions of the site and vacant to the east. The site is zoned as C6-4 for commercial use. The surrounding area is largely developed with industrial uses, with some commercial and residential uses. The Long Island Railroad (LIRR) tracks are located approximately 200 feet to the north.

Past Use of the Site:

The site was historically developed with the following uses: residential (1901 - 1925); cabinet maker (1925); cold storage (1942 - 2006); a private garage and automotive repair with a buried gasoline storage tank (1942 - 1951); a private automotive garage (1925 - 2005); a toy warehouse (1963 - 1967); and an air conditioning manufacturer (1967 - 1996). The eastern warehouse has remained vacant since approximately 2006.

Site Geology and Hydrogeology:

Surface topography at the site is generally level. The site lies at an elevation of approximately 39 feet above the National Geodetic Vertical Datum, which approximates mean sea level. The surrounding area slopes down to the south, toward Jamaica Bay. Groundwater has been encountered at approximately 20 feet below grade and flows to the south. Historic fill (including sand, silt, gravel, coal, and brick) was observed from just below the surface to approximately five feet below grade, underlain by apparent native sand, silt, and gravel to approximately 35 feet below grade. Bedrock was not encountered.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions:
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

mercury indeno(1,2,3-CD)pyrene

lead chrysene

benzo(a)anthracene trichloroethene (TCE)
benzo(a)pyrene tetrachloroethene (PCE)
benzo(b)fluoranthene dichlorodifluoromethane
benzo[k]fluoranthene trichloromonofluoromethane

The contaminant(s) of concern exceed the applicable SCGs for:

- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination: Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Based upon investigations conducted to date, the contaminants of concern include certain metals, VOCs and SVOCs as outlined below. Anomalies found in the geophysical survey of the site are consistent with two reported underground petroleum storage tanks. The contaminated soil and soil vapor present at the site are likely attributable to historic fill and historic site usage, including automotive repair and air conditioner manufacturing.

Soil – The primary contaminants of concern detected in soil include metals and SVOCs, specifically several polycyclic aromatic hydrocarbons (PAHs), in the upper two feet below grade, within the historic fill layer present across the entire site. Historic fill is present, on average, from the ground surface to five feet below grade. The PAHs benzo(a,h)anthracene (max. 5.1 parts per million [ppm]), benzo(a)pyrene (max. 4.1 ppm), benzo(b)fluoranthene (max. 5.6 ppm), chrysene (max. 4.0 ppm), dibenz(a,h)anthracene (max. 0.67 ppm), and indeno(1,2,3-cd)pyrene (max. 2.4 ppm) were detected above their respective Restricted Residential Soil Cleanup Objectives (RRSCOs). The metals mercury (max. 5.4 ppm) and lead (max. 3,700 ppm) were detected above their respective RRSCOs. Site-related soil contamination is not expected to extend off-site based on the available data.

Groundwater - No contaminants (only naturally occurring metals iron, manganese, and sodium) are present in the groundwater above standards.

Soil Vapor – The chlorinated solvents tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in sub-slab soil vapor at concentrations up to 257 micrograms per cubic meter (ug/m3) of PCE and up to 6.34 ug/m3 for TCE. Petroleum-related and other chlorinated VOCs (i.e., dichlorodifluoromethane up to 35,100 ug/m3 and trichloromonofluoromethane up to 381 ug/m3) in the subsurface soil vapor were also detected. PCE and TCE in soil vapor is not expected to extend off-site.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Direct contact with contaminants in the soil is unlikely because the site is covered with buildings and pavement. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that is not affected by this contamination. Volatile organic compounds were detected in the soil vapor (air spaces within the soil), which in turn may move into the overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of the buildings, is referred to as soil vapor intrusion. The potential exists for people to inhale site contaminants in indoor air due

to soil vapor intrusion in the on-site building. Sampling indicates soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

• Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

• Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

• Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 2: Restricted use with generic soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation with Site Management remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

Site excavation will include removal of any underground storage tanks, fuel dispensers, underground piping or other structures associated with a source of contamination, as well as any identified grossly contaminated soils. In addition, all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet, will be excavated and transported off-site for disposal. Approximately 1,500 cubic yards of contaminated soil will be removed from the site. This includes excavation to a depth of approximately 2 feet below ground surface (bgs) as shown on Figure 2, which is based on the data gathered thus far. Endpoint samples will be collected and analyzed across the entire site to evaluate if Track 2 Restricted Residential Soil Cleanup Objectives (RRSCOs) are achieved and will inform the need for further excavation with respect to attainment of Track 2. If endpoint samples do not meet RRSCOs further excavation will either be completed until they are met, otherwise a contingent Track 4 remedy will be achieved.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. On-site soil which does not exceed the above-noted excavation criteria (RRSCOs) or the protection of groundwater SCOs for any constituent may be used anywhere on-site, including below the water table to back fill the excavation areas or re-grade the site.

3. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

4. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.

Engineering Controls: To be determined following the post-remedial SVI evaluation and receipt of the post-excavation endpoint samples. This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o descriptions of the provisions of the environmental easement including any land use or groundwater use restrictions;
- o a provision for evaluation of the potential for soil vapor intrusion (SVI) for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o provisions for the management and inspection of the engineering controls that may be necessary (e.g., if a sub-slab depressurization system [SSDS] is needed following the post-remedial soil vapor intrusion evaluation);
- o maintaining site access controls and Department notification; and
- o the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. Should an SSDS be needed as a result of the post-remedial SVI evaluation, an Operation and Maintenance (O&M) Plan to ensure SVI monitoring or continued operation, maintenance, inspection and report of any mechanical or physical components of an active vapor mitigation system. This plan includes, but is not limited to:
- o procedures for operating and maintaining the system(s);
- o compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting; and
- o monitoring for vapor intrusion for any new buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Contingent Remedial Elements

In the event that Track 2 restricted residential use is not possible, including achieving the soil vapor remedial action objective, the contingent remedy will achieve a Track 4 site-specific cleanup at a minimum and will include a site cover as described below.

The contingent Track 4 site-specific cleanup would require many of the same elements as the Track 2 restricted residential alternative, including UST removal, excavation, post-remedial soil vapor evaluation, and a site management plan and environmental easement. The site-specific Track 4 contingent remedy has a goal of achieving the following site-specific soil cleanup objectives (SSSCOs): 100 parts per million (ppm) for total polycyclic aromatic hydrocarbons (PAHs), 1,200 ppm for lead and 3 ppm for mercury. These objectives are acceptable since

groundwater has not been impacted. Therefore, under the Track 4 contingency, a site cover will be required to allow for restricted residential use of the site. The cover will consist of the structures such as buildings, pavement, and sidewalks comprising the site development. Any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d).

