

DECISION DOCUMENT

Former Bennett Trucking Corp.
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224181
January 2015



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

DECLARATION STATEMENT - DECISION DOCUMENT

Former Bennett Trucking Corp.
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224181
January 2015

Statement of Purpose and Basis

This document presents the remedy for the Former Bennett Trucking Corp. 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 Former Bennett Trucking Corp. 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

Implement a remedial design program 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

As part of the remediation, the slab of the former on-site building will be removed for off-site

disposal. All on-site soil, to a maximum depth of 15 feet, which exceeds unrestricted use soil cleanup objectives (SCOs) as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. The soil targeted for removal is the top 12 feet of soil beneath the building slabs. Approximately 3,750 cubic yards of soil will be removed from the site in this area. An additional 50 cubic yards of soil will be removed from beneath the former gasoline tank to a depth of 15 feet below ground to address contaminant source areas. "Endpoint" samples will be collected after the initial excavation to evaluate the performance of the remedy with respect to the remedial action objectives for soil and sources of soil vapor. If the excavation is not able to achieve the unrestricted use SCOs, then the contingent remedy will be pursued.

3. Soil Vapor Extraction:

Soil vapor extraction (SVE) will be implemented to remove volatile organic compounds (VOCs) from the deeper contaminated soils in the subsurface. VOCs will be physically removed from the soil by applying a vacuum to a well that has been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix, carrying the VOCs from the soil to the SVE well. The air extracted from the SVE well is then treated as necessary prior to being discharged to the atmosphere. The SVE well will be installed into the vadose zone and screened from a depth of 15 feet to approximately 30 feet below grade. The area to be treated is estimated to be 260 square feet. The air containing VOCs extracted from the SVE well will be treated by passing the air stream through activated carbon, which removes the VOCs from the air prior to it being discharged to the atmosphere. Post-remedial soil samples will be collected and analyzed to evaluate the performance of the remedy with respect to attainment of soil cleanup objectives. A Site Management Plan will be developed for the SVE system and other remedial elements that are part of the Track 1 cleanup.

4. In-Situ Chemical Oxidation:

In-situ chemical oxidation (ISCO) will be implemented to treat VOC contaminants in groundwater and saturated soil. A chemical oxidant will be injected into the subsurface via injection wells screening an interval from about 2 feet above the water table to 8 feet below the water table. The oxidant will destroy the contaminants in an approximately 2,000 square foot area located diagonally across the site from northeast to southwest where gasoline-related compounds were elevated in the groundwater, incorporating the area between monitoring wells MW-3 and MW-5. The byproducts of the ISCO process are less toxic than the existing contamination. Post-remedial groundwater samples and endpoint soil samples will be collected and analyzed to evaluate the performance of the ISCO with respect to attainment of unrestricted SCOs and groundwater standards. No groundwater use restriction is needed because the area is served by a municipal water supply, and Article 141 of the New York City Department of Health code prohibits potable use of groundwater without a permit.

5. Enhanced Bioremediation:

If necessary, in-situ enhanced biodegradation will be employed to treat contaminants in groundwater in an area to be determined following the treatment of the source area as described in remedy element 4. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface via the ISCO injection wells. Post-remedial groundwater samples will be collected and analyzed to evaluate the performance of the remedy with respect to attainment of groundwater

objectives.

Contingent Remedial Elements

In the event that Track 1 unrestricted use is not achieved, including meeting unrestricted use SCOs, groundwater, and/or soil vapor remedial action objectives, the contingent remedy will achieve a Track 4 restricted-residential cleanup at a minimum and will include an environmental easement and site management plan as described below.

The contingent Track 4 restricted-residential cleanup would require many of the same elements as the Track 1 alternative, including excavation and injections of chemical oxidants and oxygen-releasing compounds to treat residual soil contamination and impacted groundwater. Although the Track 4 cleanup would not include soil vapor extraction by design, it may be implemented initially under the Track 1 Alternative. The Track 4 remedy has a goal of achieving the Protection of Groundwater SCOs for VOCs in all on-site soils. This alternative allows the use of long-term institutional/engineering controls to address residual impacted media or prevent exposures for future site occupants. The following are the contingent remedial elements required to achieve a Track 4 cleanup:

6. **Site Cover:** A site cover will be required to allow for restricted-residential use of the site. The cover will consist either of the structures such as buildings, pavement, and sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will not meet the applicable SCOs. Where the soil cover is required, it will be a minimum of two feet of soil which meets the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted-residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

7. **Institutional Control:**

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

a. requires 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);

b. allows the use and development of the controlled property for residential, restricted-residential, commercial, and industrial uses, as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. restricts 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

d. requires compliance with the Department-approved Site Management Plan.

8. **Site Management Plan:**

A Site Management Plan 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 7, above.

Engineering Controls: The site cover discussed in Paragraph 6, above, if required.

This plan includes, but may not be limited to:

- i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - ii. descriptions of the provisions of the environmental easement including any land use, and/or groundwater use restrictions;
 - iii. provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - iv. provisions for the management and inspection of the identified engineering controls;
 - v. maintaining site access controls and Department notification; and
 - vi. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above
 - a schedule of monitoring and frequency of submittals to the Department.

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.

January 30, 2015



Date

Robert Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Former Bennett Trucking Corp.
Brooklyn, Kings County
Site No. C224181
January 2015

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 repository:

Brooklyn Public Library
Leonard Branch
81 Devoe Street
Brooklyn, NY 11211
Phone: 718-486-3365

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 on the north side of Grand Street, between Bushwick Avenue and Olive Street, in the East Williamsburg section of Brooklyn. The site is approximately 0.19 acres in size, at an elevation of 39 feet above sea level. The neighborhood includes multi-use units with first floor retail use and residential units. Progress High School (K474) is located directly across Grand Street from the site.

Site Features: The site was developed with a one-story commercial building with a partial basement. The original building took up the entire parcel. When the building was converted to a laundromat, the front quarter (ten feet) of the building was removed and a parking lot put in its place. The above-ground portion of the building was razed in June 2014, leaving the slab.

Current Zoning/Use: The property is currently vacant but was used for commercial purposes. The site is zoned R-7A residential with a C2-4 commercial overlay. The intended use of the site is restricted-residential.

Historic Use: The site was an undeveloped portion of a larger residential property from at least 1888 through 1907. By 1928 the site was developed with a garage, later occupied by a motor freight company. Sanborn maps of the original building identify a buried gas tank located toward the front part of the building. By 1977 the building was occupied by a warehouse and non-specific commercial uses, with tenants including a sanitation company and a coffee distributor. Circa 2009 the building was converted to its final use as a laundromat/dry cleaner drop-off and a retail store.

Site Geology and Hydrogeology: Subsurface soils at the site consist of a silty non-native fill with bricks, wood, and rubble to a depth of up to 6 feet below grade. Below that is native material consisting of brown silty sand. Groundwater is present under water table conditions at a depth of approximately 30 feet below the surface and flows southwest, possibly under the influence of dewatering activities associated with the subway line along Bushwick Avenue.

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, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards,

criteria and guidance values (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
- sub-slab 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:

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:

1,2,4-TRIMETHYLBENZENE XYLENE (MIXED)

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

- groundwater
- soil

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: The Remedial Investigation for this site consisted of soil samples collected from nine subsurface borings, groundwater from three monitoring wells, and six soil vapor samples from beneath the building slab. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganics, and pesticides/PCBs.

Soil: Soil samples were collected from 12-14 feet below grade at all nine borings, and additional deeper samples, up to a maximum depth of 27 feet, were collected from three of the borings.

Based on the investigations conducted to date, soil beneath the site in the vicinity of the historic underground storage tank identified on Sanborn maps is contaminated with petroleum-related VOCs, mostly above the unrestricted use soil cleanup objectives (UUSCOs) but below the

restricted-residential SCOs. Contaminated soil in that area is assumed to be present from a depth of at least 15 feet down to the water table at approximately 30 feet below ground.

Historic fill (soil mixed with bricks, concrete, and rubble) was found beneath the building slab at one boring location to a depth of six feet, although samples were not collected for analysis. The investigation identified petroleum-related VOCs at concentrations above UUSCOs in soil samples obtained from borings around the reported underground gasoline storage tank. The VOCs driving the remedy are 1,2,4-trimethylbenzene (maximum concentration 56 parts per million [ppm]) and mixed xylenes (maximum concentration 115 ppm). There were no SVOCs or pesticides/PCBs detected above UUSCOs. Manganese was found above the UUSCOs in one sample. Contaminated soil related to the site does not extend off-site.

Groundwater: Based on the investigations conducted to date, groundwater across much of the site is contaminated above standards with petroleum-related VOCs, although no significant groundwater contamination extends off-site. Contaminated groundwater is present both to the northeast and southwest of the contaminated soil, perhaps as a result of dewatering operations at the nearby subway line and station, which may have reversed the natural (to the northeast) groundwater flow gradient.

Groundwater had concentrations of petroleum-related VOCs above the drinking water standards. These VOCs were the same as those found in the soil samples. 1,2,4-trimethylbenzene (maximum concentration 490 parts per billion [ppb]; drinking water standard 5 ppb) and mixed xylenes (maximum concentration 2,190 ppb; drinking water standard 5 ppb) were found. A few SVOCs were detected in the low part per trillion range in the samples.

Multiple VOCs, including petroleum-related compounds, were detected in the soil vapor samples at low concentrations across the site with totals ranging from 226.9 micrograms per cubic meter (ug/m³) to 1,960.6 ug/m³. The highest concentrations of petroleum-related compounds were detected in the southeast corner of the property.

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*.

Since the site is fenced and covered by asphalt or concrete, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater and/or soil may move into the soil vapor (air spaces within the soil), which in turn may move into 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 buildings, is referred to as soil vapor intrusion. The inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern because the site is vacant. Furthermore, environmental 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.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

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 1: Conditional Track 1 remedy.

The selected remedy is referred to as the Excavation with Soil Vapor Extraction and Groundwater Treatment remedy.

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

1. Remedial Design

Implement a remedial design program 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

As part of the remediation, the slab of the former on-site building will be removed for off-site disposal. All on-site soil, to a maximum depth of 15 feet, which exceeds unrestricted use soil cleanup objectives (SCOs) as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. The soil targeted for removal is the top 12 feet of soil beneath the building slabs. Approximately 3,750 cubic yards of soil will be removed from the site in this area. An additional 50 cubic yards of soil will be removed from beneath the former gasoline tank to a depth of 15 feet below ground to address contaminant source areas. "Endpoint" samples will be collected after the initial excavation to evaluate the performance of the remedy with respect to the remedial action objectives for soil and sources of soil vapor. If the excavation is not able to achieve the unrestricted use SCOs, then the contingent remedy will be pursued.

3. Soil Vapor Extraction:

Soil vapor extraction (SVE) will be implemented to remove volatile organic compounds (VOCs) from the deeper contaminated soils in the subsurface. VOCs will be physically removed from the soil by applying a vacuum to a well that has been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix, carrying the VOCs from the soil to the SVE well. The air extracted from the SVE well is then treated as necessary prior to being discharged to the atmosphere. The SVE well will be installed into the vadose zone and screened from a depth of 15 feet to approximately 30 feet below grade. The area to be treated is estimated to be 260 square feet. The air containing VOCs extracted from the SVE well will be treated by passing the air stream through activated carbon, which removes the VOCs from the air prior to it being discharged to the atmosphere. Post-remedial soil samples will be collected and analyzed to evaluate the performance of the remedy with respect to attainment of

soil cleanup objectives. A Site Management Plan will be developed for the SVE system and other remedial elements that are part of the Track 1 cleanup.

4. In-Situ Chemical Oxidation:

In-situ chemical oxidation (ISCO) will be implemented to treat VOC contaminants in groundwater and saturated soil. A chemical oxidant will be injected into the subsurface via injection wells screening an interval from about 2 feet above the water table to 8 feet below the water table. The oxidant will destroy the contaminants in an approximately 2,000 square foot area located diagonally across the site from northeast to southwest where gasoline-related compounds were elevated in the groundwater, incorporating the area between monitoring wells MW-3 and MW-5. The byproducts of the ISCO process are less toxic than the existing contamination. Post-remedial groundwater samples and endpoint soil samples will be collected and analyzed to evaluate the performance of the ISCO with respect to attainment of unrestricted SCOs and groundwater standards. No groundwater use restriction is needed because the area is served by a municipal water supply, and Article 141 of the New York City Department of Health code prohibits potable use of groundwater without a permit.

5. Enhanced Bioremediation:

If necessary, in-situ enhanced biodegradation will be employed to treat contaminants in groundwater in an area to be determined following the treatment of the source area as described in remedy element 4. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface via the ISCO injection wells. Post-remedial groundwater samples will be collected and analyzed to evaluate the performance of the remedy with respect to attainment of groundwater objectives.

Contingent Remedial Elements

In the event that Track 1 unrestricted use is not achieved, including meeting unrestricted use SCOs, groundwater, and/or soil vapor remedial action objectives, the contingent remedy will achieve a Track 4 restricted-residential cleanup at a minimum and will include an environmental easement and site management plan as described below.

The contingent Track 4 restricted-residential cleanup would require many of the same elements as the Track 1 alternative, including excavation and injections of chemical oxidants and oxygen-releasing compounds to treat residual soil contamination and impacted groundwater. Although the Track 4 cleanup would not include soil vapor extraction by design, it may be implemented initially under the Track 1 Alternative. The Track 4 remedy has a goal of achieving the Protection of Groundwater SCOs for VOCs in all on-site soils. This alternative allows the use of long-term institutional/engineering controls to address residual impacted media or prevent exposures for future site occupants. The following are the contingent remedial elements required to achieve a Track 4 cleanup:

6. Site Cover: A site cover will be required to allow for restricted-residential use of the site. The cover will consist either of the structures such as buildings, pavement, and sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will

not meet the applicable SCOs. Where the soil cover is required, it will be a minimum of two feet of soil which meets the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted-residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

7. Institutional Control:

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

- a. requires 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);
- b. allows the use and development of the controlled property for residential, restricted-residential, commercial, and industrial uses, as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- c. restricts 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
- d. requires compliance with the Department-approved Site Management Plan.

8. Site Management Plan:

A Site Management Plan 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 7, above.

Engineering Controls: The site cover discussed in Paragraph 6, above, if required.

This plan includes, but may not be limited to:

- i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - ii. descriptions of the provisions of the environmental easement including any land use, and/or groundwater use restrictions;
 - iii. provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - iv. provisions for the management and inspection of the identified engineering controls;
 - v. maintaining site access controls and Department notification; and
 - vi. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
 - monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above
 - a schedule of monitoring and frequency of submittals to the Department.

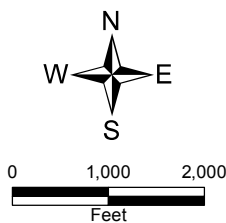
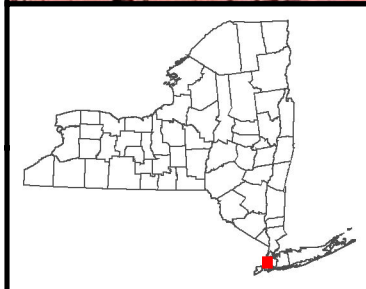


Figure 1
 Site Location Map
 Former Bennett Trucking Corp.
 Brooklyn, Kings County
 Site No. C224181



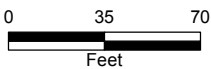


Figure 2

Site Map

Former Bennett Trucking Corp.
 Brooklyn, Kings County
 Site No. C224181

