

# DECISION DOCUMENT

---

432 Rodney Street  
Brownfield Cleanup Program  
Brooklyn, Kings County  
Site No. C224216  
October 2017



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

# DECLARATION STATEMENT - DECISION DOCUMENT

---

432 Rodney Street  
Brownfield Cleanup Program  
Brooklyn, Kings County  
Site No. C224216  
August 2017

## **Statement of Purpose and Basis**

This document presents the remedy for the 432 Rodney Street 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 432 Rodney Street 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:

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

## **2. In-Situ Enhanced Bioremediation Using Activated Carbon Injection**

In-situ enhanced biodegradation will be employed to treat chlorinated volatile organic compounds in groundwater beneath the site. The biological breakdown of contaminants through anaerobic reductive dechlorination will be enhanced by the addition of colloidal activated carbon injections. The carbon adsorbs to the contamination and promotes the growth of bacteria which further stimulates biological breakdown of contaminants. The material will be delivered through injection wells installed as part of the IRM on Lots 1 and 31 as well as through new injection wells to be installed at Lots 27 and 28.

## **3. Vapor Mitigation**

In the event that any existing site buildings become occupied and for all new buildings developed on the site, a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from soil and groundwater shall be installed and operated in accordance with the Site Management Plan.

## **4. Cover System**

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

## **5. Institutional Controls**

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.

## 6. Site Management Plan

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

- 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 5 above.
- Engineering Controls: The vapor mitigation system(s) discussed in Paragraph 3 and the cover system discussed in Paragraph 4 above.
- This plan includes, but may not be limited to:
  - An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
  - A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
  - Provisions for the management and inspection of the identified engineering controls;
  - Maintaining site access controls and Department notification; and
  - 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 of groundwater to assess the performance and effectiveness of the remedy; and
- 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.

October 31, 2017  
Date

Eric R Obrecht  
Eric Obrecht, Director  
Remedial Bureau A

# DECISION DOCUMENT

432 Rodney Street  
Brooklyn, Kings County  
Site No. C224216  
October 2017

---

## **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 - Williamsburg  
240 Division Avenue  
Brooklyn, NY 11211  
Phone: 718-302-3485

### **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 432 Rodney Street site is located in an urban area in the Williamsburg neighborhood of Brooklyn, Kings County. The site consists of four tax parcels bordered by Ainslie Steet to the north, Keap Street to the east, Hope Street to the south, and Rodney Street to the west.

**Site Features:** The site occupies an area of about 27,160 square feet (0.62 acres). Lots 1 and 31 are currently vacant. Lots 27 and 28 are currently improved with 1-story buildings most recently occupied by the Quaker Sugar Company, Inc., as packaged food storage and refrigeration areas. These structures are currently unoccupied.

**Current Zoning and Land Use:** The site is zoned for moderate to higher density residential development (R6A) and manufacturing (M-1/M-2). In addition, the site is situated within a Special Mixed Use District for Greenpoint-Williamsburg (MX-8), which allows for new residential and non-residential uses to be developed as-of-right and within the same building structures. All lots have also been assigned an "E"-designation (E-138) for Underground Gasoline Storage Tanks Testing Protocol as part of the Greenpoint-Williamsburg Rezoning. The site is bounded by a vacant lot and residential and commercial buildings followed by Ainslie Street to the north, Keap Street then residential properties to the east, Hope Street and a mix of commercial and industrial properties to the south, and Rodney Street and Interstate 278 to the west.

**Past Use of the Site:** Past uses include residential, an automotive garage, a poultry market, a store, smoked fish production, transportation and a warehouse.

**Site Geology and Hydrogeology:** The area of Brooklyn where the property is located is highly developed and topped by infrastructure, including paved roads, sidewalks and buildings. Subsurface strata at the site consists of historic urban fill characterized by loose brown to black medium-grained sand with varying amounts of brick and concrete extending to depths of up to 14 feet below grade surface (bgs). The historic urban fill is underlain by brown sand with varying amounts of clay. Bedrock consists of the metamorphic schist and quartzite of the pre-Cambrian Manhattan Schist Formation. The soils in the area of the property are classified as Urban Land.

Depth to groundwater ranges from 15.80 to 17.34 feet bgs. Groundwater flow direction is to the northeast.

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 Applicants under the Brownfield Cleanup Agreement are Volunteers. The Volunteers do not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

The Department will seek to identify any parties (other than the Volunteers) known or suspected to be responsible for contamination at or emanating from the site, referred to as Potentially Responsible Parties (PRPs). The Department will bring an enforcement action against the PRPs. If an enforcement action cannot be brought, or does not result in the initiation of a remedial program by any PRPs, the Department will evaluate the off-site contamination for action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State incurs or has incurred.

## **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
- sub-slab 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:

tetrachloroethene (PCE)	vinyl chloride
trichloroethene (TCE)	ethylbenzene
benzene	toluene
xylene (mixed)	naphthalene
cis-1,2-Dichloroethene	

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

- groundwater
- 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.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

### **IRM - Soil Removal**

The IRM was implemented from July 2016 to May 2017 and included the following activities:

- Excavation and off-site disposal of contaminated soils on Lots 1 and 31 to a depth of up to approximately 15 feet below ground surface to meet restricted residential use SCOs;
- Removal of two above ground storage tanks and four underground storage tanks on Lots 1 and 31;
- Direct injection of base-activated persulfate in the southeast corner of Lot 31 to treat petroleum related volatile organic compounds in groundwater
- Installation of the wells for future chemical injections into the building design (prior to building foundation construction)

After soil excavation on Lots 1 and 31 was completed to the development depth, documentation samples were collected to record the remaining contamination. All of the samples achieved the desired Restricted Residential Use SCOs.

All fill material brought to the site met the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

## **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 primary contaminants of concern include chlorinated- and petroleum-related VOCs.

#### Soil:

Soil sample analytical results revealed concentrations of site Contaminants of Concern that exceed their respective unrestricted and/or restricted residential soil cleanup objectives (SCOs). Petroleum related impacts and chlorinated VOCs were primarily concentrated in Lots 31 and 28. Tetrachloroethene (PCE) was detected in concentrations up to 10 parts per million (ppm), Trichloroethene (TCE) was detected at concentrations up to 2.6 ppm, cis-1,2,dichloroethene was detected at concentrations up to 15 ppm, and vinyl chloride was detected at concentrations up to 0.73 ppm. Additionally, benzene was detected at up to 0.39 ppm, naphthalene up to 32 ppm, toluene up to 0.86 ppm, ethylbenzene at 22ppm and xylenes up to 58 ppm. Analytical results of soil samples collected in the western portion of the site did not reveal CVOC impacts to that area. Off-site soil contamination is not suspected; however, this will be evaluated as part of the forthcoming off-site investigation related to this site.

#### Groundwater:

Groundwater sample results exhibited concentrations of petroleum related VOCs and CVOCs exceeding their respective ambient water quality standards. PCE was detected at concentrations up to 1000 parts per billion (ppb), TCE was detected at concentrations up to 210 ppb, cis-1,2,dichloroethene was detected at concentrations up to 6,500 ppb, and vinyl chloride was detected at concentrations up to 330 ppb. Additionally, benzene was detected at up to 260 ppb, naphthalene up to 75 ppb, toluene up to 2300 ppb, ethylbenzene at 1500 ppb and xylene up to 5500 ppb. Off-site groundwater contamination is not suspected; however, this will be evaluated as part of the forthcoming off-site investigation related to this site.

#### Soil Vapor:

A total of seven sub slab soil samples were collected under site buildings. PCE was detected at concentrations up to 90,200 ug/m<sup>3</sup>, TCE was detected at concentrations up to 13,500 ug/m<sup>3</sup>, cis-1,2,dichloroethene was detected at concentrations up to 193,000 ug/m<sup>3</sup>, and vinyl chloride was detected at concentrations up to 4,930 ug/m<sup>3</sup>. Additionally, Benzene was detected at up to 4,120 ug/m<sup>3</sup>, Ethylbenzene at 1800 ug/m<sup>3</sup> and m&p-Xylene up to 55.5 ug/m<sup>3</sup>, o-Xylene up to 20.4 ug/m<sup>3</sup>. Off-site soil vapor contamination is suspected; however, this will be evaluated as part of the forthcoming off-site investigation related to this site.

Indoor air samples were not taken as the buildings on lots 1 and 31 were demolished during the redevelopment of the site. The remaining buildings on lots 27 and 28 are currently unoccupied.

### **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 the contaminants in the soil is unlikely because the site is fenced; however, people may contact contaminated soil if they dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by the groundwater. Volatile organic compounds in the groundwater may move

into the soil vapor (air spaces within the soil). Contaminants in soil vapor 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. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion in the event that on-site buildings are re-occupied and in any future buildings developed on the site. Additional evaluation is needed to determine whether actions are needed to address soil vapor intrusion off-site.

## **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.

### **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 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as an Excavation and Enhanced Bioremediation 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:

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

### **2. In-Situ Enhanced Bioremediation Using Activated Carbon Injection**

In-situ enhanced biodegradation will be employed to treat chlorinated volatile organic compounds in groundwater beneath the site. The biological breakdown of contaminants through anaerobic reductive dechlorination will be enhanced by the addition of colloidal activated carbon injections. The carbon adsorbs to the contamination and promotes the growth of bacteria which further stimulates biological breakdown of contaminants. The material will be delivered through injection wells installed as part of the IRM on Lots 1 and 31 as well as through new injection wells to be installed at Lots 27 and 28.

### **3. Vapor Mitigation**

In the event that any existing site buildings become occupied and for all new buildings developed on the site, a sub-slab depressurization system, or other acceptable measures, to mitigate the

migration of vapors into the building from soil and groundwater shall be installed and operated in accordance with the Site Management Plan.

#### **4. Cover System**

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

#### **5. Institutional Controls**

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.

#### **6. Site Management Plan**

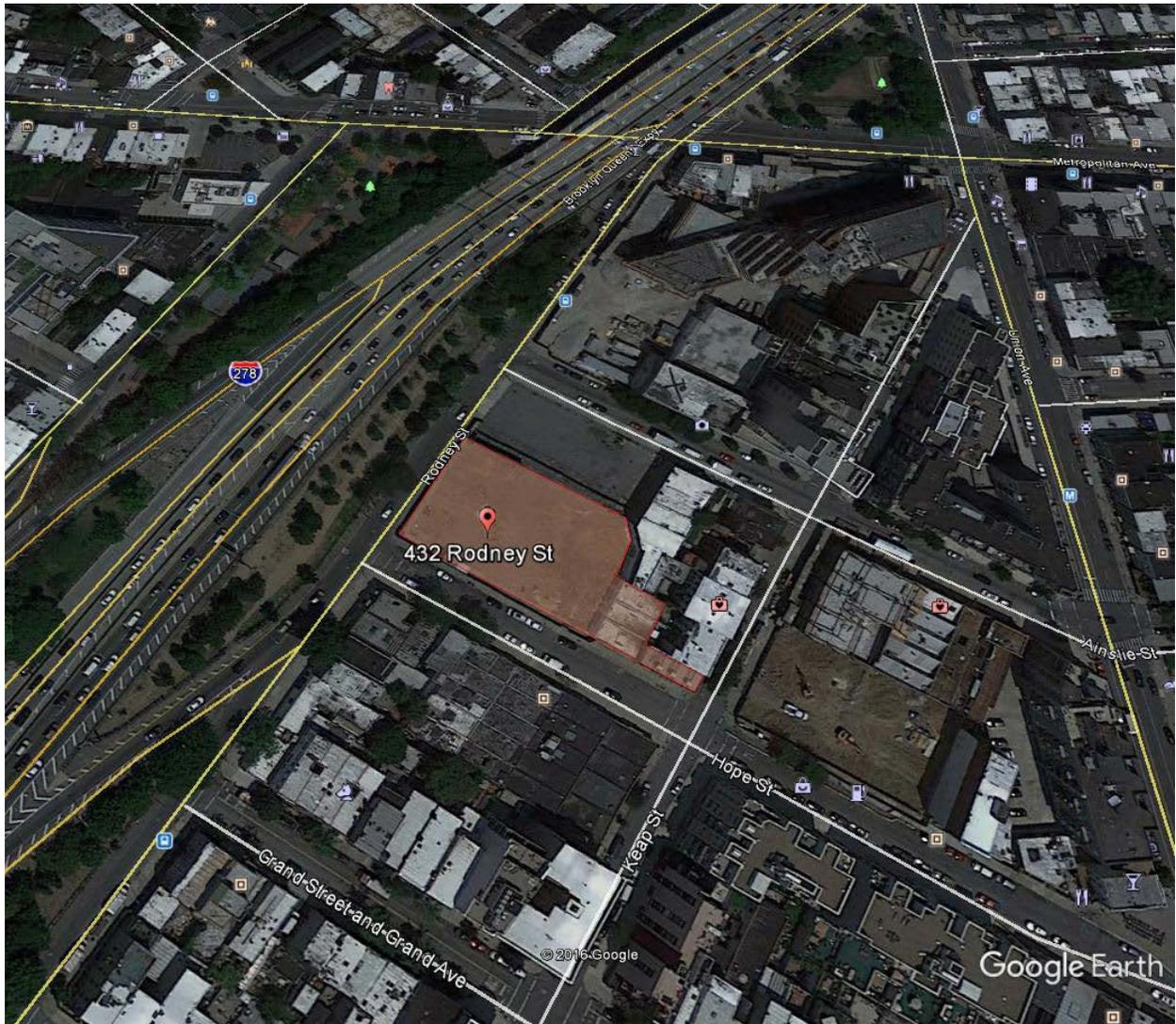
a. A Site Management Plan is required, which includes the following:

- 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 5 above.

- Engineering Controls: The vapor mitigation system(s) discussed in Paragraph 3 and the cover system discussed in Paragraph 4 above.
- This plan includes, but may not be limited to:
  - An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
  - A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
  - Provisions for the management and inspection of the identified engineering controls;
  - Maintaining site access controls and Department notification; and
  - 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 of groundwater to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the Department.

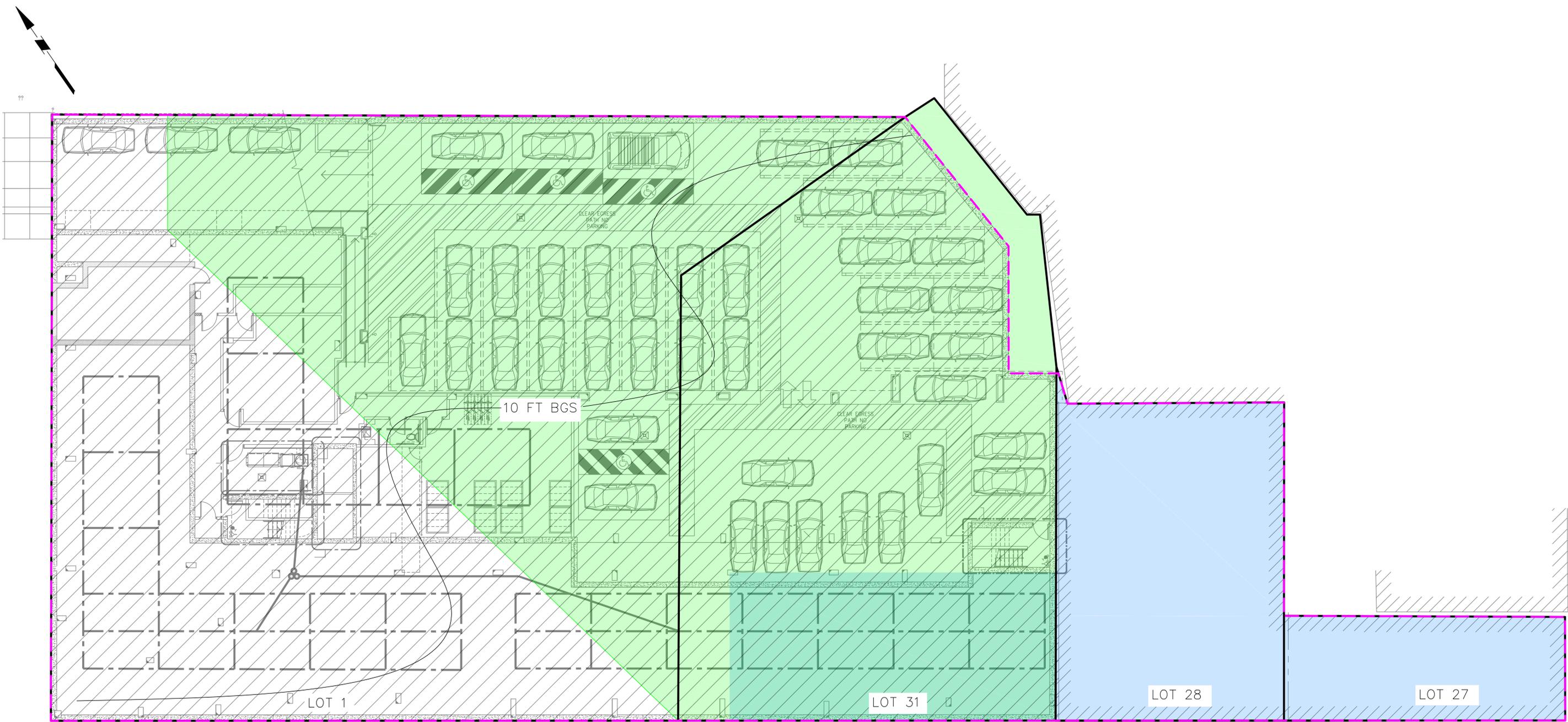


**NEW YORK**  
STATE OF  
OPPORTUNITY

**Department of  
Environmental  
Conservation**

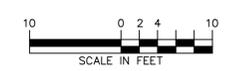
**Figure 1**  
**DEC Site #: C224216**  
**SITE LOCATION MAP**  
432 Rodney Street  
Brooklyn, NY  
Block 2374, Lots 1, 27, 28 & 31





- LEGEND**
- APPROXIMATE AREA OF GROUNDWATER TREATMENT - DIRECT INJECTIONS
  - APPROXIMATE AREA OF GROUNDWATER TREATMENT - INJECTION INFRASTRUCTURE
  - APPROXIMATE AREA OF GROUNDWATER TREATMENT - DIRECT INJECTIONS AND INJECTION INFRASTRUCTURE
  - APPROXIMATE EXTENT OF SOIL VAPOR MITIGATION SYSTEMS
  - APPROXIMATE AREA OF EXCAVATION (TO DEPTH DENOTED IN TEXT BOX)
  - APPROXIMATE SITE BOUNDARY AND LOT LINES

- NOTES**
1. BASEMAP IS REFERENCED FROM ARCHITECTURAL CELLAR PLAN BY AUFANG ARCHITECTS, DATED SEPTEMBER 26, 2016..
  2. EXTENTS OF GROUNDWATER TREATMENT AND SOIL VAPOR MITIGATION BASED ON SUBSURFACE CONDITIONS AND CONTAMINANT CONCENTRATIONS ENCOUNTERED DURING THE PHASE II ENVIRONMENTAL SITE INVESTIGATION CONDUCTED BY HYDRO TECH IN MARCH 2015 AND THE REMEDIAL INVESTIGATION CONDUCTED BY LANGAN JUNE-AUGUST 2016.
  3. THE INJECTION INFRASTRUCTURE ACCESS VAULT IS TO BE LOCATED IN THE FLOOR OF THE ENTRANCE RAMP TO THE PROPOSED PARKING GARAGE.
  4. THE 10-FOOT CUT ON LOTS 1 AND 31 WOULD BE IMPLEMENTED AS A PART OF THE INTERIM REMEDIAL MEASURES WORK PLAN. THE EXCAVATION REMAINS THE SAME AS FOR ALTERNATIVE II - TRACK 2 CLEANUP.
  5. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



DEC Decision Document Figure 2

<p style="font-size: 24pt; font-weight: bold; margin: 0;">LANGAN</p> <p style="font-size: 8pt; margin: 0;">21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, NY 10001                  T: 212.479.5400 F: 212.479.5444 www.langan.com</p> <p style="font-size: 6pt; margin: 0;">Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.                  Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.                  Langan Engineering and Environmental Services, Inc.                  Langan CT, Inc.                  Langan International LLC                  Collectively known as Langan</p>	<p>Project</p> <p style="font-size: 18pt; font-weight: bold; margin: 0;">432 RODNEY STREET</p> <p style="font-size: 10pt; margin: 0;">BLOCK No. 2374, LOT Nos. 1, 27, 28, &amp; 31</p> <p style="font-size: 8pt; margin: 0;">BROOKLYN NEW YORK</p>	<p>Figure Title</p> <p style="font-size: 18pt; font-weight: bold; margin: 0;">ALTERNATIVE III - TRACK 4 CLEANUP</p>	<p>Project No.</p> <p style="font-weight: bold; margin: 0;">170357801</p> <p>Date</p> <p style="font-weight: bold; margin: 0;">11/14/2016</p> <p>Scale</p> <p style="font-weight: bold; margin: 0;">1" = 10'</p> <p>Drawn By</p> <p style="font-weight: bold; margin: 0;">AS</p> <p>Submission Date</p> <p>Checked By</p> <p style="font-weight: bold; margin: 0;">BG</p>	
			8	
			Sheet 8 of 9	
			KINGS	
			NEW YORK	