# DECISION DOCUMENT

Former Charles Pfizer & Co Site
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224175
October 2013

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

# DECLARATION STATEMENT - DECISION DOCUMENT

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**Statement of Purpose and Basis**

This document presents the remedy for the Former Charles Pfizer & Co Site 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 Charles Pfizer & Co Site 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**

All on-site soils above 15 feet which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Approximately 7,423 cubic yards will be excavated for remedial and development purposes, of which approximately 5,656 cubic yards of soil will be removed from the site. On-site soil which does not exceed SCOs for the use of the site and/or the protection of groundwater may be used to backfill the excavation to establish the designed grades at the site. Approximately 1,767 cubic yards of soil is proposed for on-site reuse.

3. **Groundwater Treatment**

Though the contamination in groundwater appears to be from an upgradient source, due to the planned excavation depth and the typical groundwater elevations at the site extensive dewatering will be performed to enable the excavation and foundation work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system. It is expected that the extensive dewatering will improve groundwater quality beneath the site. Groundwater monitoring will be performed via downgradient monitoring wells to confirm that remedial action objectives for groundwater have been achieved.

4. **Institutional Control**

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

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

5. **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 item 5 above.
   - Engineering Controls: the groundwater monitoring program and vapor mitigation system discussed in items 3 and 4 above.

   This plan includes, but may not be limited to:
   - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
   - a 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;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification;
- 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;
   - a schedule of monitoring and frequency of submittals to the Department; and
   - monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
   - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
   - maintaining site access controls and Department notification; and
   - providing the Department access to the site and O&M records.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

## 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 7, 2013

Date

Robert J. Cozzy, Director
Remedial Bureau B

# DECISION DOCUMENT

Former Charles Pfizer & Co Site
Brooklyn, Kings County
Site No. C224175
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## 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 - Bushwick Branch
340 Bushwick Avenue
Brooklyn, NY 11206
Phone: 718-602-1348

### 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 in East Williamsburg, Brooklyn and occupies Tax Block 2245 Lot 8.

Site Features: The site is currently vacant. The site was previously occupied by a vacant one-story brick building with a paved parking lot. The building has been demolished but the foundation slab remains.

Current Zoning and Land Use: The site is zoned R7A for residential use, with a C2-2 commercial overlay. The site is surrounded by commercial uses to the south and east, and by residential uses across Marcy Avenue to the west and across Lorimer Avenue to the north.

Past Use of the Site: The site was developed prior to 1887 with 12 two-story residential homes. By 1935, the home on the corner of Marcy Ave. and Lorimer St. was replaced with a storefront. The other lots fronting on Lorimer St. contained a commercial building used for truck sales and service. The Charles Pfizer and Co. facility occupied the property from 1965 to 1987. From 1989 to 2007, a warehouse was operated on the site. These uses contributed to the petroleum contamination found at the site.

Site Geology and Hydrogeology: Subsurface soils at the Site consist of a silty urban fill material mixed with bricks, coal ash, and other debris to approximately 5 ft below grade (bg). A native brown to grey silty-clay is present below the fill material to a depth of at least 12 ft bg. Bedrock in this area of Brooklyn is approximately 100 ft bg. Groundwater is present at a depth of approximately 10 ft bg and flows to the west-northwest toward Wallabout Channel.

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:

| | |
|---|---|
| ACETONE | M-CRESOL(S) |
| M-XYLENE | DIBENZ[A,H]ANTHRACENE |
| BENZ(A)ANTHRACENE | DDE |
| BENZO(A)PYRENE | VINYL CHLORIDE |
| NAPHTHALENE | ARSENIC |
| BENZO[K]FLUORANTHENE | CADMIUM |
| BENZO(GHI)PERYLENE | BARIUM |
| LEAD | ACENAPHTHENE |
| MERCURY | 1,1,1-TRICHLOROETHANE |
| COPPER | Chrysene |
| ZINC | TOLUENE |
| METHYL CHLORIDE | DICHLOROETHYLENE |

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.

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: Based on the investigations conducted to date, the primary contaminants of concern detected in soil include SVOCs and metals. The contamination at the site was determined to be in the fill layer and beneath it to a depth of approximately 15 feet below grade over the entire site. Soil in two soil borings was contaminated with petroleum.

Numerous SVOC concentrations in soil in three of six soil borings exceeds the Unrestricted Use Soil Cleanup Objective (UUSCOs) as well as the Restricted Residential SCOs (RRSCOs), including: benzo(a)anthracene at a maximum concentration of 630ppm (RRSCO is 1 ppm), benzo(a)pyrene up to 440 ppm (RRSCO is 1 ppm, benzo(b)fluoranthene up to 500 ppm (RRSCO is 1 ppm), benzo(k)fluoranthene up to 130 ppm (RRSCO is 3.9 ppm), chrysene up to 640 ppm (RRSCO is 3.9 ppm), fluoranthene up to 1,200 ppm (RRSCO is 100 ppm), indeno(1,2,3-cd)pyrene up to 180ppm (RRSCO is 0.5 ppm), phenanthrene up to 1,800 ppm (RRSCO is 100 ppm), and pyrene up to 1,400 ppm (RRSCO is 100 ppm). Metals were detected in two soil samples at concentrations exceeding both the UUSCOs and the RRSCOs, as follows: cadmium up to 7.73 ppm (RRSCO is 2.5 ppm), lead up to 1,060ppm (RRSCO is 400 ppm), and mercury up to 2.78 ppm (RRSCO is 0.81 ppm), and zinc 2,550ppm (RRSCO is 109 ppm).

Groundwater: VOCs and SVOCs were the primary contaminants found in groundwater. Cis 1,2 dichloroethene (DCE) was identified at a maximum concentration of 99 ppb (compared to groundwater quality standard of 5 ppb), 1,1,1- trichloroethane (TCA) 140 ppb (compared with groundwater quality standard of 5 ppb), and naphthalene was detected at up to 95 ppb (compared to groundwater quality standard of 10 ppb). The chlorinated solvents detected in groundwater are from a suspected upgradient source.

Soil Vapor: In soil vapor, TCA was detected at a concentration of up to 32,000 micrograms per cubic meter. The chlorinated solvents detected in soil vapor are from a suspected upgradient source.

## 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 majority of the site is covered with a building foundation and pavement. 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 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. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition.

However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development.

### 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.

**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 Full Excavation with Vapor Mitigation 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;
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Imposition of an institutional control in the form of an environmental easement for the controlled property that:

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to local zoning laws;
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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:
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   - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
   - a 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;
   - provisions for the management and inspection of the identified engineering controls;
   - maintaining site access controls and Department notification;
   - 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;
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c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
   - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
   - maintaining site access controls and Department notification; and
   - providing the Department access to the site and O&M records.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.