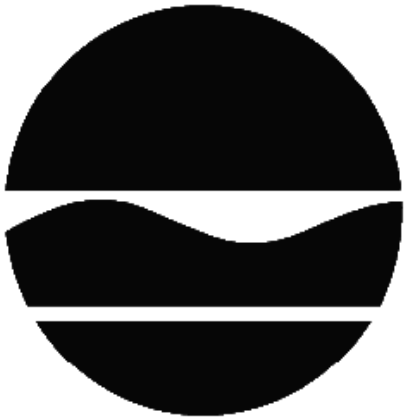
DECISION DOCUMENT

Pfizer Sites B and D
Operable Unit Number: 02
Voluntary Cleanup Program
Brooklyn, Kings County
Site No. V00350
August 2011



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

DECLARATION STATEMENT - DECISION DOCUMENT

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Operable Unit Number: 02
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Statement of Purpose and Basis

This document presents the remedy for Operable Unit Number: 02 of the Pfizer Sites B and D site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit Number: 02 of the Pfizer Sites B and D site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the remedy are as follows:

1) Remedial Design

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 gas 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

Track 4 site-specific soil cleanup objectives (SCOs) relevant to the planned use of the site will be used to guide excavation of contaminated soils. On-site soils which exceed site-specific SCOs

will be excavated and transported off-site for disposal. The site-specific SCOs are: restricted residential use SCOs (as defined by 6 NYCRR Part 375-6.7(d)) for all contaminants with the following exceptions:

- Commercial use SCOs for metals
- USEPA hazardous criterion for lead
- Total SVOCs of 500 ppm.

Approximately 2,800 cubic yards of soil will be removed. Clean fill meeting the requirements of 6 NYCRR Part 375-6.8 will be brought in to replace the excavated soil and establish the designed grades at the site.

3) Cover System

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, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting 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).

4) Institutional Control

Imposition of an institutional control in the form of a deed restriction 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 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 Department, NYSDOH or NYCDOH;

d. prohibits agriculture or vegetable gardens on the controlled property;

e. 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 Deed Restriction discussed in Paragraph 4 above.
Engineering Controls: The cover system discussed in Paragraphs 3 above.

This plan includes, but may not be limited to:

i. Soil Management Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. descriptions of the provisions of the deed restriction including any land use, and groundwater restrictions;
iii. 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.
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:
i. monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy;
ii. a schedule of monitoring and frequency of submittals to the Department;
iii. monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item 5.a.iii above.

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.

August 23, 2011

Date

Robert J. Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Pfizer Sites B and D
Brooklyn, Kings County
Site No. V00350
August 2011

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 Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: SITE DESCRIPTION AND HISTORY

Location:
Pfizer Sites B and D (collectively Site No. V00350) are located at the addresses 59-71 and 73-87 Gerry St. (Pfizer Site B), and 191 Harrison Ave and 60-66 Gerry St. (Pfizer Site D) in Brooklyn New York. Pfizer Site B is comprised of Block 2266, Lot 46 and part of Lot 1, and Pfizer Site D is comprised of Block 2269 Lot 1. It should be noted that references to “Site B” and “Site D” below are names designated by the Volunteer (Pfizer Inc.) for their properties and do not refer to Department designated Sites or operable units.

Site Features:
The VCP site comprised of Pfizer Site B and Site D is 1.47 acres in size. Pfizer Site B, located on the north side of Gerry Street, is bordered by Harrison Avenue to the west; multi-family residences, a former auto body garage and vacant land to the north; vacant land to the east; and Gerry Street and Pfizer Site D to the south. Pfizer Site B is currently vacant. Pfizer Site D, located on the south side of Gerry Street, is bordered by Harrison Avenue to the west; vacant lots to the east; Gerry Street and Pfizer Site B to the north; and a vacant, condemned apartment building and Bartlett Street to the South. Pfizer Site D consists of five interconnected buildings. These buildings surround three sides of a condemned apartment building (not Pfizer owned) that abuts Site D to the south and fronts on Bartlett Street.

Current Zoning/uses:
The Site is located in a commercial district overlay within a residential zoning district.

Historical Use:
Pfizer leased the western portion of Site B from the previous owner from 1954 to 2004; it has been vacant since the 1950s and occasionally used as a parking lot. The western portion of Pfizer Site B was sold by then-owner Ruth Apfrelbaum to Congregation YGS in 2004. The eastern portion of the property was purchased by Pfizer in 1964 and used as a warehouse for the storage of raw materials/dry goods, spare equipment parts, and packaging materials. Prior to Pfizer's ownership, it was used as a garage and truck rental facility. Site D was formerly leased from Pfizer by Arlington Press, a company that specializes in labels and package inserts for the pharmaceutical industry. Soil removal activities were performed on the eastern portion of Pfizer Site B in 2002, and included the excavation of 9 Underground Storage Tanks (USTs), 2 tank-like structures, and removal of 4,735 tons of impacted soil and 18,449 gallons of groundwater (including perched groundwater). Sampling performed since the removal activities indicates that VOCs are no longer present in soil; and that petroleum-related VOCs in groundwater have been substantially reduced.

Operable Units:
The site is divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Because of the separate ownership and separate remediation and development schedules, the Site has been divided into two Operable Units. The eastern portion of Site B as well as Site D, owned by Pfizer, is Operable Unit 1 (OU-1). The western portion of Site B, owned by Congregation YGS, is Operable Unit 2 (OU-2).

Site Geology and Hydrogeology:
The Site is underlain by a layer of fill material approximately 8 to 10 feet thick. Beneath the fill layer is a green clay/silt stratum of approximately 2 to 3 feet thick, followed by a brown fine to medium sand stratum with small amounts of clay and silt of approximately 15 feet. Beneath the sand is a silt/clay layer which has been identified as a confining layer. Groundwater is approximately 6 to 10 feet below surface grade. On Site B, groundwater flow direction is generally northeast in the eastern portion of the Site and west/northwest in the western portion of the site. It has not yet been confirmed if groundwater flow direction is similar for Site D.

Operable Unit (OU) Number 02 is the subject of this document.

A Decision Document has yet to be issued for OU 01.

A site location map is attached as Figure 1.

SECTION 3: 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, at a minimum, 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 DER-10, Technical Guidance for Site Investigation and Remediation were/was evaluated.

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 4: ENFORCEMENT STATUS

The voluntary cleanup agreement is with a Volunteer. If the Volunteer elects not to complete the remedial program under the VCP, the Department will make a determination if the site poses a significant threat to human health and the environment. If the site is determined to pose a significant threat, the Department will approach the potentially responsible parties (PRPs) to implement the remedy. PRPs are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

SECTION 5: SITE CONTAMINATION

5.1: 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 5.4.

5.1.1: 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

5.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

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 for this Operable Unit at this site is/are:

tetrachloroethylene (pce)
dichloroethylene
vinyl chloride
benz(a)anthracene
benzo(a)pyrene
chrysene
indeno(1,2,3-cd)pyrene
dibenz[a,h]anthracene
lead
mercury
arsenic
barium
chromium

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

- groundwater
- soil

5.2: 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.

5.3: 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 with weathered asphalt and gravel people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is 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. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building development and occupancy.

5.4: 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:

OU-2: Western portion of Site B (Congregation YGS-owned)

Soil:
Soil on OU-2 contains metals and SVOCs indicative of urban fill, which exists throughout this OU, to depths of approximately 10 feet below grade. Metals that exceed SCOs include lead as high as 6,730 parts per million (ppm), mercury as high as 16.1 ppm, arsenic as high as 20.5 ppm, chromium as high as 33.6 ppm, and barium as high as 2,000 ppm. SVOCs include benzo(a)anthracene as high as 250 ppm, chrysene as high as 270 ppm, benzo(a)pyrene as high as 220 ppm, indeno(1,2,3-cd)pyrene as high as 110 ppm, and dibenz(a,h)anthracene as high as 58 ppm.

Groundwater:
Chlorinated solvents have been detected in on-site groundwater and are suspected to be coming from the Pfizer property (OU-1) to the east and south. Prior to the operation of the air sparge/soil vapor extraction (AS/SVE) system on OU-1, cis-1,2-dichloroethene was detected as high as 390 parts per billion (ppb) and vinyl chloride as high as 45 ppb. Groundwater sampling performed in 2008 (during the time period of AS/SVE system operation) indicated that these contaminants have decreased in concentration but are still present: cis-1,2-dichloroethene was detected at 97 ppb and vinyl chloride at 21 ppb. Groundwater sampling in 2008 also detected benzene at 1.6 ppb.

Soil vapor:
Chlorinated solvents and BTEX compounds have been detected in soil vapor. In May 2009 (the most recent soil vapor data available), tetrachloroethene was detected in each of 2 soil vapor

sampling points, as high as 180 ug/m3. Individual BTEX compounds were detected below 50 ug/m3.

SECTION 6: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and evaluation of the remedial criteria are present 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.

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

1) Remedial Design

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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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:

i. monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy;
ii. a schedule of monitoring and frequency of submittals to the Department;
iii. monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item 5.a.iii above.

Figure 1: Site Map

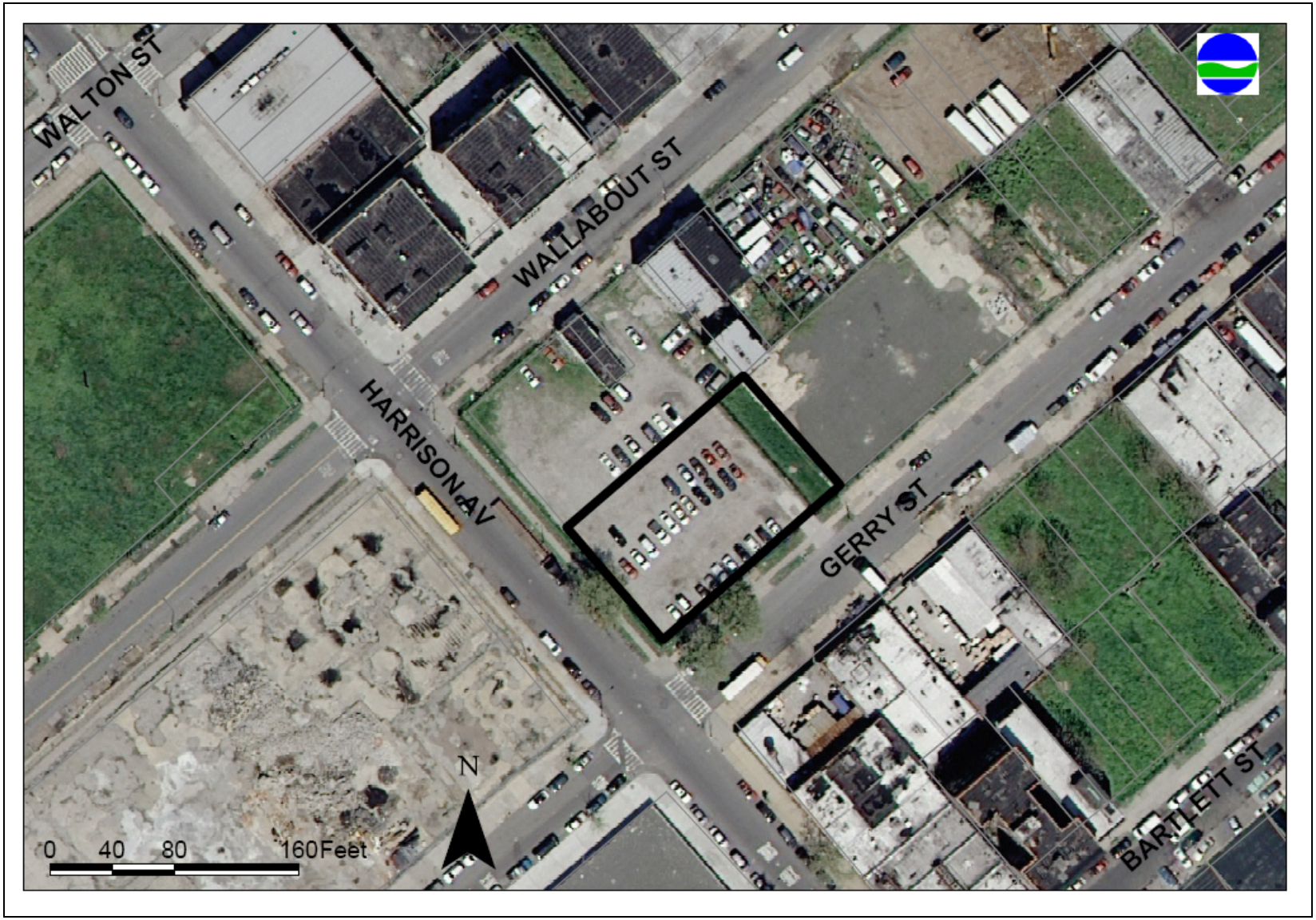

Figure 2 – Proposed Remedy (Excavation of Areas of Concern)