DECISION DOCUMENT

1607 Surf Avenue
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224313
July 2021

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

DECLARATION STATEMENT - DECISION DOCUMENT

1607 Surf Avenue
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224313
July 2021

Statement of Purpose and Basis

This document presents the remedy for the 1607 Surf Avenue site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the 1607 Surf Avenue site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

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

extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. **Excavation**

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Excavation and off-site disposal of all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Approximately 20,500 cubic yards of contaminated soil will be removed from the site.

3. **Backfill**

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

4. **Soil Vapor Intrusion Evaluation**

As part of the track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. **Local Institutional Controls**

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and

implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

Contingent Remedial Elements

6. In-Situ Treatment Using Activated Carbon

Activated carbon will be added to the groundwater to capture and prevent the migration of tetrachloroethene (PCE) if source removal and dewatering do not achieve the remedial objectives. Activated carbon will be added to the subsurface in the northwest corner of the site where PCE levels were elevated in the groundwater. The method and depth of injection will be determined during the remedial design.

Monitoring will be required down gradient and within the treatment zone. Monitoring will be conducted for PCE within the treatment zone and down gradient of the treatment zone.

7. 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 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 County DOH NYCDOH; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

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

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

Institutional Controls: The Environmental Easement discussed in Paragraph 7 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 for evaluation of the potential for soil vapor intrusion for any occupied buildings 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; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to: groundwater and soil vapor to assess the performance and effectiveness of the remedy:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed 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.

July 13, 2021

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

1607 Surf Avenue
Brooklyn, Kings County
Site No. C224313
July 2021

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C224313

Brooklyn Public Library - Coney Island Branch
1901 Mermaid Avenue
Brooklyn, NY 11224
Phone: (718) 265-3220

Brooklyn Community Board 13
1201 Surf Avenue
Brooklyn, NY 11224
Phone: (718) 266-3001

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 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

Site Location: The 1.36-acre site is located at 1607 Surf Avenue, in the Coney Island section of Brooklyn. The site occupies Tax Block 7062 Lot 28. The site is bounded to the south by Surf Avenue, followed by MCU Park; to the east by West 16th Street, followed by a vacant lot and several parking lots; to the west by West 17th Street, followed by an office building and parking lot; and to the north by a parking lot.

Site Features: The site is a vacant asphalt paved lot.

Current Zoning and Land Use: The site is located within the Special Coney Island District (CI). The site is zoned for medium density residential use (R7X) with a commercial overlay (C2-4). The site is currently vacant.

Past Use of the Site: By the late 1800s, residential dwellings, a shed, and a store existed on-site. By 1906, the site had been redeveloped with an auditorium, stores and sheds. By 1930, the site was occupied by a theater, storefronts, and an automobile repair facility on the eastern part of the property. On-site businesses include a photo studio (1934-1970), a printing studio (1934-1970), an exterminator (1934-1945), and a machinist/machine works (1928-1970). Since 2001, the site has been a parking lot.

Site Geology and Hydrogeology: The site is underlain with historic fill ranging from 2 and 10 feet below ground surface (bgs). Fill material is underlain by a native tan or gray, fine-grained sand layer with varying amounts of gravel, silt, and clay. The deepest soil borings were 15 feet bgs and the sand layer extends beyond that depth. Bedrock was not encountered during site investigation and minimum expected depth to bedrock is 600 feet bgs. Groundwater occurs between 6 and 8 feet bgs and flows to the southeast.

A site location map is attached as Figure 1 and a Site Boundaries Map is attached as Figure 2.

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 under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. However, the Department has determined that this site does pose a significant threat to public health or 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 Volunteer(s)) 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

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)
trichloroethene (TCE)
cis-1,2-dichloroethene
vinyl chloride
1,1,1-trichloroethane (TCA)
1,1-dichloroethene barium
cadmium
barium
mercury
lead
benzo(a)anthracene
benzo(b)fluoranthene
indeno(1,2,3-cd)pyrene

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:

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), pesticides and 1,4-dioxane. Soil vapor was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the site include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, polycyclic aromatic hydrocarbons (PAHs), 1,1,1-trichloroethane (TCA), and 1,1-dichloroethene, and metals.

Soil – Soil data were compared to Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Protection of Groundwater Soil Cleanup Objectives (PGSCO). The contaminants of concern in soil are PCE, PAHs, and metals. In the northwest corner, PCE was detected at 75 parts per million (ppm) above the UUSCO/PGSCO of 1.3 ppm. PAHs were detected throughout the site, including benzo(a)anthracene detected at a maximum concentration of 36 ppm, exceeding the UUSCO of 1 ppm); benzo(b)fluoranthene at a maximum concentration of 43 ppm (UUSCO is 0.8 ppm); and indeno(1,2,3-cd)pyrene at a maximum concentration of 21 ppm (UUSCO is 0.5 ppm). Barium was detected between 356-730 ppm above the UUSCO of 350 ppm; cadmium was detected at 10.4 ppm above the UUSCO of 2.5 ppm; lead was detected between 64.2 and 3,110 ppm above the UUSCO of 63 ppm; and mercury was detected between 0.262-0.54 ppm above the UUSCO of 0.18 ppm. 1,4-dioxane was not detected above the reporting limit. Perfluorooctanoic acid (PFOA) was detected on site between 0.044 and 1.24 parts per billion (ppb); the guidance value for unrestricted site use is 0.66 ppb and protection of groundwater is 1.1 ppb. Perfluorooctanesulfonic acid (PFOS) was detected on site between 0.146 and 1.24 ppb; the guidance value for unrestricted site use is 0.88 ppb and protection of groundwater is 3.7 ppb.

Data does not indicate any off-site impacts in soil related to this site.

Groundwater – Groundwater data was compared to the Department's Ambient Water Quality Standards (AWQSs). PCE was detected at 10 parts per billion (ppb) which is above the AWQS of 5 ppb. PAHs were detected throughout the site and include benzo(a)anthracene detected between 0.02 and 0.07 ppb, above the AWQS of 0.002 ppb; benzo(b)fluoranthene detected between 0.02 and 0.07, above the AWQS of 0.002 ppb; and chrysene detected between 0.04 and 0.06 ppb, above the AWQS of 0.002 ppb. 1,4-dioxane was not detected above the reporting limit and is not considered a contaminant of concern. PFOS was detected between 9.44 and 67.1 parts per trillion

(ppt); the guidance value is 10 ppt. PFAS was detected between 11.6 and 42.6 ppt; the guidance value is 10 ppt.

Data indicates potential for off-site impacts to groundwater related to this site.

Soil Vapor – PCE was detected throughout the site ranging from 2.76 to 23,200 micrograms per cubic meter ($\mu g/m^3$). TCE was detected between 3.65 and 1,900 $\mu g/m^3$. Cis-1,2-DCE was detected between 4.08 and 2,390 $\mu g/m^3$. 1,1-dichloroethene was detected at 1.36 $\mu g/m^3$. Vinyl chloride was detected at 22.2 $\mu g/m^3$. TCA was detected between 1.36 and 8.51 $\mu g/m^3$. Petroleum-related compounds, namely benzene, toluene, ethylbenzene, and xylenes, were detected between 3.11 and 90 $\mu g/m^3$.

Data indicates potential for off-site impacts to soil vapor related to this site.

6.4: Summary of Human Exposure Pathways

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

Since the site is a vacant lot covered by asphalt or concrete, people will not come in 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 soil vapor (air spaces within the soil) may move into 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. However, there is a potential for soil vapor intrusion in off-site and future on-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

- Remove the source of ground or surface water contamination
- 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 Conditional Track 1 remedy.

The selected remedy is referred to as the Excavation with In-Situ Treatment with Activated Carbon remedy.

The elements of the selected remedy, as shown in Figure 3, 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Excavation and off-site disposal of all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Approximately 20,500 cubic yards of contaminated soil will be removed from the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

4. Soil Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

Contingent Remedial Elements

6. In-Situ Treatment Using Activated Carbon

Activated carbon will be added to the groundwater to capture and prevent the migration of tetrachloroethene (PCE) if source removal and dewatering do not achieve the remedial objectives. Activated carbon will be added to the subsurface in the northwest corner of the site where PCE levels were elevated in the groundwater. The method and depth of injection will be determined during the remedial design.

Monitoring will be required down gradient and within the treatment zone. Monitoring will be conducted for PCE within the treatment zone and down gradient of the treatment zone.

7. 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 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 County DOH NYCDOH; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

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

a. An Institutional and Engineering Control Plan that identifies all use restrictions and

engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 7 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 for evaluation of the potential for soil vapor intrusion for any occupied buildings 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; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to: groundwater and soil vapor to assess the performance and effectiveness of the remedy:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

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Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
Langan International LLC

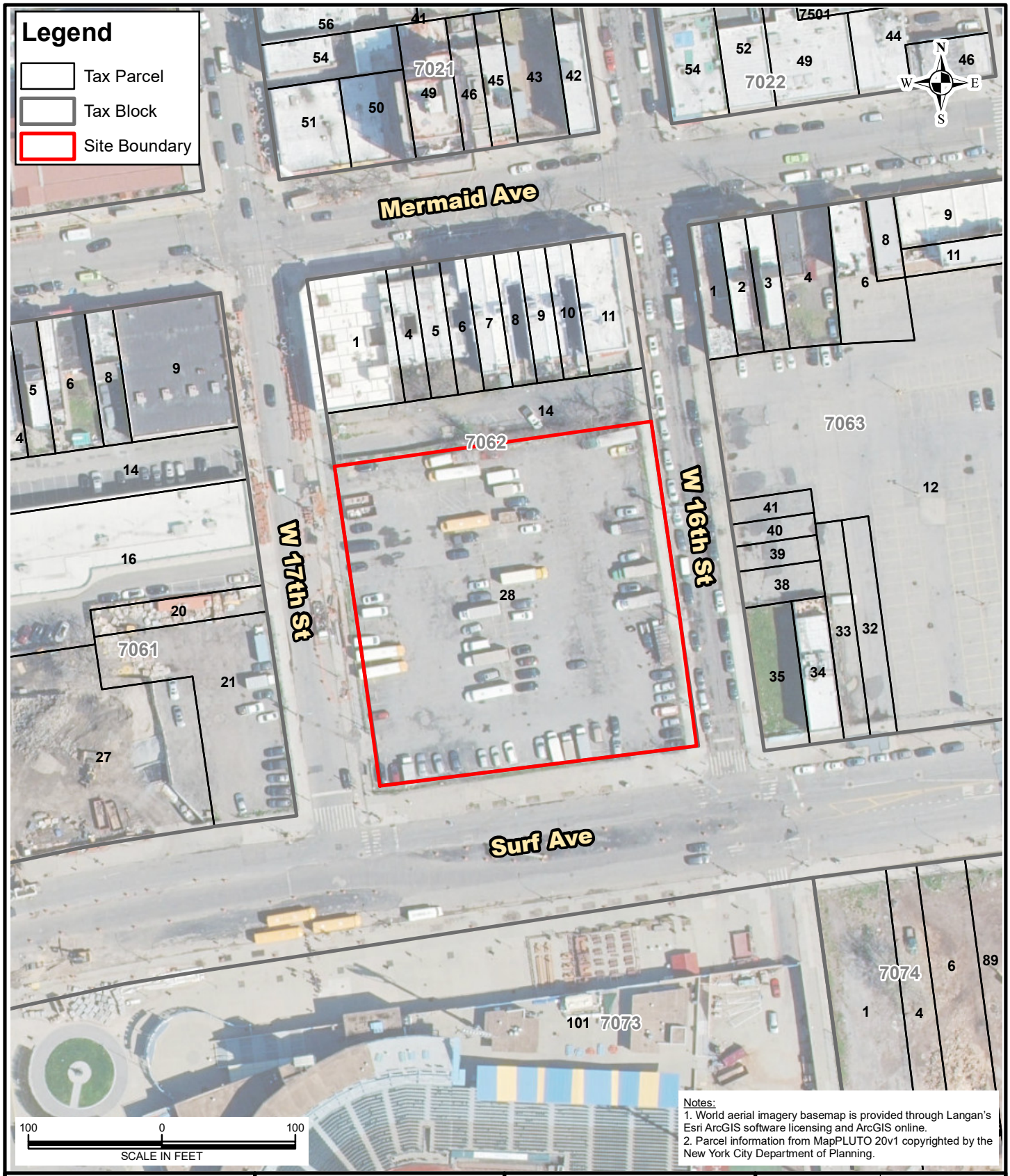
Collectively known as Langan

Project
1607 SURF AVE
BLOCK No. 7062, LOT No. 28
CONEY ISLAND
BROOKLYN NEW YORK

Drawing Title
SITE LOCATION MAP

Project No. 170599501	Figure 1
Date 5/5/2020	
Scale 1"=2000'	
Drawn By IHB	

Path: \\langan.com\data\NYC\data5\170599501\Project Data\ArcGIS\MXD\Environmental_Figures\2020-04 - RAWP\Figure 1 - Site Location Map.mxd Date: 5/5/2020 User: aruane Time: 11:01:44 AM



Notes:
1. World aerial imagery basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online.
2. Parcel information from MapPLUTO 20v1 copyrighted by the New York City Department of Planning.

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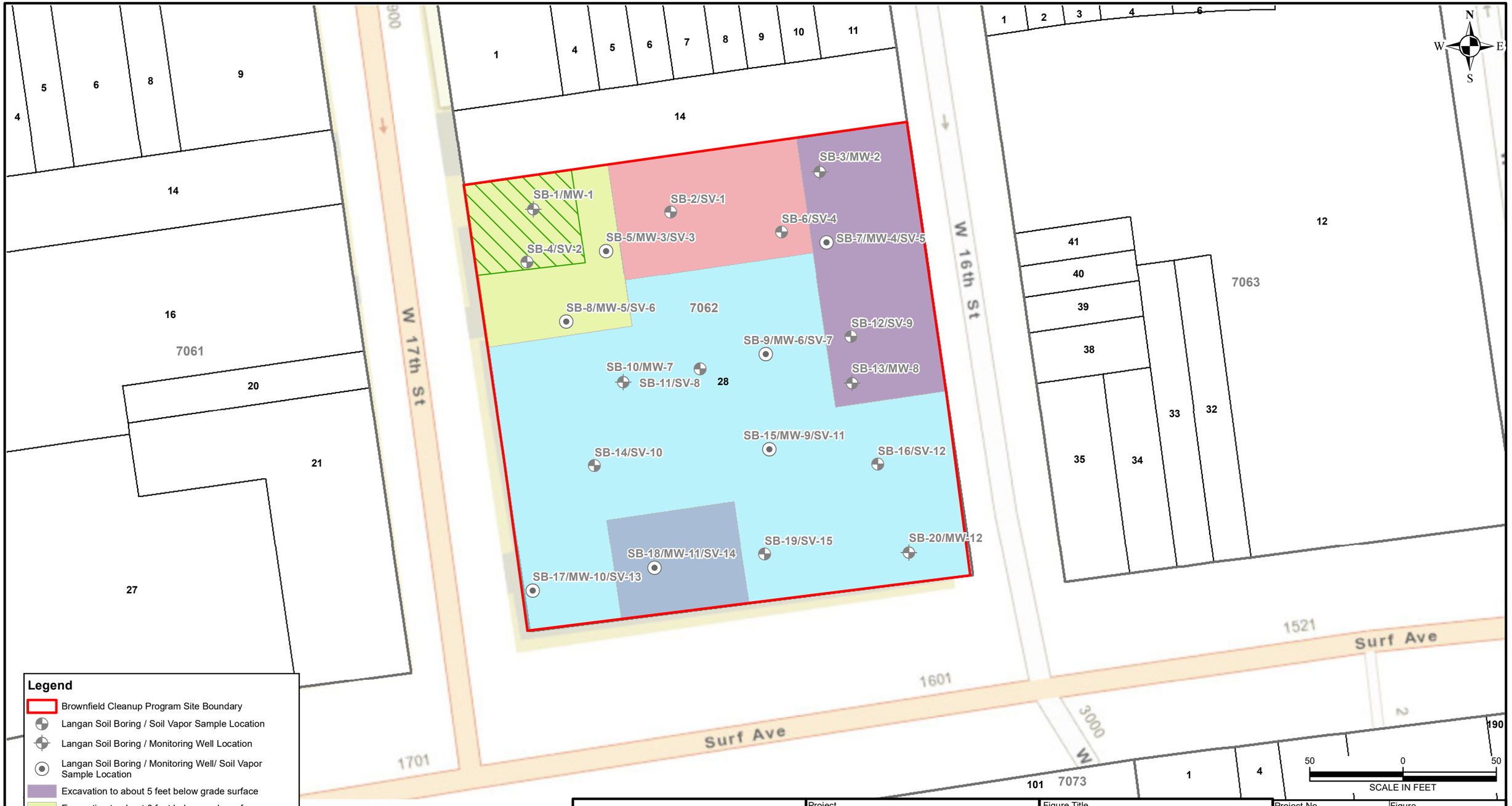
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
Langan International LLC

Collectively known as Langan

Project	1607 SURF AVE BLOCK No. 7062, LOT No. 28 CONEY ISLAND BROOKLYN NEW YORK
Drawing Title	SITE PLAN
Project No.	170599501
Date	5/7/2020
Scale	1"=2000'
Drawn By	JR
Figure	2



Legend

- Brownfield Cleanup Program Site Boundary
- Langan Soil Boring / Soil Vapor Sample Location
- Langan Soil Boring / Monitoring Well Location
- Langan Soil Boring / Monitoring Well/ Soil Vapor Sample Location
- Excavation to about 5 feet below grade surface
- Excavation to about 6 feet below grade surface
- Excavation to about 10 feet below grade surface
- Excavation to about 12 feet below grade surface
- Excavation to about 13.5 feet below grade surface
- Approximate Area of PlumeStop® Application
- Tax Block
- Tax Parcel

Notes:
1. World street basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online.
2. Parcel boundaries provided through the New York City Department of Planning's MapPLUTO 20v1, last updated 2020.
3. Langan monitoring well locations are based on locations surveyed by a licensed surveyor.
4. Langan soil boring and soil vapor samples shown are approximate and based on field measurements, except for those collocated to monitoring wells.
5. bgs: Below grade surface

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Langan International LLC

Collectively known as Langan

Project	1607 SURF AVENUE BLOCK No. 7062, LOT No. 28 CONEY ISLAND BROOKLYN NEW YORK
Figure Title	ALTERNATIVE I - TRACK 1 CLEANUP
Project No.	170599501
Figure	7
Date	3/17/2021
Scale	1 " = 50 '
Drawn By	JR
Submission Date	

Path: \\langan.com\data\NYC\data5\170599501\Project Data\ArcGIS\MXD\Environmental_Figures\2021-03 RAWP\Figure 7 – Alternative I – Track 1 Cleanup.mxd Date: 3/17/2021 User: ibaker Time: 11:57:33 AM