DECISION DOCUMENT

Former B&Z Steel Equipment Co.
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224195
April 2015

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former B&Z Steel Equipment Co.
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224195
April 2015

Statement of Purpose and Basis

This document presents the remedy for the Former B&Z Steel Equipment Co. 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 B&Z Steel Equipment Co. 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

The on-site building(s) will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy. Site excavation will include removal of all underground storage tanks (USTs), fuel dispensers, and underground piping. In addition, all on-site soils which exceed unrestricted use soil cleanup objectives (UUSCOs), as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Over-excavation of hot-spot areas will be done as necessary to remediate hot-spot areas and remove all historic fill at the site. Approximately 1,500 cubic yards of soil will be removed from the site to achieve UUSCOs as follows:

- Excavation of approximately 1,100 cubic yards of historic fill to a minimum depth of 2 feet below ground surface (bgs) across the entire site and is anticipated to be disposed as non-hazardous waste pending results of waste characterization sampling.
- 15 feet bgs within the UST (petroleum source) area consisting of approximately 800 square feet. The quantity of non-hazardous petroleum contaminated soil is estimated at 390 cubic yards.
- 5 feet bgs within a mercury hotspot in the planned grade level exterior parking area. The quantity of non-hazardous mercury contaminated soil is estimated at 10 cubic yards.

On-site soil which does not exceed UUSCOs may be used to backfill the excavation to the extent that a sufficient volume of on-site soil is available and to establish the designed grades at the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) may also be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

The site excavation described above will address the minor levels of metals and VOCs exceeding of UUSCOs, and are expected to also address the PCE and TCE detections in soil vapor such that no further remedial actions, beyond excavation, will be necessary to achieve a Track 1 unrestricted use cleanup.

3. 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, if identified.

4. The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no Environmental Easement (EE) or Site Management Plan (SMP) is anticipated. If the soil vapor intrusion (SVI) evaluation has not been completed prior to completion of the Final Engineering Report, then an SMP and EE will be required to address the SVI evaluation and mitigate the building as needed; if a mitigation system is needed, a Track 1 cleanup can only be achieved if the mitigation system can be shut down within 5 years of the date of the Certificate of Completion (COC).

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

If a sub-grade parking garage is constructed beneath the entire on-site future building, then the soil vapor remedial action objectives will be achieved with the New York City Mechanical Code, which requires proper ventilation.

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:

5. Institutional Controls

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; and
- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

A Site Management Plan, which would include 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 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/or groundwater and/or surface water 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; 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 and soil vapor 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 new buildings developed 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.

April 30 2015

Date

Robert Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Former B&Z Steel Equipment Co.
Brooklyn, Kings County
Site No. C224195
April 2015

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

Brooklyn Pubic Library - Macon Branch
361 Lewis Ave. at Macon Street
Brooklyn, NY 11233
Phone: 718-573-5606

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 the Bedford Stuyvesant section of Brooklyn, NY. The site is identified as Block 1618, Lot 35 and is located on the north side of Greene Avenue between Patchen Avenue and Broadway.

Site Features: The site is currently an unoccupied one-story commercial building constructed in 1910 which occupies the entire lot. Two fuel dispensers are located inside the building and connected to underground piping which is suspected to be connected to underground storage tanks.

Current Zoning and Land Use: The site is zoned as a C4-4L district which allows commercial use. C4 districts are intended for regional commercial shopping centers and offices which generate more traffic than neighborhood shopping areas. The C4-4 designation is used in more densely built areas. Prior to acceptance into the BCP, the site was used for contractor storage/commercial use.

Historic Use: Prior to its most recent use, the site was used as a mineral water bottling facility, wagon houses, storage, and parking garage and auto repair shop. Non-commercial style fueling activities also occurred at the site up until the late 1970's.

Site Geology and Hydrogeology: Subsurface soils at the site consist of historic fill materials to a depth of approximately 4 - 8 feet below grade. Below the fill, a glacial layer exists consisting of silty sand and gravel to a depth of 20 feet with coarse sand and gravel reported to exist below 20 feet. Below the glacial layer, there is a confining layer of Gardiners Clay extending to a depth of approximately 200 feet below sea level. The groundwater depth is approximately 45 feet below grade, and based on the remedial investigation, flows south-southwest.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (SCGs) for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- 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:

1,2,4-TRIMETHYLBENZENE	MERCURY
ETHYLBENZENE	CHROMIUM
XYLENE (MIXED)	TETRACHLOROETHYLENE (PCE)
LEAD	TRICHLOROETHENE (TCE)

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

- 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.

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and PCB/pesticides.

Soil - Based upon investigations conducted to date, the primary contaminants of concern are petroleum-related VOCs, including ethylbenzene, xylene, and 1,2,4-trimethylbenzene which exceed the unrestricted use soil cleanup objectives (UUSCOs). Metals (lead, mercury, and chromium) were also detected in the soil exceeding UUSCOs. No data has been provided indicating contamination at levels exceeding restricted residential soil cleanup objectives (RRSCOs). No SVOCs, PCBs, or pesticides were detected in site soils exceeding UUSCOs. Data does not indicate any off-site impacts in soil related to this site.

Groundwater - No site-related contaminants exceeding groundwater standards as noted in a Phase II investigation and subsequent remedial investigation except for naturally occurring metals including sodium, manganese, and iron.

Soil Vapor - Soil vapor was sampled at depths ranging from 8 to 14 feet below ground surface (bgs) and low levels of petroleum-related VOCs were noted. Also, tetrachloroethene (PCE) and trichloroethene (TCE) were detected as high as 80 micrograms per cubic meter (ug/m^3) and 14.3 ug/m^3 respectively, and are attributed to historic site use.

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.*

Contaminated groundwater at the site is not used for drinking or other purposes and the area is served by a municipal water supply that obtains water from a different source not affected by this contamination. Access to the site is restricted; however, people who dig below the ground surface may come into contact with contaminants in subsurface soils. Volatile organic compounds in contaminated soil or contaminated 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. Soil vapor intrusion is not a current concern because the site is vacant. An assessment for the potential for soil vapor intrusion to occur is needed prior to re-occupancy of on-site buildings or future development of occupied buildings. Environmental sampling indicates that soil vapor intrusion is not a concern for off-site structures.

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:

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 contingent Track 1: Unrestricted use remedy. The selected remedy is referred to as the soil excavation 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;
- 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;
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- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

The on-site building(s) will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy. Site excavation will include removal of all underground storage tanks (USTs), fuel dispensers, and underground piping. In addition, all on-site soils which exceed unrestricted use soil cleanup objectives (UUSCOs), as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Over-excavation of hot-spot areas will be required as necessary to remediate hot-spot

areas and remove all historic fill at the site. Approximately 1,500 cubic yards of soil will be removed from the site to achieve UUSCOs as follows:

- Excavation of approximately 1,100 cubic yards of historic fill to a minimum depth of 2 feet below ground surface (bgs) across the entire site and is anticipated to be disposed as non-hazardous waste pending results of waste characterization sampling.
- 15 feet bgs within the UST (petroleum source) area consisting of approximately 800 square feet. The quantity of non-hazardous petroleum contaminated soil is estimated at 390 cubic yards.
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3. Vapor Intrusion Evaluation

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4. The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no Environmental Easement (EE) or Site Management Plan (SMP) is anticipated. If the soil vapor intrusion (SVI) evaluation has not been completed prior to completion of the Final Engineering Report, then an SMP and EE will be required to address the SVI evaluation and mitigate the building as needed; if a mitigation system is needed, a Track 1 cleanup can only be achieved if the mitigation system can be shut down within 5 years of the date of the Certificate of Completion (COC).

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Contingent Remedial Elements:

5. Institutional Controls

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);
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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:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

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- descriptions of the provisions of the environmental easement including any land use, and/or groundwater and/or surface water 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; 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 and soil vapor 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 new buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

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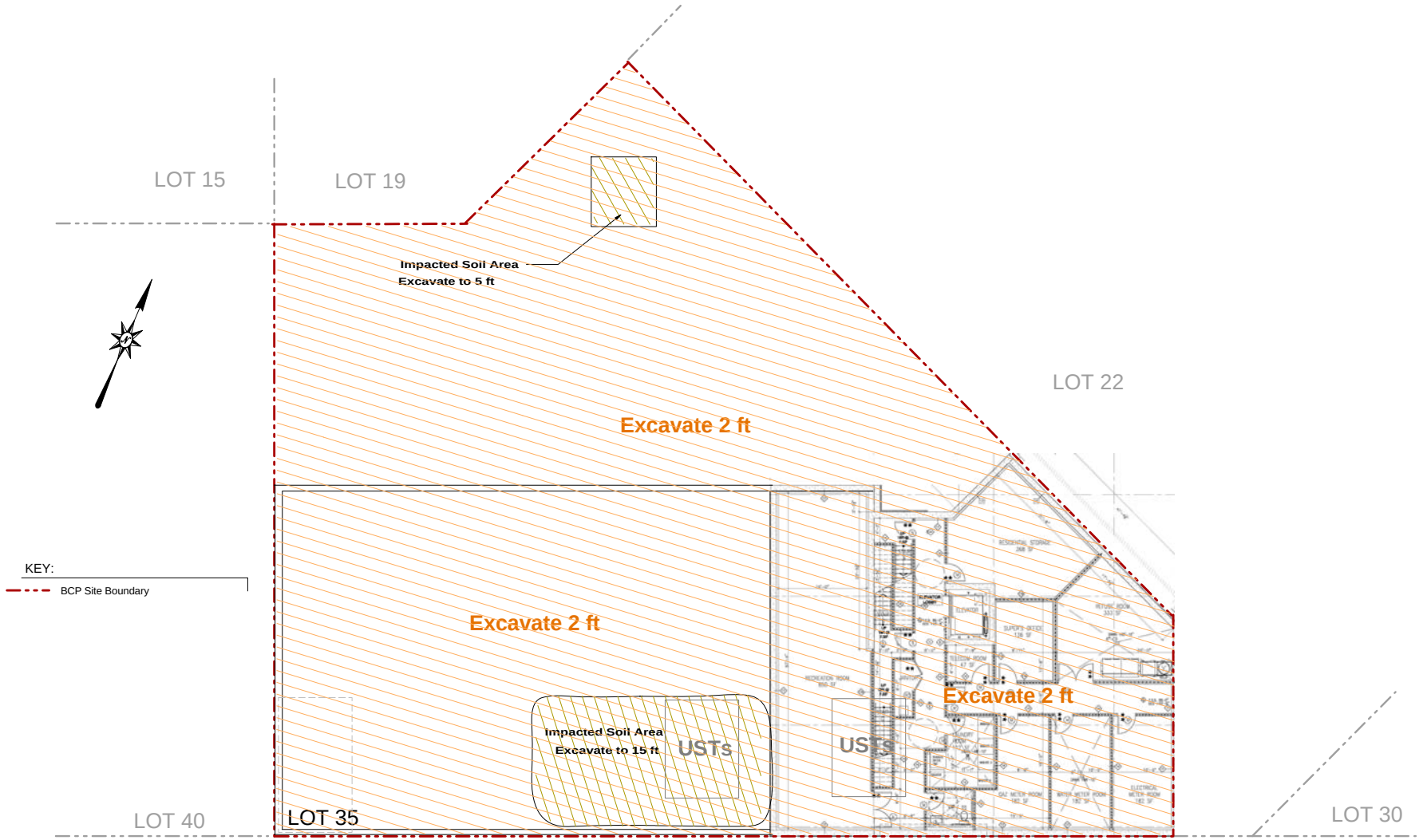
Feet

Figure 1
Site Map

Former B&Z Steel
Brooklyn, NY
Site No. C224195

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •



KEY:
Property Boundary

SCALE:
0 12.5 25
1 Inch = 25 feet

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 2

Site Name: FORMER B&Z STEEL EQUIP. CO.
Site Address: 1003 GREENE AVENUE, BROOKLYN, NY
Drawing Title: EXCAVATION PLAN FOR REMEDIATION