DECISION DOCUMENT

555 West 22nd Street
Brownfield Cleanup Program
New York, New York County
Site No. C231101
July 2018

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

DECLARATION STATEMENT - DECISION DOCUMENT

555 West 22nd Street
Brownfield Cleanup Program
New York, New York County
Site No. C231101
July 2018

Statement of Purpose and Basis

This document presents the remedy for the 555 West 22nd Street site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the 555 West 22nd Street site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

- 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

- 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 soils/fill which exceed restricted residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet over a majority of the site. Areas along the perimeter of the site where structural reasons prevent meeting restricted residential Soil Cleanup Objectives (SCOs) to 15 feet below grade will require the excavation and off-site disposal of all soils/fill in the upper two feet which exceed restricted residential SCOs (Refer to Figure 2). Approximately 13,000 cubic yards of material will be removed for remediation, followed by an additional 20,000 cubic yards to achieve the development depth.

As necessary, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete required backfilling of the excavation and establish the design grades at the site.

3. Cover System

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

4. Institutional Controls

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

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

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 Paragraph 4 above.

   Engineering Controls: The soil cover discussed in Paragraph 3 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 and groundwater use restrictions;
   - a provision for evaluation of the potential for soil vapor intrusion for any 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. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

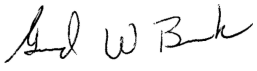
   - monitoring of the cover system to assess the performance and effectiveness of the remedy;
   - monitoring of groundwater to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to the Department;
   - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
   - compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

C. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

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.

8/9/2018	
Date	Gerard Burke, Director Remedial Bureau B

DECISION DOCUMENT

555 West 22nd Street
New York, New York County
Site No. C231101
July 2018

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:

Manhattan Community Board Four
330 West 42nd Street, 26th Floor
New York, NY 10036
Phone: 212-736-4536

New York Public Library - Muhlenberg Branch
209 West 23rd Street
New York, NY 10011
Phone: (212) 924-1585

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 a mixed-use area of the West Chelsea section of the Borough of Manhattan. The site is comprised of five tax lots (approx. 33,671 SF) identified on New York City tax maps as Block 694, Lots 2, 5, 60, 61 and 65. The site is bounded to the north by West 23rd Street, to the east by 10th Avenue, to the south by West 22nd Street, and to the west by 11th Avenue. Lots 5, 60, 61, and 65 were accepted into the Brownfield Cleanup Program on August 4, 2016 (BCA #C231101). The BCA was amended on October 27, 2017 to also include Lot 2.

Site Features: Lots 5, 60, 61, and 65 are improved with multiple connected one-to-three-story brick buildings used entirely by U-Haul as a retail and commercial U-Haul facility which consist of the following uses: vehicle rental, vehicle washing (hand), parking, moving supply retail, and mini-storage unit rental. An asphalt paved lot, facing 11th Avenue, is used for truck storage. Lot 2 is improved with a vacant three-story slab-on-grade brick building.

Current Zoning and Land Use: The site is currently zoned C6-3A, C6-3 and M (Commercial, Mixed Buildings and Manufacturing), which allows for residential use. Lots 5, 60, 61, and 65 are currently operating as an active U-Haul facility. Lot 2 is currently vacant. Adjacent properties include mixed use commercial/residential to the north, industrial/manufacturing and commercial/residential to the east, office space and commercial/residential to the south and the West Side Highway to the west.

Past Use of the Site: Historic site uses included: lumber yard, iron works, garage, automotive repair services, and storage and dispensing of petroleum products. It is unknown whether U-Haul continued to dispense gasoline after taking title to the property in the late 1970s/early 1980s. Currently, no vehicle repair or fueling takes place onsite. Prior use of the site for petroleum storage and fueling appear to have historically impacted both soil and groundwater. Three historic spills where noted to be associated with the site, all historic spills have been closed out. A recent spill was reported adjacent to the site, (northeast) in a sidewalk area, this spill is currently open.

Site Geology and Hydrogeology: The site incorporates approximately 0.77 acres of fairly level land situated in the City of New York, New York County, New York. The site is mapped on the Jersey City, NY-NJ Quadrant 7.5 Minute Topographic Map, published by the United States Geological Survey (USGS). Review of the topographic map indicates that the site is located approximately 7 feet above sea level (NAVD 88). The site subsurface consists of an approximate

8-9 foot thick layer of historic fill material, followed by sand and gravel deposits. Depth to water is approximately 8-9 feet below ground (ftbg). Based on the proximity to the Hudson River, groundwater is expected to flow to the west. The site is located in FEMA flood zone AE, also known as the 100-year floodplain.

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 Remedial Investigation (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.

Off-site contamination will be further evaluated by the Department.

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:

lead	benzo(b)fluoranthene
arsenic	benzo[k]fluoranthene
mercury	chrysene
benzo(a)anthracene	dibenz[a,h]anthracene
benzo(a)pyrene	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) and pesticides. Soil vapor has been analyzed for VOCs.

Soil: The primary contaminants found in site soils are SVOCs and metals. SVOCs have been detected in shallow soils up to 17 feet below ground surface (bgs) during the most recent Phase II and RI, including but not limited to, benzo(k)fluoranthene at 8.5 parts per million (ppm) (restricted residential soil cleanup objective (RRSCO) is 3.9 ppm), indeno(1,2,3-cd)pyrene at 19 ppm (RRSCO is 0.5 ppm), benzo(a)anthracene at 11 ppm (RRSCO is 1 ppm), chrysene at 9.8 ppm (RRSCO is 3.9 ppm), benzo(a)pyrene at 20 ppm (RRSCO is 1 ppm), benzo(b)fluoranthene at 23 ppm (RRSCO is 1 ppm), and dibenzo(a,h)anthracene at 5.2 ppm (RRSCO is 0.33 ppm) . Metals were found at depths up to 17 feet bgs, including lead at concentrations up to 750 ppm (RRSCO is 400 ppm), arsenic up to 20 ppm (RRSCO is 16 ppm) and mercury up to 2.7 ppm (RRSCO is 0.81 ppm). VOCs, including benzene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenze were detected above RRSCO in one sample of 43 soil samples collected. The investigation did not identify site related contaminants in off-site soil. PCBs and pesticides were not detected above RRSCOs in any samples.

Groundwater: Nine groundwater monitoring wells were installed as part of the RI. No on-site monitoring wells contained concentrations of VOC's above standard. Concentrations of petroleum-related VOCs were detected in one adjacent off-site well including, benzene at 2,800 parts per billion (ppb) (standard is 1 ppb), toluene at 520 ppb (standard is 5 ppb), ethylbenzene at 1,600 ppb (standard is 5 ppb), m/p-xylene at 6,000 ppb (standard is 5 ppb), o-xylene at 2,000 ppb (standard is 5 ppb), Isopropylbenze at 110 ppb (standard is 5 ppb), naphthalene at 240 ppb (standard is 10 ppb), n-propylbenzene at 170 ppb (standard is 5 ppb), 1,3,5-trimethylbenzene at 330 ppb (standard is 5 ppb), 1,2,4-trimethylbenzene at 1,200 ppb (standard is 5 ppb), and 1,2,4,5-tetramethylbenzene at 61 ppb (standard is 5 ppb). The following SVOCs were detected slightly above their respective standards, criteria or guidance values (SCGs), phenol, naphthalene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene. Pesticides and PCBs were not detected above groundwater standards in any groundwater samples. Metals detected in the groundwater were commensurate with naturally occurring levels.

Soil Vapor: Several VOCs were detected in soil vapor including detections of tetrachloroethene at 173 micrograms per cubic meter (ug/m^3), 1,2,4-trimethylbenzene at 1,370 ug/m^3, 1,3,5-trimethylbenzene at 954 ug/m^3, ethylbenzene at 486 ug/m^3, p/m-xylene at 2,890 ug/m^3 and

benzene at 84.7 ug/m^3. The VOCs detected in soil vapor are likely site-related from historical site activities (petroleum USTs) or from the historic fill present beneath the 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.*

Direct contact with contaminants in the soil is unlikely because the majority of the site is covered with buildings 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 soil vapor (air spaces within the soil) 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 the inhalation of site-related contaminants due to soil vapor intrusion for any future on-site redevelopment and occupancy. 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:

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.
- Prevent the discharge of contaminants to surface water.

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.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

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 remedy selected is a dual-track cleanup which consists of both a Track 2 restricted residential use with generic soil cleanup objectives area, and a Track 4 restricted residential use with generic soil cleanup objectives area.

The selected remedy is referred to as the 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;
- 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 redevelopment
- 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

Soils/fill which exceed restricted residential SCOs over the majority of the site, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet will be excavated and transported off-site for disposal. Areas along the perimeter of the site where structural reasons prevent meeting restricted residential SCOs to 15 ftbg will require the excavation and off-site disposal of all soils/fill in the upper two feet which exceed restricted residential SCOs. Approximately 13,000 cubic yards of material will be removed for remediation, followed by an additional 7,000 cubic yards to achieve the development depth (Refer to Figure 2).

As necessary, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete required backfilling of the excavation and establish the design grades at the site.

3. Cover System

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

4. Institutional Controls

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and

- require compliance with the Department-approved Site Management Plan.

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 Paragraph 4 above.

Engineering Controls: The soil cover discussed in Paragraph 3 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 and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any 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. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of the cover system 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.

- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

C. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;

- maintaining site access controls and Department notification; and

- providing the Department access to the site and O&M records.

Basemap Source: ESRI, World Topo Map.

Site Location

0 1,000 2,000 4,000 Feet

http://gis.nyc.gov/taxmap/map.htm

Department of Finance Digital Tax Map

0 155 310 620 Feet

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community
NYC Department of City Planning, Information Technology Division

Department of City Planning MapPLUTO - 2016 v2

0 155 310 620 Feet

Site
NYSBCP Site #C231101
555 West 22nd Street
New York, New York
Block 694, Lots 2, 5, 60, 61 & 65

Tenen Environmental, LLC
121 West 27th Street
Suite 702
New York, NY 10001
O: (646) 606-2332
F: (646) 606-2379

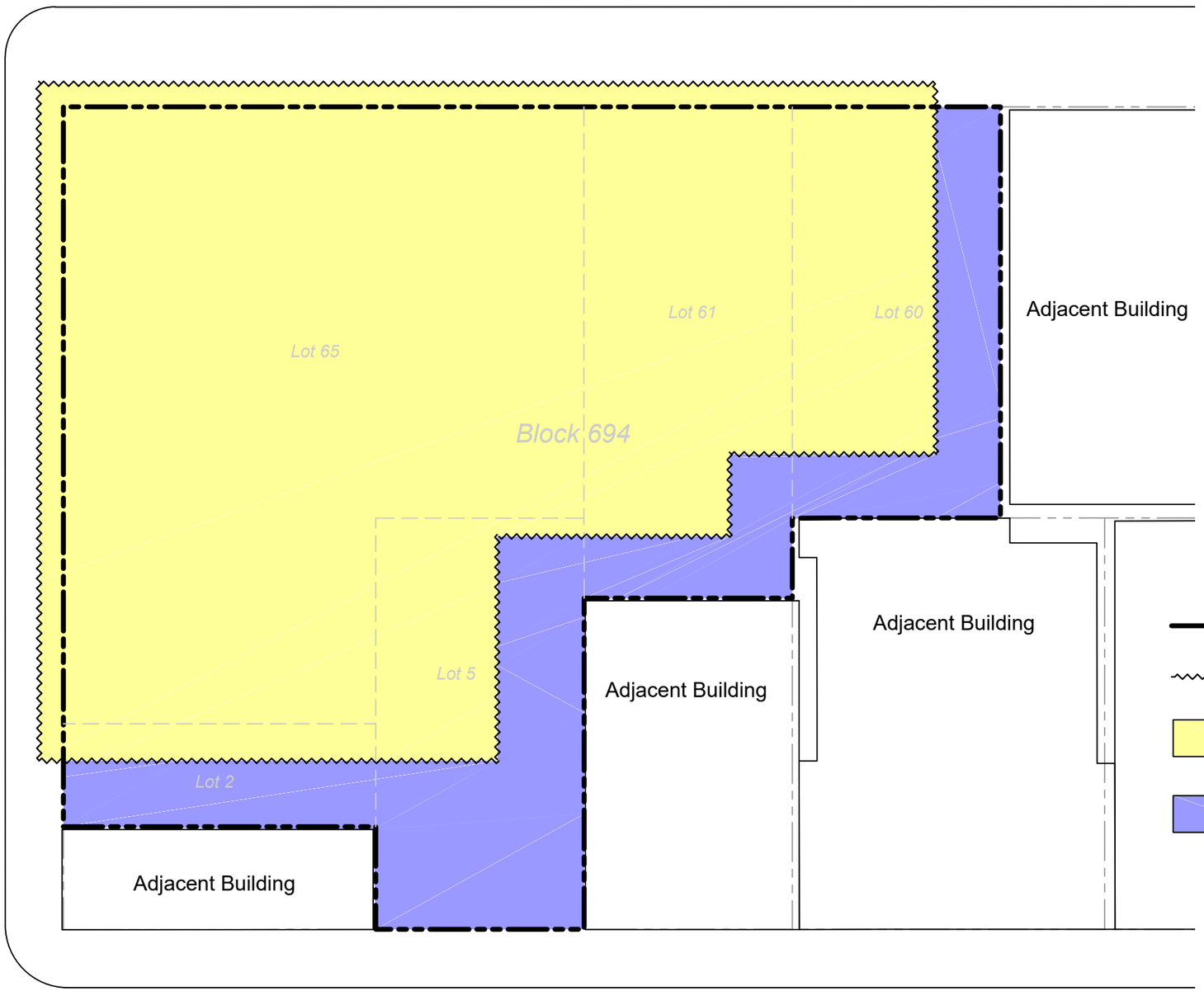
Drawn By	LM
Checked By	AC
Date	March 2018
Scale	As Noted

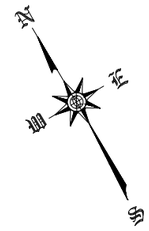
Drawing Title: Site Location Map

Drawing No: Remedial Action Work Plan
Figure 1

West 23rd Street

11th Avenue





Legend

- Site Boundary
- Sheeting
- Track 2 Excavation in Excess of 15 Feet Below Grade
- Track 4 Excavation Varies from 2-4 Feet Below Grade, Concrete Cap and Waterproofing Barrier

0 15' 30' 60'

Drawing Scale

West 22nd Street

Basefile Features from http://gis.nyc.gov/taxmap/map.htm, Microsoft Bing Maps Imagery and NYC Open Data

SITE

NYSBCP Site #C231101
555 West 22nd Street
New York, New York
Block 694, Lots 2, 5, 60, 61 & 65

CONSULTANT

TENEN ENVIRONMENTAL

TENEN ENVIRONMENTAL, LLC
121 West 27th Street
Suite 702
New York, NY 10001
O: 646-606-2332
F: 646-606-2379

DRAWN BY	CHECKED BY	DATE	SCALE:
LM	AC	June 2018	As Noted

DRAWING TITLE: Extent of Excavation Alternative II

DRAWING NO.: Remedial Action Work Plan Figure 2