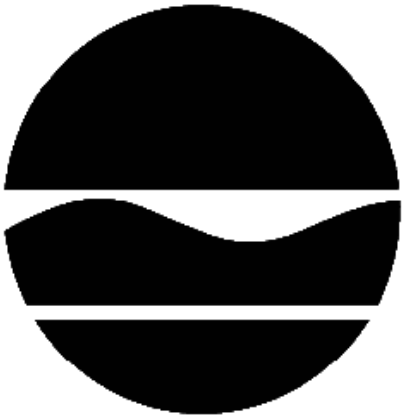
DECISION DOCUMENT

Northern Blvd. and Steinway Street
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241198
September 2018



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

DECLARATION STATEMENT - DECISION DOCUMENT

Northern Blvd. and Steinway Street
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241198
September 2018

Statement of Purpose and Basis

This document presents the remedy for the Northern Blvd. and Steinway 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 Northern Blvd. and Steinway 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 of the site, and to be consistent with the requirements of an e-designation by New York City, any future on-site buildings will include, at a minimum, a 20-mil water/vapor barrier to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building(s) have been demolished. Materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

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. Approximately 7,600 cubic yards of contaminated soil will be removed from the site.

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

3. Backfill

Confirmation samples will be collected and analyzed to demonstrate achievement of unrestricted use soil cleanup objectives. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

4. 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 Environmental Easement (EE) or Site Management Plan (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 NYCDOH code which prohibits groundwater use.

6. Contingent Track 1 Elements

The intent of the remedy is to achieve 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 SMP and 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 4 cleanup.

7. 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. A site cover system will not be required if a Track 4 cleanup is achieved.

8. **Engineering and Institutional Controls**

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum. A Track 4 cleanup will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs), and environmental easement, and site management plan as described below.

9. **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 NYCDOH; and
- Require compliance with the Department approved Site Management Plan.

10. 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 8, above.
Engineering Controls: The cover system 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 the 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 buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 7 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- 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 to assess the performance and effectiveness of the remedy;
- A schedule of monitoring and frequency of submittals to the Department; and
- Monitoring for vapor intrusion for any buildings 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.

September 19, 2018

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Northern Boulevard and Steinway Street
LIC, Queens County
Site No. C241198
September 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 from May 23 to July 9 2018, 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:

Queens Community Board 1
45-02 Ditmars Boulevard
Astoria, NY 11105
Phone: (718) 626-1021

Queens Library at Broadway
40-20 Broadway
Long Island City, NY 11103
Phone: (718) 721-2462

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 1.134 acres and located in an urban area at 36-20 Steinway Street, Long Island City. The site is located on the city block bordered by 38th Street to the north, 36th Avenue to the east, Steinway Street to the south, and Northern Boulevard to the west.

Site Features:
Currently, all buildings on-site have been demolished. The site was occupied by manufacturing and industrial facilities since the early 1900s. Historical site uses include a gasoline station and garage, auto repair shops, laundry facility, factory, used car sales, car wash, warehouse, machine shop, clothing manufacturer, and glass grinding facility. Historic underground storage tanks (USTs) are associated with the auto repair on former Lots 5 and 34, a gas station on former lot 7, and a garage on former Lot 31. While some USTs were identified, closed, and removed, there is the potential for remaining historical USTs to be present at the site.

Current Zoning and Land Use:
The site is zoned for commercial and manufacturing use. The northernmost portion of the lot is located in a M1-1 manufacturing district. The remainder of the lot is located in a C4-2A commercial district. The surrounding area consists of commercial, industrial, residential, and transportation and utility uses. An underground New York City Transit Authority (NYCTA) structure (M, R, E and F subway lines) adjoins the site to the south.

Past Uses of the Site:
The site has been occupied by manufacturing and industrial facilities since the early 1900s. Historic site uses include gas station, garage, auto repair, auto laundry facility, factory, used car sales, warehouse, machine shop, clothing manufacturer, and glass grinding facility. Historic USTs are associated with the auto repair on former Lots 5 and 34, a gas station on former lot 7, and a garage on former Lot 31.

Site Geology and Hydrogeology:
Bedrock underlying the site consists of gray and gray-weathering, thinly laminated muscovite-biotite-quartz schist with minor garnet. Beneath the site, surface material was observed to be urban fill predominately comprised of light brown fine to coarse sand, with varying amounts of gravel, clay, coarse stone, ash, coal, burnt wood, brick, and debris. The urban fill layer extends to

approximately 2 to 6.5 feet below grade surface (bgs). Beneath the fill is a brown to black fine sand to coarse sand with gravel. Groundwater flows on site west southwest. Groundwater underlying the site is approximately 17 feet bgs.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

SECTION 5: ENFORCEMENT STATUS

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

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the site 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:

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
chrysene
Tetrachloroethene
Trichlorethene
dibenz[a,h]anthracene
indeno(1,2,3-CD) pyrene
copper
mercury

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

- Soil
- Groundwater

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. Demolition of on-site buildings occurred in August of 2017. No other IRMs were performed on the site.

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

A geophysical survey was performed on-site during the remedial investigation. Suspected piping was identified but no underground storage tanks (USTs) could be identified through the concrete slab.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Soil vapor samples were analyzed for VOCs.

Soil: Seven SVOCs were detected exceeding Unrestricted Use SCOs (UUSCOs). The SVOCs included benzo(a)anthracene (max of 6.4 parts per million (ppm), UUSCO is 1 ppm), benzo(a)pyrene (max of 4.9 ppm, UUSCO is 1 ppm), benzo(b)fluoranthene (max of 4.5 ppm, UUSCO is 1 ppm), chrysene (max of 5.9 ppm, UUSCO is 1 ppm), dibenzo(a,h)anthracene (max of 0.76 ppm, UUSCO is 0.33ppm), and indeno(1,2,3-cd)pyrene (max of 3.6 ppm, UUSCO is 0.5 ppm). The highest concentration of all seven SVOCs was present in boring VTX-05. Five metals including chromium (hexavalent) (max of 1.1 ppm, UUSCO is 1 ppm), copper (max of 730 ppm, UUSCO is 50 ppm), lead (max of 170 ppm, UUSCO is 63 ppm), mercury (max of 0.82 ppm, UUSCO is 0.18 ppm) and zinc (max of 710 ppm, UUSCO is 109 ppm) exceeded their respective Unrestricted Use SCOs. All soil samples collected with concentrations above Unrestricted Use SCOs were at or more shallow than 2 feet below grade surface with the exception of an acetone exceedances (max of 0.35 ppm, UUSCO is 0.05 ppm) at 15 and 18 feet below grade surface in VTX-02 and VTX-04, respectively. Soil contamination appears to be related to historical site usage and urban fill. It is not expected that this site has impacted off-site soils.

VOCs (except for the acetone mentioned above), herbicides, and PCBs were not detected above UUSCOs. One pesticide (4,4-DDT) was detected above UUSCOs but below restricted residential soil cleanup objectives (RRSCOs).

Groundwater: Sixteen groundwater sampling locations existed on-site with four permanent monitoring wells installed. Samples were analyzed and compared to NYSDEC TOGS 1.1.1 Ambient Water Quality Standards (AWQS). Six metals exceeded guidance values. Two SVOCs exceeded guidance values. Benzo(a)anthracene (max of 0.03 parts per billion, or ppb, AWQS is 0.002 ppb), and benzo(b)fluoranthene (max of 0.04 ppb, AWQS is 0.002 ppb).

Three VOCs exceeded guidance values. Tetrachloroethene (PCE) (max of 5.5 ppb, AWQS is 0.7 ppb), benzene (max of 1.3 ppb, AWQS is 1 ppb), and cis-1,2-dichloroethene (max of 6.4 ppb, AWQS is 5 ppb). The concentrations of these VOCs were nominally higher than groundwater standards and these VOCs were not detected above UUSCOs in soil. No source was identified. It is likely that groundwater contamination of a similar nature exists off-site.

Pesticides and PCBs were not detected in groundwater samples. Maximum concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in groundwater were 44.7 and 17.5 parts per trillion (ppt), respectively.

Soil Vapor: Four soil vapor samples and one ambient air sample were collected throughout the site. PCE was detected at SV04 (250 micrograms per cubic meter, or ug/m3), SV03 (23.5 ug/m3), SV02 (16.5 ug/m3) and AA (1.49 ug/m3). Trichloroethene was detected at SV02 (6.02 ug/m3) and SV01 (38.2 ug/m3). No CVOC source has been identified on 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 the former building foundations 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 or groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings as a result of this site.

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 groundwater contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater 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 Track 1: unrestricted use remedy.

The selected remedy is referred to as the Excavation and Vapor Evaluation 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; 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 of the site, and to be consistent with the requirements of an e-designation by New York City, any future on-site buildings will include, at a minimum, a 20-mil water/vapor barrier to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building(s) have been demolished. Materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

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. Approximately 7,600 cubic yards of contaminated soil will be removed from the site.

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

3. Backfill

Confirmation samples will be collected and analyzed to demonstrate achievement of unrestricted use soil cleanup objectives. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

4. 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 Environmental Easement (EE) or Site Management Plan (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 NYCDOH code which prohibits groundwater use.

6. Contingent Track 1 Elements

The intent of the remedy is to achieve 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 SMP and 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 4 cleanup.

7. 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. A site cover system will not be required if a Track 4 cleanup is achieved.

8. **Engineering and Institutional Controls**

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum. A Track 4 cleanup will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs), and environmental easement, and site management plan as described below.

9. **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 NYCDOH; and
- Require compliance with the Department approved Site Management Plan.

10. Site Management Plan

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

C. 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 8, above.
Engineering Controls: The cover system discussed in Paragraph 7, above.

This plan includes, but may not be limited to:

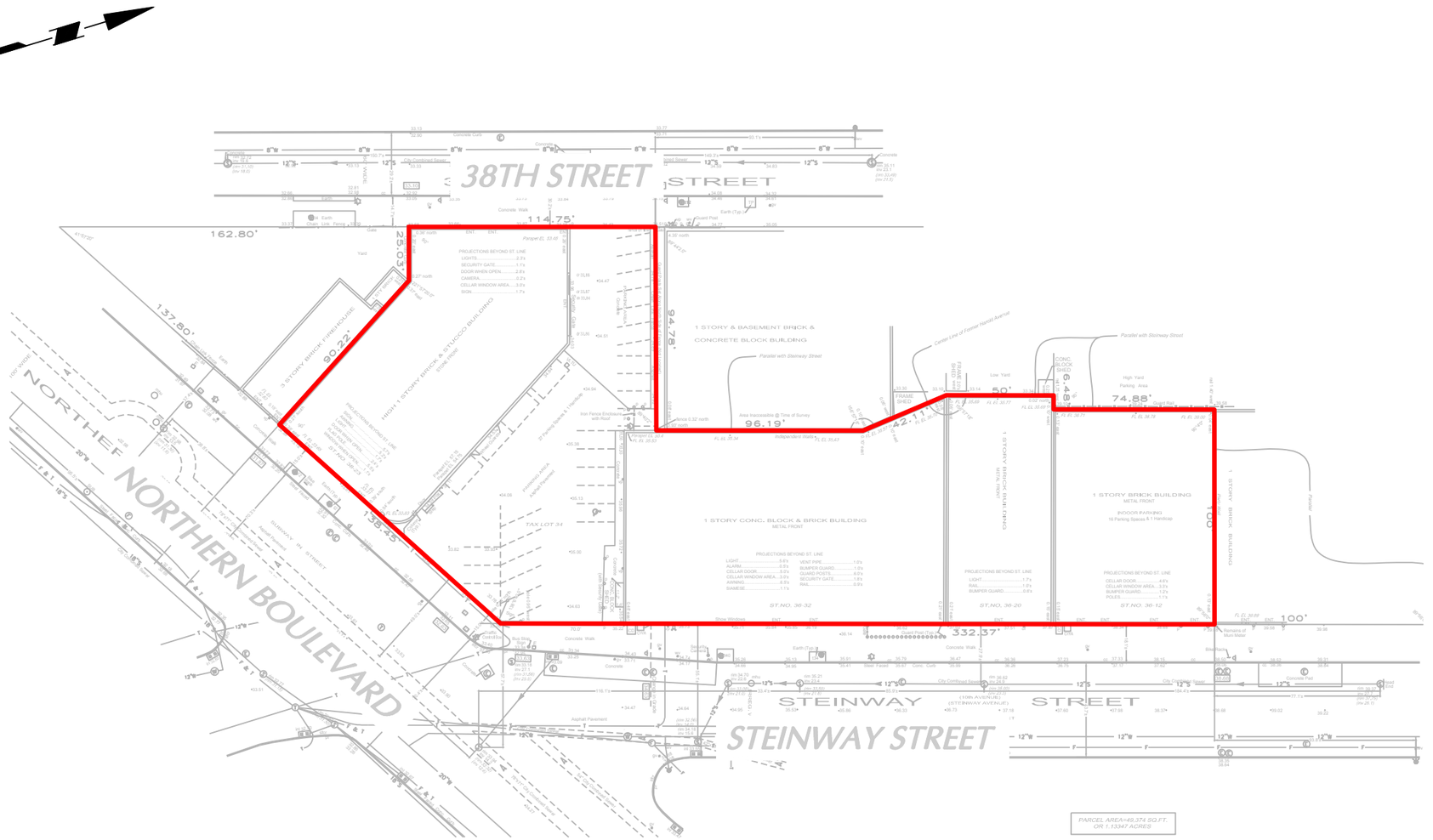
- An Excavation Plan which details the provisions for management of future excavations in the areas of remaining contamination;
- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- A provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 7 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- 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.

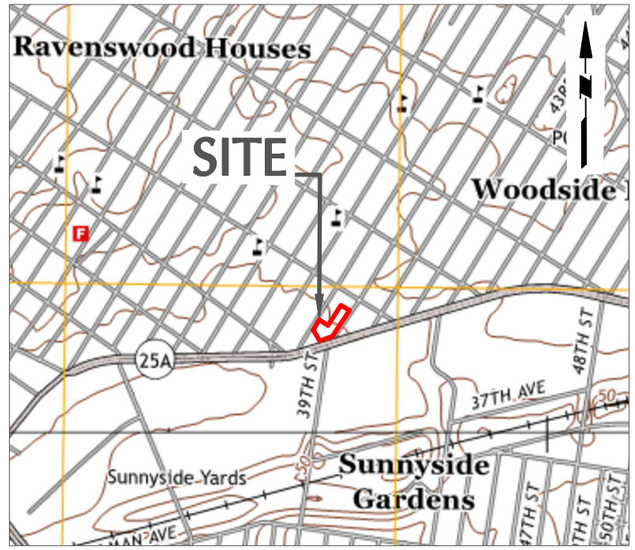
D. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

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

BCP Site C241198
Northern Blvd and Steinway Street

Figure 1: Site Location





SITE LOCATION MAP:

(BASE MAP REFERENCED FROM UNITED STATES GEOLOGICAL SURVEY, BROOKLYN QUADRANGLE 7.5 SERIES, DATED JULY 2007)

LEGEND:

APPROXIMATE SITE BOUNDARY

NOTES:

1. SURVEY BASE MAP REFERENCED FROM ARCHITECTURAL SURVEY, DATED MAY 15, 2017, PREPARED BY MONTROSE SURVEYING CO., LLP.

60 0 20 40 60
SCALE IN FEET

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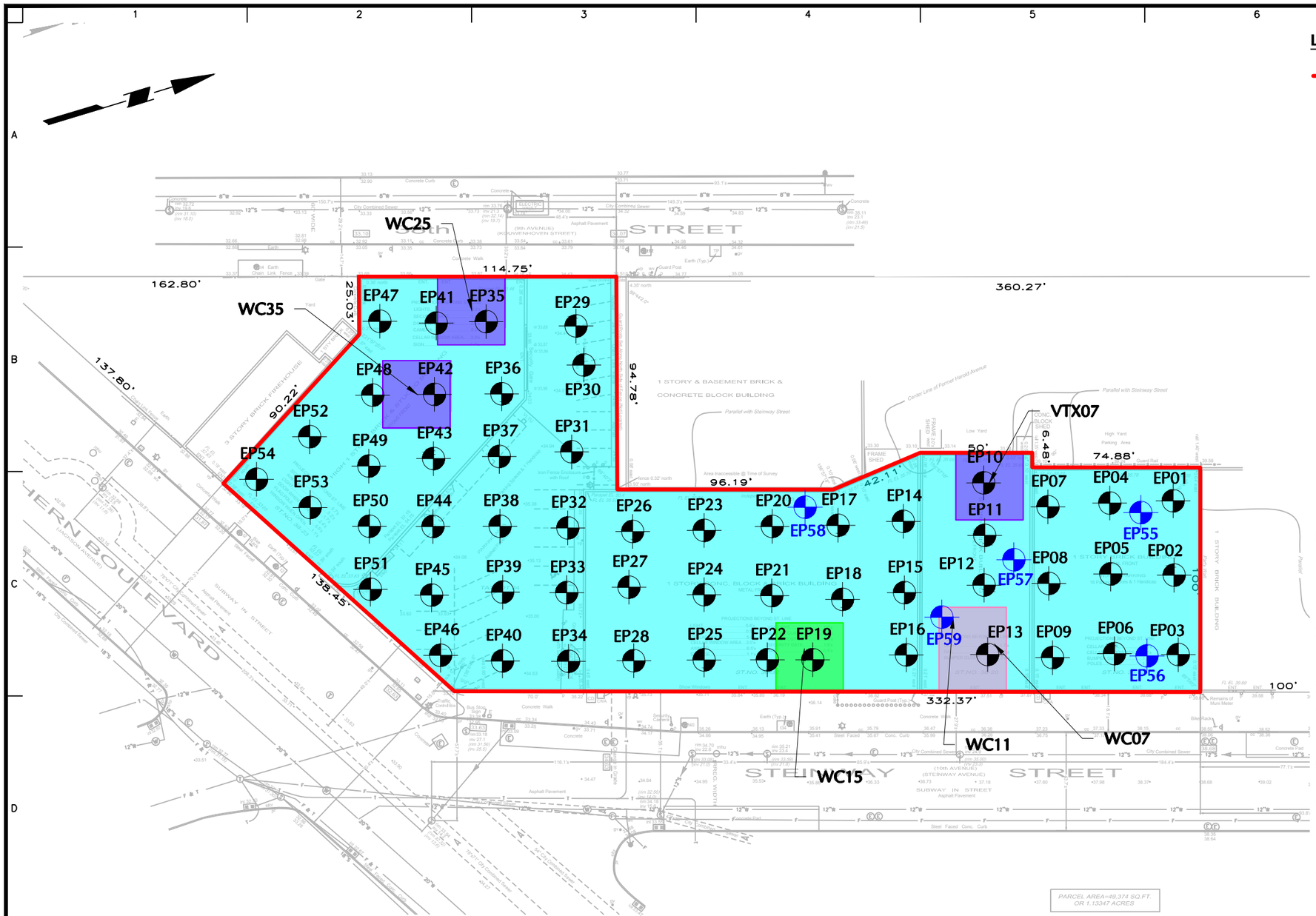
Collectively known as Langan

Project
NORTHERN BOULEVARD AND STEINWAY STREET
BLOCK No. 665, LOT No. 34
QUEENS **NEW YORK**

Figure Title
Site Plan and Boundary

Project No. 170421701	Figure No. **2**
Date	
Scale 1" = 60'	
Drawn By / Checked By	
Submission Date –	**Sheet** 1 **of** 14

Filename: \\langan.com\data\NY\data7\170421701\Cadd Data - 170421701\2D-DesignFiles\Environmental\BCP RAWP\Figure 1 - Site Location Plan.dwg Date: 5/7/2018 Time: 17:17 User: eadkins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- APPROXIMATE SITE BOUNDARY
- EXTENT OF EXCAVATION TO ABOUT EL. 34 (ABOUT 4 FEET BGS)
- EXTENT OF EXCAVATION TO ABOUT EL. 32 (ABOUT 6 FEET BGS)
- EXTENT OF EXCAVATION TO ABOUT EL. 30 (ABOUT 6 FEET BGS)
- EXTENT OF EXCAVATION TO ABOUT EL. 28 (ABOUT 6-8 FEET BGS)
- VTX07 — PREVIOUS SOIL BORING LOCATION AND ID
- EP01 — PROPOSED CONFIRMATION SAMPLE LOCATION (TO BE COLLECTED AT REMEDIAL EXCAVATION DEPTH)
- EP55 — PROPOSED ADDITIONAL CONFIRMATION SAMPLE LOCATION (TO BE COLLECTED FROM 4-15 FEET BGS)

NOTES:

1. SURVEY BASE MAP REFERENCED FROM ARCHITECTURAL SURVEY, DATED MAY 15, 2017, PREPARED BY MONTROSE SURVEYING CO., LLP.
2. EXCAVATION ELEVATIONS ARE APPROXIMATE AND ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. EXCAVATION DEPTHS ARE APPROXIMATE.
4. PREVIOUS SOIL BORINGS DEPICTED ON FIGURE CONSTITUTE HOTSPOTS TO BE REMOVED AS PART OF THE TRACK 1 REMEDY.
5. CONFIRMATION SAMPLES WILL BE COLLECTED AT THE FINAL DEPTH OF REMEDIAL EXCAVATION, AS INDICATED.
6. CONFIRMATION SIDEWALL SAMPLES WILL BE COLLECTED FROM SIDEWALLS OF HOTSPOT EXCAVATIONS, EXCEPT WHERE THE SUPPORT OF EXCAVATION PREVENTS SAMPLE COLLECTION.
7. FIVE ADDITIONAL SAMPLES WILL BE COLLECTED FROM A DEPTH OF 4-15 FEET BGS IN THE NORTHEAST PORTION OF THE SITE.
8. BGS = BELOW GRADE SURFACE

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BLOCK No. 665, LOT No. 34
QUEENS NEW YORK

Figure Title
Elements of Remedy

Project No. 170421701	Figure No. 3
Date 3/12/2018	
Scale 1" = 60'	
Drawn By ERA / Checked By GCW	
Submission Date	Sheet 8 of 14

Filename: \\langan.com\data\NY\data7\170421701\Cadd Data - 170421701\2D-DesignFiles\Environmental\BCP RAWP\Figure 8 - Track 1 Cleanup Plan_2018.03.12.dwg Date: 5/10/2018 Time: 16:22 User: eadkins Style Table: Langan.stb Layout: ANSIB-BL