DECISION DOCUMENT

Former G & C Services
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203057
October 2013

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former G & C Services
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203057
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Statement of Purpose and Basis

This document presents the remedy for the Former G & C Services 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 G & C Services 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

All on-site soil will be excavated to a depth of 15 feet below grade for the site development.

This will remove all contaminant source soil. End point samples will be collected to confirm that all contaminant source soil has been removed. Approximately 10,000 cubic yards of contaminated soil and historic fill material will be excavated and properly disposed off-site.

In the event that all of the endpoint samples collected at 15 feet below grade are below the Unrestricted Use Soil Cleanup Objectives, the Volunteer may pursue a Track 1 Unrestricted Use Cleanup. This would involve the further excavation to a minimum of 25 feet below grade in an approximately 2,500 square foot area in the central portion of the site, where contaminants exceeding the UUSCOs have been detected at 25 feet below grade.

3. Groundwater Treatment

Due to the planned excavation depth and the typical groundwater elevations at the site, extensive dewatering will be performed to enable the excavation and foundation work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system. It is expected that the extensive dewatering will improve groundwater quality beneath the site. Furthermore, a dry chemical oxidant will be applied to the base of the excavation to treat contaminants in groundwater, as groundwater levels rebound following dewatering. The detailed specifications for application of the oxidant will be proposed in the Remedial Design document. Groundwater monitoring will be performed via a down-gradient monitoring wells to confirm that remedial action objectives for groundwater have been achieved.

4. Institutional Control

Enclosed subgrade parking garages of any future on-site building are required by the New York City mechanical code to provide ventilation.

In the event that a Track 1 Unrestricted Use cleanup is not achieved, and/or remedial action objectives for groundwater have not been met, imposition of an institutional control in the form of an environmental easement may be required 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 residential, restricted residential, commercial and industrial use 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.

5. Site Management Plan

In the event that a Track 1 Unrestricted Use cleanup is not achieved and/or remedial action objectives for groundwater have not been met, a Site Management Plan may be required, 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 above.
Engineering Controls: The groundwater treatment and monitoring program discussed above.

This plan includes, but may not be limited to:

- 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 new 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;
- 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;
   - 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.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
   - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
   - maintaining site access controls and Department notification; and
   - providing the Department access to the site and O&M records.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

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.

October 16, 2013

Date

Robert J. Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Former G & C Services
Bronx, Bronx County
Site No. C203057
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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:

Mott Haven Library
Attn: Jeanine Thomas-Cross
321 East 140th Street
Bronx, NY 10454
Phone: 718-665-4878

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 at 255 East 138th Street, between Rider Avenue and Third Avenue, in the Bronx. The site is identified as Block 2333, Lot 1.

Site Features:
The site is approximately 20,000 square feet and is currently vacant with no on-site structures.

Current Zoning/Uses:
The property is in a special mixed-use district, zoned M1-4/R7X (manufacturing/ residential). The site is currently vacant and has not been used since 2006. To the north are large, multi-story former industrial buildings, to the west is a one-story garage building currently used for parking and storage, to the east (across Third Avenue and Morris Avenue) is a senior citizen residential building and to the south (across East 138th Street) is an abandoned gas station and commercial storefronts with residential apartments above.

Past Use of the Site:
Most recently, the eastern portion of the site (formerly known as 2551 3rd Avenue) was occupied by a KFC restaurant (approximately 1969 to 2006, demolished in 2012). Prior to that, the site was used as a gas station and machine shop from approximately 1935 to 1969 (originally identified as "City Gas" and later "Cities Service Oil Company"). The western portion of the site (formerly known as 245 East 138th Street) has been operated as a machine shop, gasoline station, and auto repair facility by various operators for 80 years, most recently as a Getty gas station and auto repair shop.

Site Geology and Hydrogeology:
Depth to groundwater has been measured at 4.75 to 6.32 feet below ground surface and flows to the southwest. The geology generally consists of dark brown sand from 0 to 4 feet below grade, with evidence of urban fill material such as concrete, brick, asphalt, and gravel. Dark brown to gray-black sand is generally present from 4 to 12 feet below grade. Bedrock has not been identified in the top 25 feet below surface grade.

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 residential use (which allows for restricted-residential use, commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. However, the Department has determined that this site does 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:

BENZENE
ETHYLBENZENE
TOLUENE
XYLENE (MIXED)
1,2,4-TRIMETHYLBENZENE
LEAD
BENZ(A)ANTHRACENE
CHRYSENE
BENZO(B)FLUORANTHENE
BENZO[K]FLUORANTHENE
BENZO(A)PYRENE
INDENO(1,2,3-CD)PYRENE
DIBENZ[A,H]ANTHRACENE
N-PROPYLBENZENE
NAPHTHALENE

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:
The primary contaminants of concern at the site are semi-volatile organic compounds (SVOCs) and metals, which appear to be related to the presence of historic fill material. Two spills have been reported and closed for the site. On June 27, 2007, Spill No. 0703567 was reported for the eastern portion of the site when contamination was discovered during the removal of underground storage tanks from the former gas station. Contaminated soil was excavated and backfilled and end-point samples were analyzed. The spill was closed in May 2008. A spill was also reported for the western portion of the site on June 29, 1998 (NYSDEC Spill No. 9804000), due to contamination identified during the removal of five underground storage tanks, pump islands and associated piping. Contaminated soil was excavated and disposed off-site; subsequent remedial activity and monitoring at the site was performed under the Spill Response Program between 1998 and 2006. The spill was closed on November 3, 2006. The Remedial Investigation indicated that petroleum-related volatile organic compounds (VOCs) from the historical petroleum spills have largely been mitigated, but are still present in soil, groundwater, and soil vapor.

Soil:
VOCs related to the previous petroleum spills on the site were identified in two soil borings in the southwest corner of the site at a depth of 5.5 to 7.5 feet below grade. In this area, ethylbenzene was detected at a concentration of 45.8 parts per million (ppm) compared to the Unrestricted Use Soil Cleanup Objective (UUSCO) of 8.4 ppm; 1,2,4-trimethylbenzene at 206 ppm compared to the UUSCO of 3.6 ppm; xylene at 71.9 ppm compared to the UUSCO of 0.26 ppm; and naphthalene at 22.6 ppm compared to the UUSCO of 12 ppm. Outside of this limited area, the primary contaminants identified in soil are semi-volatile organic compounds (SVOCs) and metals, which appear to be related to the presence of historic fill material. These contaminants are present site-wide primarily at depths of 3 to 5 feet below surface grade. Contaminants decrease in presence and concentration in deeper soil. SVOCs, specifically polycyclic aromatic hydrocarbons (PAHs), include: benzo(a)anthracene detected at a maximum of 10.8 ppm, benzo(a)pyrene at a maximum of 10.1 ppm, benzo(b) fluoranthene at a maximum of 11.9 ppm, and chyrsene at a maximum of 12.7 ppm. By comparison, the UUSCO for all of these compounds is 1 ppm. Metals include: arsenic at a maximum concentration of 49.3 ppm compared to the UUSCO of 13 ppm; lead at a maximum of 2290 ppm compared to the UUSCO of 63 ppm; copper at a maximum of 718 ppm compared to the UUSCO of 50 ppm; and chromium at a maximum of 35.8 ppm compared to the UUSCO of 30 ppm.

Groundwater:
Groundwater beneath the site is contaminated with petroleum-related VOCs which are associated with the spills from the former gasoline stations. Groundwater contamination is limited to the western portion of the site. Contaminants of concern in groundwater include: benzene detected at a maximum concentration of 388 parts per billion (ppb); toluene at a maximum concentration of 26.2 ppb; ethylbenzene at a maximum concentration of 122 ppb; and n-propylbenzene at a maximum concentration of 451 ppb. The NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) for these contaminants are 1 ppb for benzene and 5 ppb for toluene, ethylbenzene, and n-propylbenzene.

Soil Vapor:
Multiple VOCs were identified in soil vapor across the site. Tetrachloroethylene (PCE) was detected in 5 of 6 soil vapor samples at concentrations ranging from 210 micrograms per cubic meter (ug/m3) to 373 ug/m3. The investigation indicates that the presence of PCE in soil vapor can likely be attributed to an off-site source, due to the lack of PCE in on-site soil or groundwater.

Significant Threat:
NYSDEC and NYSDOH have determined that this site does not pose a significant threat to human health or the environment.

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*.

The site is completely fenced, which restricts public access. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of contaminants due to soil vapor intrusion does not represent a current concern. On-site contamination is not contributing to off-site vapor intrusion exposures.

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 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.
- Remove the source of ground or surface water contamination.

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 Track 2: Restricted use with generic soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation and Groundwater Treatment 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;
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- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
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- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

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4. Institutional Control

Enclosed subgrade parking garages of any future on-site building are required by the New York City mechanical code to provide ventilation.

In the event that a Track 1 Unrestricted Use cleanup is not achieved, and/or remedial action objectives for groundwater have not been met, imposition of an institutional control in the form of an environmental easement may be required 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 residential, restricted residential, commercial and industrial use 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.

5. Site Management Plan

In the event that a Track 1 Unrestricted Use cleanup is not achieved and/or remedial action objectives for groundwater have not been met, a Site Management Plan may be required, 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 above.
Engineering Controls: The groundwater treatment and monitoring program discussed above.

This plan includes, but may not be limited to:

- 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 new 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;
- 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;
- 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.

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

- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

Figure 1 – Site Location Map

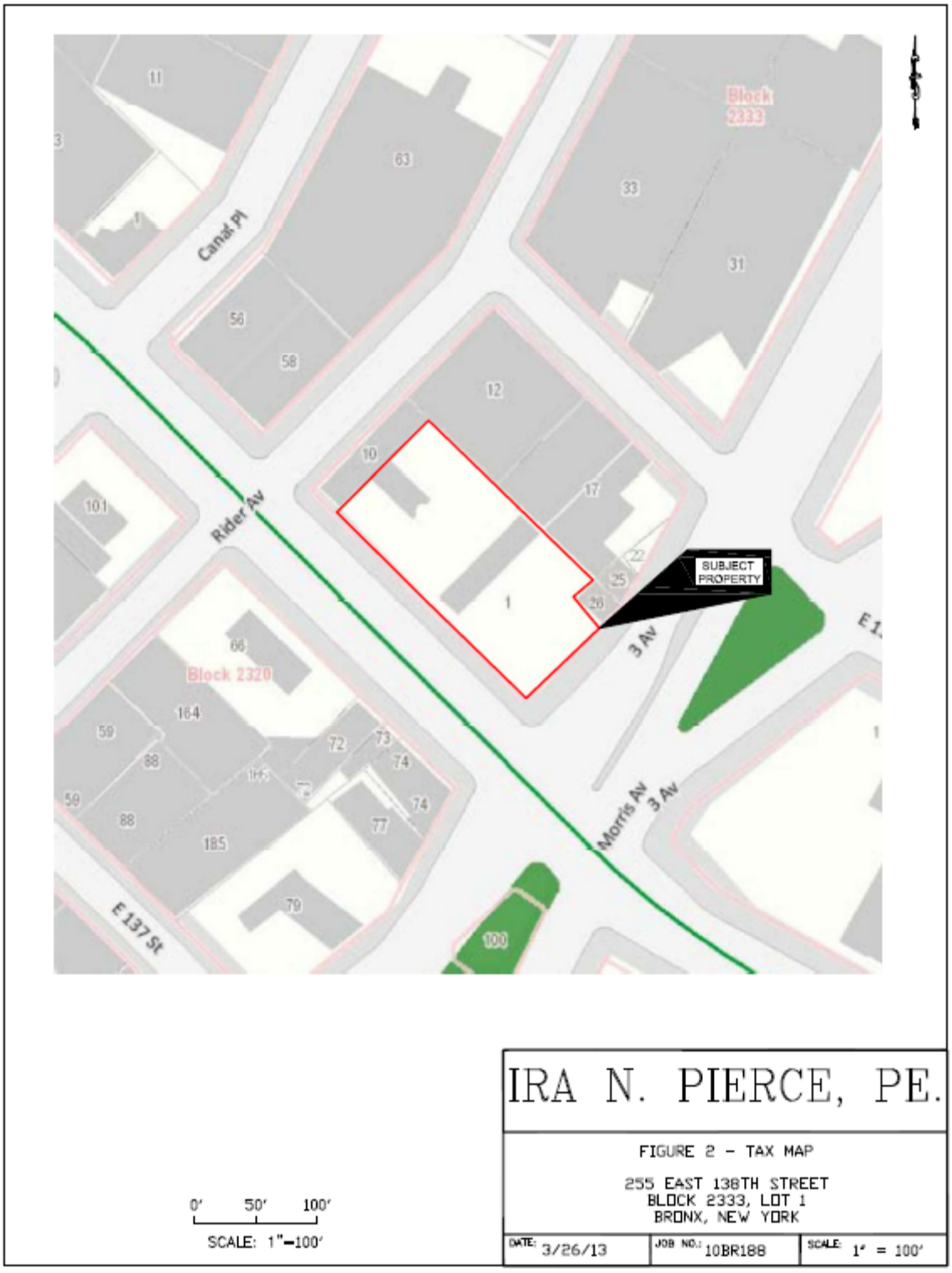

Figure 2 – Proposed Remedy