DECISION DOCUMENT

300 and 308 Columbus Avenue
Brownfield Cleanup Program
Tuckahoe, Westchester County
Site No. C360136
May 2014

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

DECLARATION STATEMENT - DECISION DOCUMENT

300 and 308 Columbus Avenue
Brownfield Cleanup Program
Tuckahoe, Westchester County
Site No. C360136
May 2014

Statement of Purpose and Basis

This document presents the remedy for the 300 and 308 Columbus Avenue site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the 300 and 308 Columbus Avenue site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

- considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- reducing direct and indirect greenhouse gases and other emissions;
- increasing energy efficiency and minimizing use of non-renewable energy;
- conserving and efficiently managing resources and materials;
- reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- maximizing habitat value and creating habitat when possible;
- fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil containing SVOCs exceeding 500 ppm; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Excavation will be performed of soil from beneath the southern service bay at 308 Columbus Avenue and the northern service bay at 300 Columbus Avenue, centered on the soil boring in each bay that contained the strongest evidence of contamination. Each excavation is estimated to be 15 feet by 15 feet by 6 feet deep . Approximately 100 cubic yards of soil will be removed from the site for off-site disposal. On-site soil which does not exceed SCOs for the use of the site may be used to backfill the excavations to the extent that a sufficient volume of on-site soil is available.

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

The site will be re-graded to accommodate installation of a cover system as described in remedy element 3. Soil derived from the re-grading may be used to backfill the excavation.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

4. Institutional Control

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

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and
- requires 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 element 4 above.

Engineering Controls: The soil cover discussed in element 3.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater water use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater 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 developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

May 9, 2014
Date

George Heitzman, Director
Remedial Bureau C

DECISION DOCUMENT

300 and 308 Columbus Avenue
Tuckahoe, Westchester County
Site No. C360136
May 2014

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:

Tuckahoe Public Library
Attn: Swadesh Pachnanda
71 Columbus Avenue
Tuckahoe, NY 10707
Phone: 914-961-2121

NYSDEC Region 3 Office
Attn: Attn: Please Call for an Appointment
21 S. Putt Corners Road
New Paltz, NY 12561

Phone: 845-256-3154

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 300-308 Columbus Avenue, Tuckahoe, in Westchester County, and consists of two contiguous properties totaling approximately 0.75 acres in size. The property located at 308 Columbus Avenue is on the corner of Columbus Avenue and Lincoln Avenue. The 300 Columbus Avenue property is located south of and adjacent to the 308 Columbus Avenue property, and the southeastern portion of 300 Columbus Avenue extends to Fisher Avenue.

Site Features: Site Features : The 300 Columbus Avenue property is approximately 20,312 square feet. The property is paved, with the exception of gravel backfill areas at locations where the former service building, USTs and dispensers (pumps) were previously excavated, and removed, and/or demolished.

The 308 Columbus Avenue property is approximately 11,825 square feet. The property is paved, with the exception of gravel backfill areas at locations where the former service building, USTs and dispensers (pumps) were previously excavated, and removed, and/or demolished.

Current Zoning and Land Use: The site is zoned for commercial use and the site is currently vacant. The Applicant remedial party is pursuing a zoning change from the municipality to allow for a restricted residential use.

Past Use of the Site: 300 Columbus Avenue was developed in the 1950s as a gasoline station and was most recently being used for commuter parking and an auto repair facility.

308 Columbus Avenue was developed in the 1930s as a gasoline station and was most recently being used for commuter parking and an auto repair facility.

Site Geology and Hydrogeology: The site is underlain by glacial till consisting of varying amounts of silt, clay, sand and gravel. Asphalt, crushed rock and brick are also present in the upper sections of the soil column, indicating that the fill material is in the upper 6 to 15 feet across the site. Soil borings to 25 feet below grade have not encountered bedrock. The site is underlain by the Inwood Marble and the Fordham Gneiss formations, with the bedrock formation

boundary running north to south through the center of the site. Bedrock in Westchester County is typically overlain by a relatively thin covering of glacial deposits, mainly till, with stratified deposits being present along river systems. Soils beneath the site are described as urban land, or areas where at least 60% of the land area is covered with impervious materials and slopes range in grade from 0 to 8%.

Groundwater is expected to flow in a westerly direction toward the Bronx River; however, actual groundwater flow at the site can be affected by many factors including past filling activities, underground utilities and other subsurface openings. Groundwater is encountered at depths ranging from 17 to 25 feet below grade across the site. There are no surface water bodies or streams on or immediately adjacent to the site; the Bronx River is located approximately 500 feet west of the site, and an unnamed pond is located approximately 750 feet east of the site.

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 under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. 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

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

1,1,1 TCA	ETHYLBENZENE
1,1-DICHLOROETHANE	XYLENE (MIXED)
TETRACHLOROETHYLENE (PCE)	indeno(1,2,3-cd)pyrene
TRICHLOROETHENE (TCE)	BENZ(A)ANTHRACENE
1,1 Dichloroethene	BENZO(A)PYRENE
BENZENE	BENZO(B)FLUORANTHENE

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

- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination : Based upon investigations conducted to date, the primary contaminants of concern include: 1,1,1-trichloroethane (TCA), 1,1 dichloroethane (DCA), tetrachlorethylene (PCE), trichloroethylene (TCE), cis-1,2 dichloroethene (DCE), benzene, xylene, ethythlbenzene, indeno(1,2,3-cd)pyrene, benz(a)anthrancene, benzo(a)pyrene, and benzo(b)fluoranthene. All contamination is confined to small hot spot areas within the site and does not appear to extend off-site based on the data collected.

Soil - Soil collected from 1 to 2 feet beneath the foundation slab, at the location of a former parts washer, in the northern service bay at 300 Columbus Avenue, contained solvent-related volatile organic compounds (VOCs) (PCE, TCE, DCE, DCA, and TCA), petroleum-related VOCs (benzene, ethylbenzene, toluene, and xylenes), and SVOCs at concentrations that exceeded the soil cleanup objectives (SCOs) for unrestricted and restricted residential use. PCBs were detected in one sample at a concentration of 0.11 parts per million (ppm), which exceeded the unrestricted SCO of 0.1 ppm, but was below the restricted residential SCO (1 ppm). A soil sample collected from 308 Columbus Avenue contained SVOCs, including benzo(a)antracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene at concentrations that exceeded the SCOs for unrestricted use. Each compound except chrysene also exceeded its respective restricted residential SCO. PCE and benzo(a)pyrene were found at levels up to 1,300 ppm and 1.5 ppm, respectively in the central portion of the site. Pesticides were not detected in any soil samples.

Groundwater - PCE was detected in each of the five groundwater samples at concentrations ranging from an estimated 0.42 parts per billion (ppb) in a well on the down gradient side of the service bays at 300 Columbus Avenue, to 1.2 ppb in a well on the down gradient property boundary of 308 Columbus Avenue. The detected concentrations were below the ambient water quality standard for PCE of 5 ppb. Cis-1,2 DCE and toluene were also detected in the down gradient water sample at 308 Columbus Avenue at estimated concentrations of 0.73 and 0.22 ppb, which were below the standard of 5 ppb for each compound. SVOCs were not detected in the groundwater samples.

Soil Vapor - No soil vapor data was collected during previous site investigations. However, for the purposes of designing the site remedy, the soil vapor is assumed to be impacted by the same VOCs identified in the site soil and groundwater.

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 building slabs and pavement. Volatile organic compounds in the groundwater and soil 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. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building development and occupancy. Environmental sampling indicates that soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

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 selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Source Removal and Restricted Residential Cap 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;
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- soil containing SVOCs exceeding 500 ppm; and
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4. Institutional Control

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

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and
- requires compliance with the Department approved Site Management Plan.

5. Site Management Plan

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

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

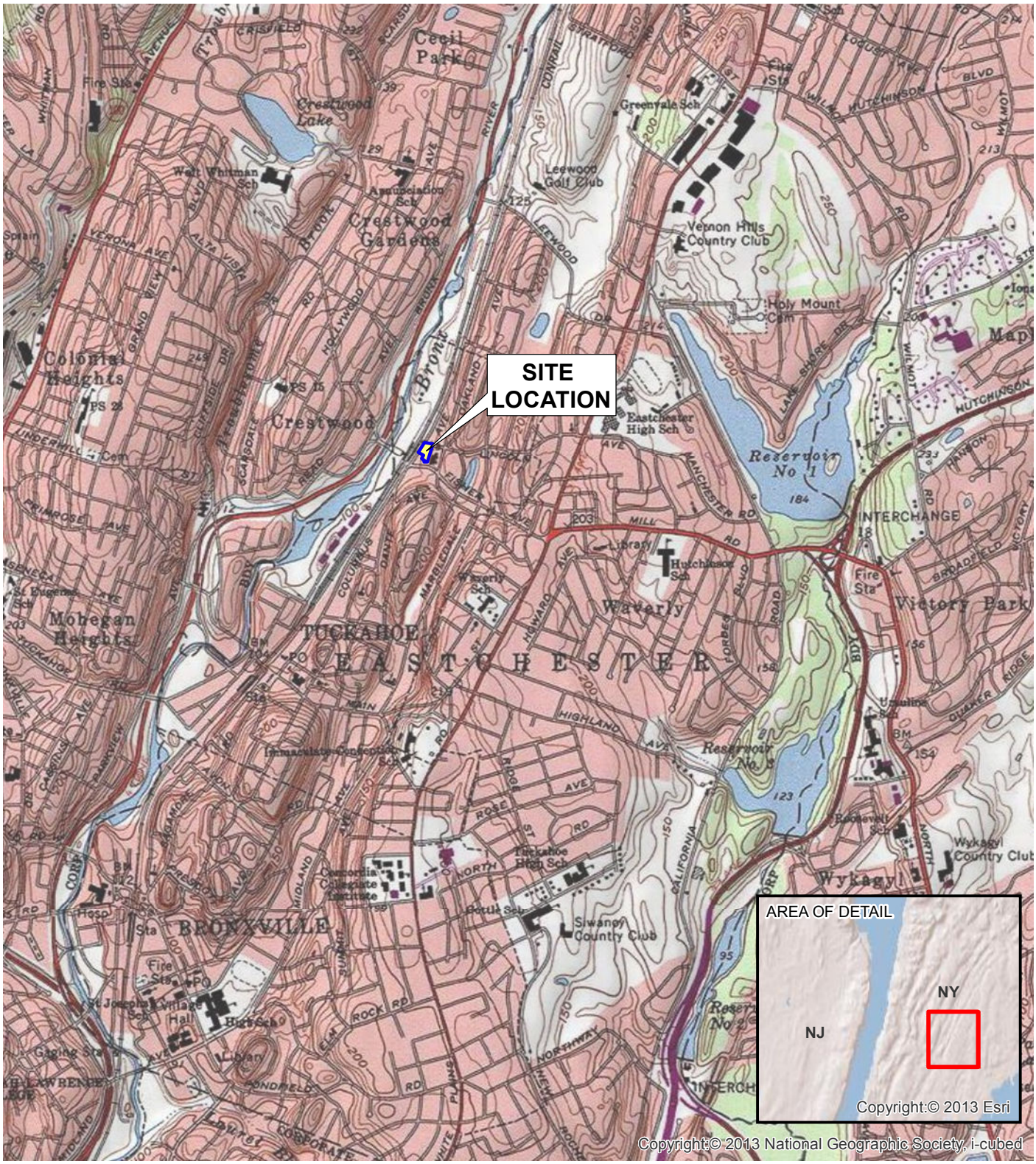
Engineering Controls: The soil cover discussed in element 3.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater water use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater 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 developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



SOURCE
USGS 7.5 Minute Topographic Map
MOUNT VERNON Quad 1979

0 1,000 2,000
Feet

300 & 308 COLUMBUS AVE
TUCKAHOE, NEW YORK

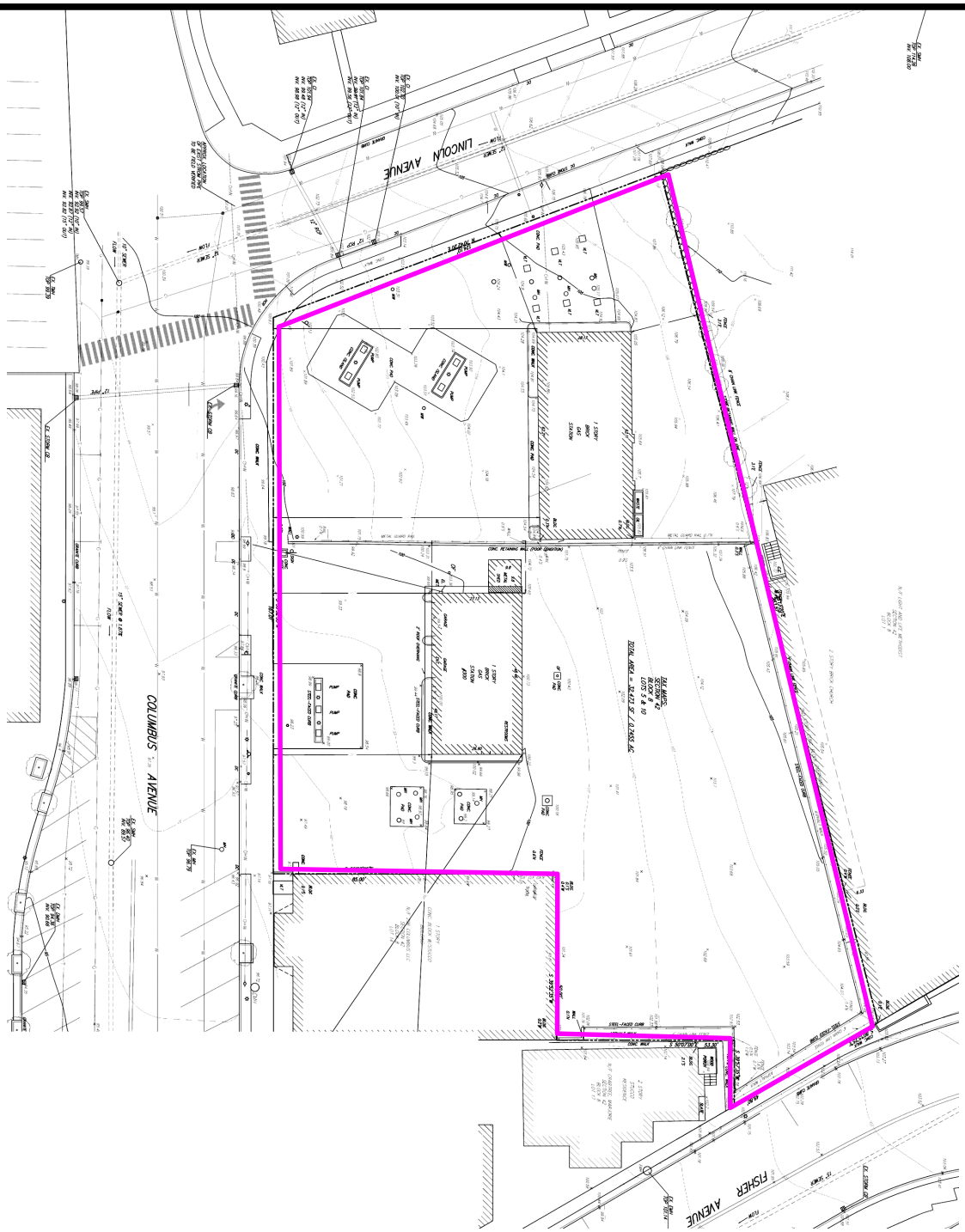
SITE LOCATION MAP

AKRF
Environmental Consultants
440 Park Avenue South, New York, N.Y. 10016

DATE
9/25/2013

PROJECT No.
40405

FIGURE
1



MAP SOURCE:
Based on Figure SP-2, *Existing Conditions*
Prepared by JMC, PC
120 Bedford Road Armonk, New York
August 2011

0' 20' 40' 80'
SCALE IN FEET

LEGEND:

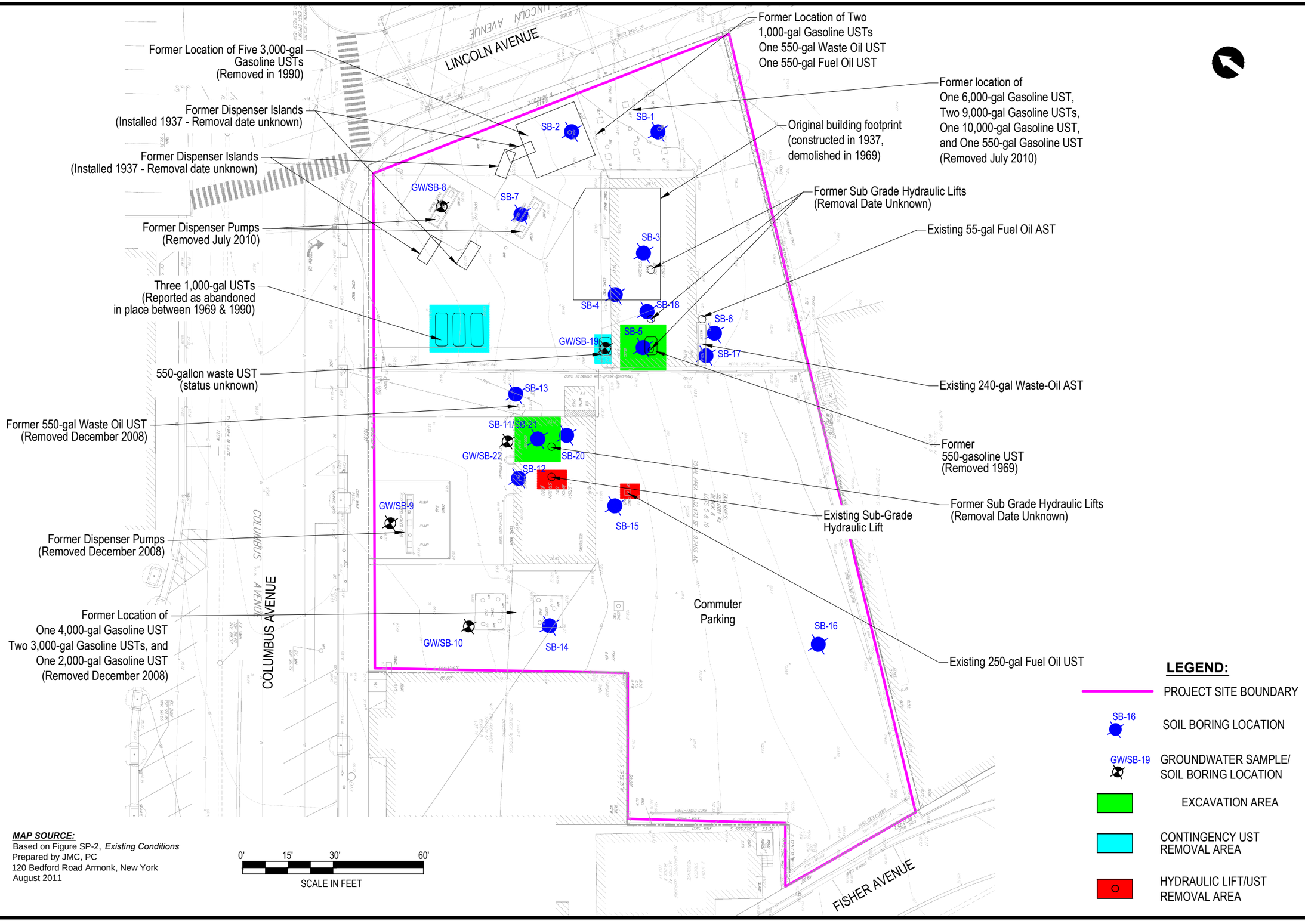
	PROJECT SITE BOUNDARY
UST	UNDERGROUND STORAGE TANK
AST	ABOVEGROUND STORAGE TANK

300 & 308 COLUMBUS AVE
TUCKAHOE, NEW YORK

SITE SURVEY

AKRF
Environmental Consultants
440 Park Avenue South, New York, N.Y. 10016

DATE **9.25.2013**
PROJECT No. **40405**
SCALE **as shown**
FIGURE **2**



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Prepared by JMC, PC
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August 2011

AKRF
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440 Park Avenue South, New York, NY 10016

300-308 COLUMBUS AVE
TUCKAHOE, NEW YORK

REMEDIAL ACTION TARGET AREAS

DATE
11.1.2013

PROJECT NO.
40405

SCALE
as shown

FIGURE
3