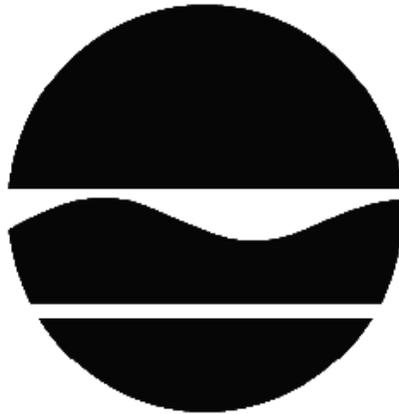


DECISION DOCUMENT

11-28 31st Drive
Brownfield Cleanup Program
Queens, Queens County
Site No. C241159
September 2016



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

DECLARATION STATEMENT - DECISION DOCUMENT

11-28 31st Drive
Brownfield Cleanup Program
Queens, Queens County
Site No. C241159
September 2016

Statement of Purpose and Basis

This document presents the remedy for the 11-28 31st Drive 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 11-28 31st Drive site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

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

2. Excavation

The remediation will include demolition of the existing building to accommodate excavation and off-site disposal of contaminant source areas, including but not limited to:

- removal of an underground storage tank (UST), underground piping or other structures associated with the UST, any associated contaminated soil, or other contaminated soil found during the excavation. Confirmation samples will be collected within the tank excavation. The tank excavation confirmation samples will achieve restricted residential soil cleanup objectives (RRSCOs) as well as protection of groundwater SCOs for tetrachloroethene (PCE) to meet the Track 2 objective.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted residential use may be brought in to fill in the tank excavation.

3. Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or a similar engineered system, to mitigate the migration of vapors into the building from groundwater.

4. In-Situ Chemical Oxidation or Reduction

In-situ chemical oxidation (ISCO) will be implemented to treat volatile organic compounds (VOCs) in groundwater. A chemical oxidant will be injected into the subsurface to destroy the contaminants in an approximately 625 square foot area located in the northeastern portion of the site where a UST is currently located. The method and depth of injection will be determined during the remedial design.

5. Institutional Controls

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

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

6. 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 remedy bullet #5.
 - Engineering Controls: The vapor mitigation system discussed in remedy bullet #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/or groundwater use restrictions;
 - 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 groundwater to assess the performance and effectiveness of the remedy; and
 - a schedule of monitoring and frequency of submittals to the Department.

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 12, 2016



Date

Robert Cozy, Director
Remedial Bureau B

DECISION DOCUMENT

11-28 31st Drive
Queens, Queens County
Site No. C241159
September 2016

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:

Queens Library -- Astoria Branch
Attn: Gus Tsekenis
14-01 Astoria Blvd.
Long Island City, NY 11102
Phone: 718-278-2220

Queens Community Board No. 1
4502 Ditmars Blvd LL Suite 125
Astoria, NY 11105
Phone: (718) 626-1021

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The site is located in an urban area at 11-28 31st Drive in Long Island City, Queens County and is described as tax block 502 lot 22. It is a rectangular lot covering 2375 square feet, or 0.0545 acres.

Site Features:

There is a one story commercial building on the site which is currently vacant.

Current Zoning and Land Use:

The site is currently zoned R7A (residential).

Past Use of the Site:

Until 2012, the site was occupied by a wood cabinet manufacturing facility. Previous uses include auto repair, a machine shop, and other commercial uses.

Site Geology and Hydrogeology:

The elevation of the site is approximately 11 feet above mean sea level. The geology beneath the site, from the surface down, consists of historic fill (sand with traces of pebbles, silt, and ash) at variable depths ranging in thickness from zero to 5 feet. The fill layer is underlain by silty sand to variable depths ranging from 2 to 10 feet. This layer is underlain by granular soils to 40 feet. The depth to groundwater in the vicinity of the site ranges from 8.5 to 10 feet. Wells were installed around the property on the sidewalks of the block to determine groundwater flow, but results were inconclusive due to very flat gradient. Generally groundwater is expected to flow towards the East River, which is located approximately 625 feet to the west 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 Applicants under the Brownfield Cleanup Agreement are Volunteers. The Volunteers do not have an obligation to address off-site contamination. The Department and the NYSDOH have determined that this site poses a significant threat to human health and the environment. The Department will seek to identify any parties (other than the Volunteer(s)) known or suspected to be responsible for contamination at or emanating from the site, referred to as Potentially Responsible Parties (PRPs). The Department will bring an enforcement action against the PRPs. If an enforcement action cannot be brought, or does not result in the initiation of a remedial program by any PRPs, the Department will evaluate the off-site contamination for action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State incurs or has incurred.

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

- sub-slab 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:

tetrachloroethene (PCE)

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

groundwater
soil vapor

6.2: Interim Remedial Measures

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

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

6.3: Summary of Environmental Assessment

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

Nature and Extent of Contamination:

Soil and groundwater on the site have been analyzed for volatile organic compounds, semi-volatile organic compounds, metals, pesticides/herbicides and PCBs.

Soil:

None of the soil samples collected on the site exceed the Restricted Residential soil cleanup objectives (SCOs), but there were exceedances of Unrestricted Use SCOs for metals. Soil samples were not collected at any off-site locations.

Groundwater:

At on-site well MW-3, the concentration of tetrachloroethylene (PCE) was 61 parts per billion (ppb), which exceeds the groundwater standard of 5 ppb. Data from off-site wells shows some local impacts and the highest concentration of PCE was on the sidewalk adjacent to the site with a concentration of 3800 ppb. This well is located next to the on-site underground storage tank (UST). The historic contents of the UST are unknown.

Soil Vapor:

PCE was detected at the site in sub-slab soil vapor at elevated concentrations, with a high of 1,600 micrograms per cubic meter (ug/m³). An off-site soil vapor sample was collected in the sidewalk opposite the site, and PCE was detected at 1,600 micrograms per cubic meter (ug/m³).

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*.

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this 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. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in the on-site building in the event that it is re-occupied. Additional investigation is needed to determine whether actions are needed to address soil vapor intrusion off-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

- 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.

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 source removal, groundwater treatment and soil vapor mitigation 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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- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

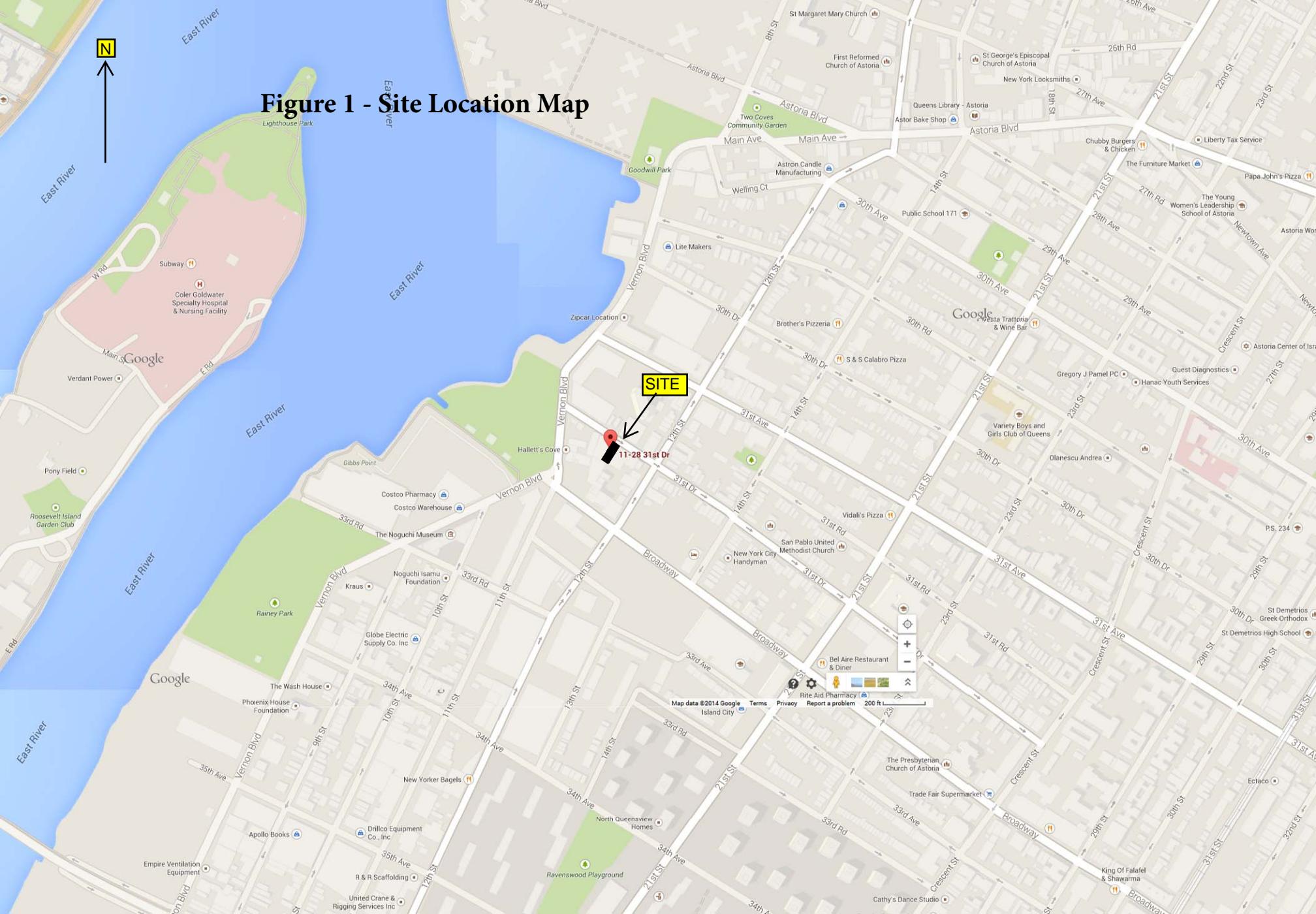
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This plan includes, but may not be limited to:

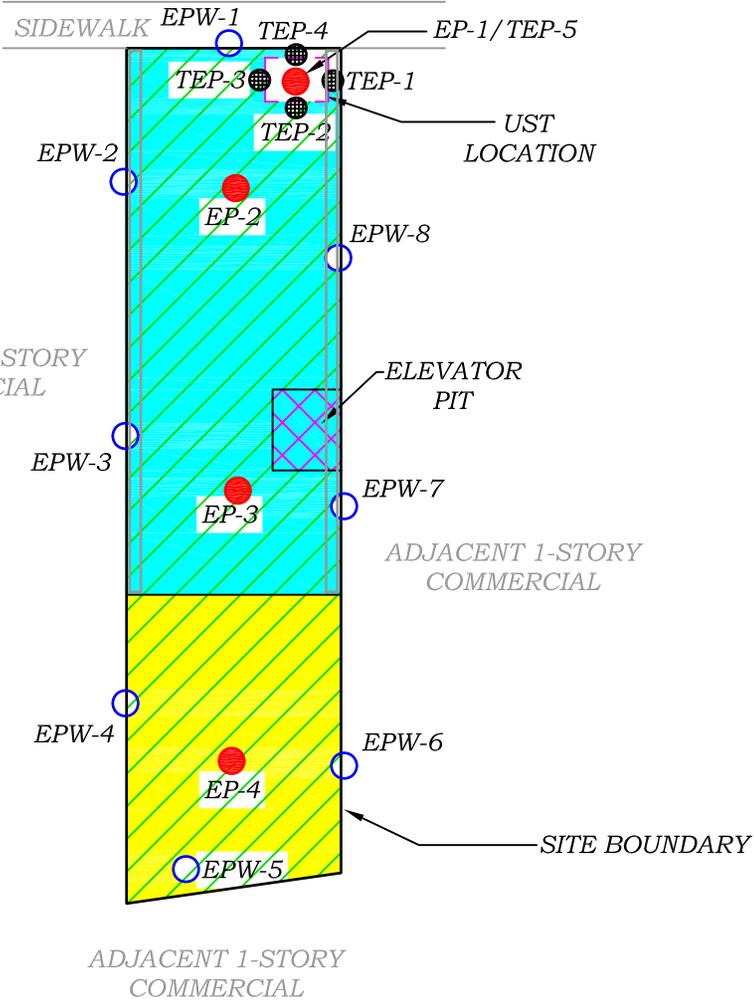
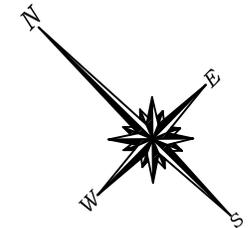
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - descriptions of the provisions of the environmental easement including any land use, and/or groundwater use restrictions;
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 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
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 - monitoring groundwater to assess the performance and effectiveness of the remedy; and
 - a schedule of monitoring and frequency of submittals to the Department.

Figure 1 - Site Location Map



ADJACENT 1-STORY
COMMERCIAL

31st DRIVE



LEGEND:

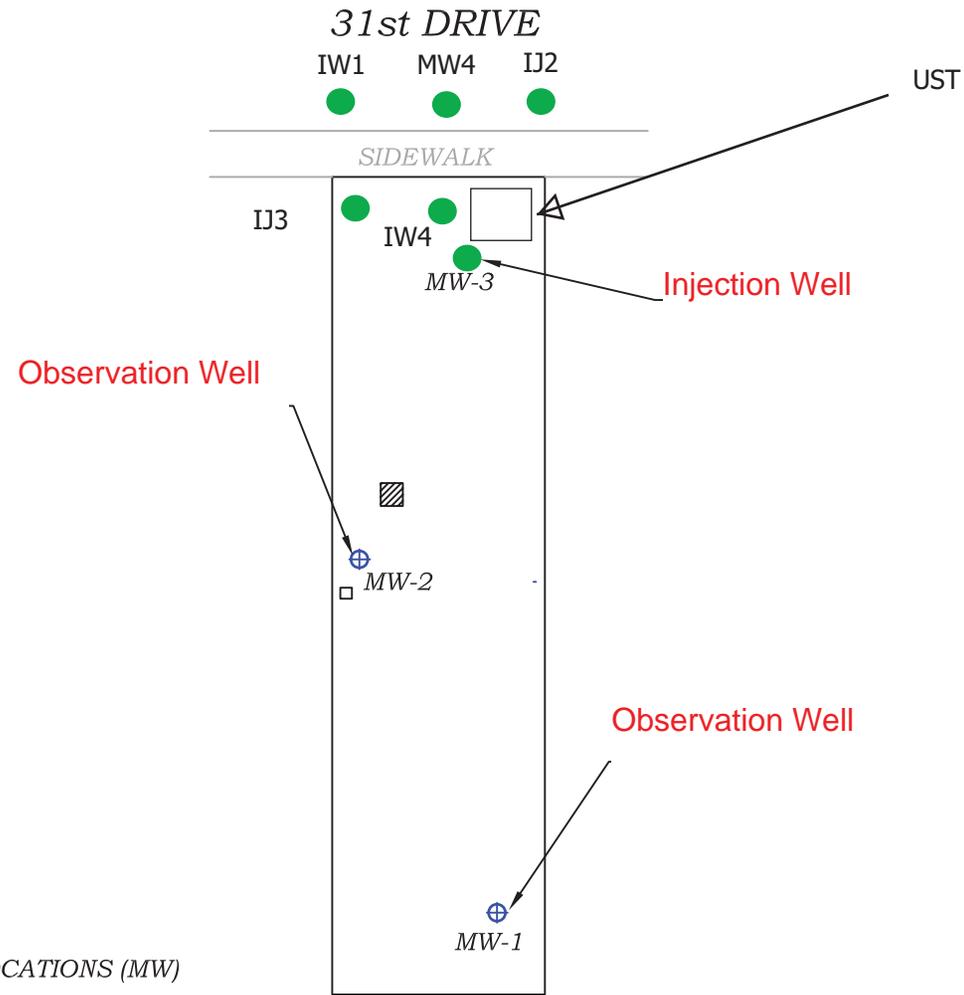
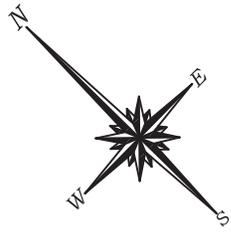
- LAYOUT OF NEW BUILDING
- AREA OF OPEN REAR YARD
- EXCAVATION
- EXCAVATION TO 5 FEET 8 INCHES
- BOTTOM END POINT SAMPLE LOCATION (EP)
- SIDEWALL ENDPOINT SAMPLE LOCATION (EPW)
- TANK END POINT SAMPLE (TEP)
- UST UNDERGROUND STORAGE TANK
- UST EXCAVATION TO APPRX. 5 FEET
- EXISTING WALL FOOTING TO BE UNDERPINNED



ADJACENT 1-STORY
COMMERCIAL

11-28 31st Drive
Long Island City, NY

TITLE:
Figure 2a - Excavation Plan



LEGEND:

-  MONITORING WELL LOCATIONS (MW)
- $\mu\text{g/L}$ MICROGRAMS PER LITER
- GQS GROUNDWATER QUALITY STANDARDS
-  SHADED VALUES EXCEED GQS
-  INJECTION WELL



11-28 31st Drive
Long Island City, NY

TITLE:

Figure 2b - Groundwater Treatment Plan