DECISION DOCUMENT

CE - Hester St. Gas Works State Superfund Project New York, New York County Site No. 231120 January 2019



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

DECLARATION STATEMENT - DECISION DOCUMENT

CE - Hester St. Gas Works State Superfund Project New York, New York County Site No. 231120 January 2019

Statement of Purpose and Basis

This document presents the remedy for the CE - Hester St. Gas Works site, a Class 2 inactive hazardous waste disposal 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, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the CE - Hester St. Gas Works site and the public's input on the proposed remedy presented by the Department.

The CE - Hester St. Gas Works site was formerly addressed under the Department-administered Voluntary Cleanup Program (VCP). Upon the termination of the VCP, the site transitioned into the State Superfund Program.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1) Cover System

A site cover currently exists (asphalt paving) over the entire site, and will be maintained to allow for current use as a parking lot. Any future site redevelopment will maintain a site cover to allow for restricted residential use of the site, in accordance with applicable zoning. The site cover may include paved surface parking areas, sidewalks, or soil where the upper two feet of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for restricted residential use. 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).

- 2) Imposition of an institutional control in the form of a deed restriction for the controlled property that:
- -requires the remedial party or site owner to complete and submit to the Department an annual 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 use as defined by Part 375-1.8(g), although land use is subject to local

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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 the NYC Department of Health; and, -requires compliance with the Department-approved Site Management Plan.
- 3) A Site Management Plan (SMP) is required, which includes the following:
- a. An Institutional and Engineering Control Plan that identifies all use restrictions an 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 2 above.

Engineering Controls: The site cover described in Paragraph 1 above.

The SMP will include, but may not be limited to:

- -an Excavation Plan which details the provisions for management of limited excavations in areas of remaining contamination:
- -a provision for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. The nature and extent of contamination in areas where access was previously limited or unavailable, as well as off-site contamination, will be immediately and thoroughly investigated pursuant to a plan approved by the Department. Based on the investigation results and the Department's determination of the need for a remedy, a remedial work plan will be developed for MGP contamination at the site and off-site areas, including removal and/or treatment of any source areas to the extent feasible. This removal or treatment will be sufficient in scope to address the site as a source of both on-site and potential off-site groundwater contamination, if any. The presumptive remedy for MGP contamination will be excavation of both former MGP structures, if present, and MGP-related source material, unless an alternative, equivalent remedy is developed based on new information. If a remedy is determined to be necessary to address sources of non-MGP contamination present at the site, this will be evaluated separately for further action. Citizen Participation Plan (CPP) implementation will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment;
- -a provision for evaluation of the potential for soil vapor intrusion for any buildings developed, or change in use of existing buildings, on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- -provisions for the management and inspection of the identified engineering controls; and,
- -a provision for Department notifications under applicable circumstances;
- -descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions; and
- -the steps necessary for the annual 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:

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- -a schedule of monitoring and frequency of submittals to the Department; and,
- -monitoring for vapor intrusion for any buildings developed, or change in use of existing buildings, on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- 4) Green remediation principles and techniques will be implemented to the extent feasible in the 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 gas and other emissions;
- -increasing energy efficiency and minimizing use of non-renewable energy;
- -conserving and efficiently managing resources and materials; and,
- -reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

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.

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Date	Janet Brown, Director
	Remedial Bureau C

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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 substances and/or petroleum.

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:

Manhattan Community Board #2 3 Washington Square Village, #1A New York, NY 10012 Robert Gormley, District Manager

Phone: (212) 979-2272

Email: bgormley@cb.nyc.gov

New York Public Library Mulberry Street Branch 10 Jersey Street New York, NY 10012 Phone: (212) 966-3424

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 and Resource Conservation and Recovery Act Program. We

DECISION DOCUMENT CE - Hester St. Gas Works, Site No. 231120 encourage the public sign for county listservs up one more at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The former Con Edison Hester Street Gas Works site is located on Hester Street between the west side of Baxter Street and the east side of Centre Street in Manhattan. The site is comprised of four parcels identified as Block 207, Lots 6-8, and 10.

Site Features: The main site feature is an above-ground parking lift structure, and a small structure (shed) that is used by the parking attendant and a large monopole sign. The remainder of the site covered with asphalt. The site is approximately 0.226 acres in size.

Current Zoning and Land Use: The site is currently zoned for M1-5B, which allows commercial and light industrial uses. However, existing residences remain above commercial uses adjacent to the site as non-conforming uses because of historic land use patterns. The site contains an active commercial parking lot along Hester street. Surrounding parcels consist of a mix of industrial, commercial and residential applications.

Past Use of the Site: The former Manufactured Gas Plant (MGP) was constructed in 1824 and operated until 1848, when it was destroyed by a fire. At first, gas was produced by the destructive distillation of whale oil. In 1829, the fuel feedstock for the manufacturing of gas was changed from whale oil to rosin, which was produced from the distillation of crude resin from pine trees. During the next several years, coal was used as the primary feedstock for the gas manufacturing process. The site was sold in 1849 and had been vacant until the parking lot and parking structures were constructed in 1998.

Site Geology and Hydrogeology: The site is underlain by 9 to 20 feet of fill material. Below the fill material was a unit consisting of fine to coarse sands, which ranged between 8 and 14 feet in thickness. A sand and gravel layer was found below the sand unit and was approximately 30 feet thick. This layer was underlain by a silty sand unit approximately 25 feet thick. Bedrock (Gneiss) was encountered at approximately 90 feet below ground surface. The depth to groundwater was approximately 20 feet below ground surface across the site, and generally flows to the southwest.

This site was previously tracked as #V00528 in the VCP, until July 13, 2018.

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.

DECISION DOCUMENT January 2019 Page 5 A comparison of the results of the Site Characterization (SC) 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 SC Report.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The only PRP for the MGP-related contamination at the site documented to date is Consolidated Edison Company of New York, Inc.

The Department and Consolidated Edison Company of New York, Inc., entered into an Order on Consent (Index No. CO-20180516-519) on July 13, 2018. The Order obligates Con Edison to investigate and remediate, as necessary, MGP-related contamination associated with this site and 23 other former MGP and holder station sites.

SECTION 6: SITE CONTAMINATION

6.1: **Summary of the Site Characterization**

A site characterization (SC) serves as the mechanism for collecting data to:

- characterize site conditions; and
- determine the nature of the contamination.

The SC 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 SC reports on data gathered to determine if the soil, groundwater, or soil vapor 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. 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 SC influence the development of remedial alternatives. The SC 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 SC 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: SC Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste 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:

indeno(1,2,3-CD)pyrene benzene

ethylbenzene benzo(a)anthracene

toluene lead xylene (mixed) mercury

benzo(a)pyrene tetrachloroethene (PCE)

benzo(b)fluoranthene phenol chrysene arsenic dibenz[a,h]anthracene chromium

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 SC.

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.

Based upon investigations conducted to date, which included sampling for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOC), and metals, the primary contaminants of concern are benzene, toluene, ethylbenzene and xylene (together known as BTEX); naphthalene, polycyclic aromatic hydrocarbons (PAHs); and inorganics (metals).

Soil: The subsurface soil on-site exceeded both the unrestricted and restricted-residential soil cleanup objectives (USCOs and RRSCOs) for VOCs, SVOCs, and metals. The soil had concentrations of benzene with a maximum concentration of 5.9 parts per million (ppm) (SCO of 0.06 ppm), ethylbenzene with a maximum 33 ppm (SCO of 1 ppm), toluene with a maximum of 79 ppm (SCO of 0.7 ppm), and xylene with a maximum of 135 ppm (SCO of 0.26 ppm). Only benzene and xylene exceeded their respective RRSCOs.

In off-site (sidewalk) subsurface soils the following VOCs exceeded the USCOs: benzene at a maximum concentration of 0.22 ppm, ethylbenzene with a maximum of 24 ppm, toluene with a maximum of 3.9 ppm, and xylene with a maximum of 55 ppm.

There were no detections of chlorinated solvents or total cyanide above unrestricted SCOs in soils.

The PAHs which exceeded both unrestricted and restricted-residential SCOs in on-site soils were benzo(a)anthracene (maximum concentration of 6.2 ppm), benzo(a)pyrene (maximum of 2.6 ppm), benzo(b)fluoranthene (maximum of 2.2 ppm), and chrysene (maximum of 8.9 ppm), all have an SCO of 1 ppm; dibenz(a,h)anthracene (SCO of 0.33 ppm) with a maximum of 0.59; indeno(1,2,3-cd)pyrene (SCO of 0.5 ppm) with a maximum of 1.6 ppm; and phenanthrene (SCO of 100 ppm) with a maximum of 140 ppm.

In off-site (sidewalk) samples the following SVOCs exceeded the USCOs: benzo(a)anthracene with a maximum concentration of 5.3 ppm, benzo(a)pyrene with a maximum of 2.6 ppm, benzo(b)fluoranthene with a maximum of 1.4 ppm, benzo(k)fluoranthene with a maximum of 1.8 ppm, chrysene with a maximum of 7.8 ppm, dibenz(a,h)anthracene with a maximum of 0.59 ppm, indeno(1,2,3-cd)pyrene with a maximum of 0.9 ppm, naphthalene with a maximum of 77 ppm, and phenanthrene with a maximum of 150 ppm.

The only inorganics to exceed unrestricted and restricted-residential SCOs in on-site soil were lead (SCO of 63 ppm) with a maximum of 1,080 ppm, and mercury (SCO of 0.18 ppm) with a maximum of 2.4 ppm.

There were no inorganic USCO exceedances in off-site soils.

There were no surface soils collected due to the lack of exposed soil.

Groundwater: Samples collected from monitoring wells on-site exceeded groundwater quality standards (GWQS) for toluene at 61 parts per billion (ppb) (standard of 5 ppb), five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and indeno(1,2,3cd)pyrene; all with a standard of 0.002ppb) with a maximum concentration of 4.4 ppb, and four metals consisting of arsenic ranging from 33.4 to 55.2 ppb (standard of 25 ppb), chromium

ranging from 78.5 to 854 ppb (standard of 50 ppb), lead ranging from 43.7 to 3,760 ppb (standard of 25 ppb), and mercury ranging from 0.83 to 21.4 ppb (standard of 0.7 ppb).

The groundwater sampled from off-site monitoring wells (two locations) contained only tetrachloroethene (PCE) at a maximum concentration of 5.8 ppb, with a standard of 5 ppb. Chlorinated solvents were not used during the MGP operations, and are not attributable to the site. The groundwater is not used as a source of potable water.

Soil Vapor: Two sub-slab soil, soil vapor samples were collected from beneath the adjacent commercial/residential structures, and one had a detection of tetrachloroethene (PCE) at 115.3 ug/m3. No actions were needed to address exposures associated with the soil vapor intrusion onsite. Two off-site soil vapor samples were also collected and PCE was detected with a concentration of 750 ug/m3, and trichloroethene (TCE) at 7 ug/m3, in one of the samples. These are both chlorinated solvents, which are not attributable to the former MGP operations at the site.

6.4: **Summary of Human Exposure Pathways**

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Direct contact with contaminants in the soil is unlikely because the site is covered with pavement. Persons who dig below the ground surface may come into contact with contaminants in the subsurface soil. 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 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 the inhalation of site contaminants due to soil vapor intrusion for any future on-site redevelopment and occupancy. 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

Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.

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 remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation.

The selected remedy is referred to as the Site Management Plan (SMP) with Institutional Controls remedy.

The elements of the selected remedy, as shown in Figure 5, are as follows:

1) Cover System

A site cover currently exists (asphalt paving) over the entire site, and will be maintained to allow for current use as a parking lot. Any future site redevelopment will maintain a site cover to allow for restricted residential use of the site, in accordance with applicable zoning. The site cover may include paved surface parking areas, sidewalks, or soil where the upper two feet of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for restricted residential use. 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).

2) Imposition of an institutional control in the form of a deed restriction for the controlled property that:

-requires the remedial party or site owner to complete and submit to the Department an annual certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);

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- -allows the use and development of the controlled property for 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 the NYC Department of Health; and, -requires compliance with the Department-approved Site Management Plan.
- 3) A Site Management Plan (SMP) is required, which includes the following:
- a. An Institutional and Engineering Control Plan that identifies all use restrictions an 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 2 above.

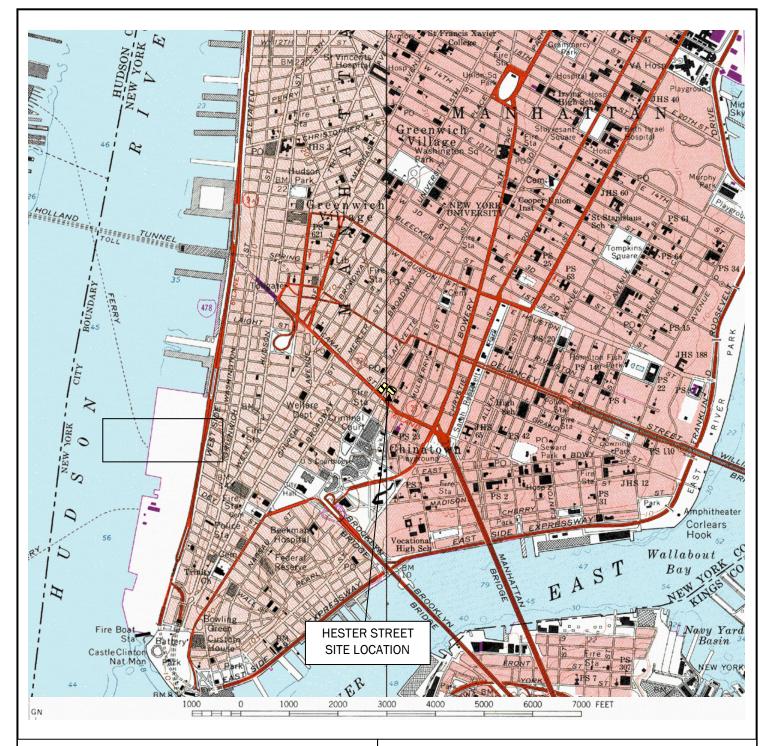
Engineering Controls: The site cover described in Paragraph 1 above.

The SMP will include, but may not be limited to:

- -an Excavation Plan which details the provisions for management of limited excavations in areas of remaining contamination;
- -a provision for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. The nature and extent of contamination in areas where access was previously limited or unavailable, as well as off-site contamination, will be immediately and thoroughly investigated pursuant to a plan approved by the Department. Based on the investigation results and the Department's determination of the need for a remedy, a remedial work plan will be developed for MGP contamination at the site and off-site areas, including removal and/or treatment of any source areas to the extent feasible. This removal or treatment will be sufficient in scope to address the site as a source of both on-site and potential off-site groundwater contamination, if any. The presumptive remedy for MGP contamination will be excavation of both former MGP structures, if present, and MGP-related source material, unless an alternative, equivalent remedy is developed based on new information. If a remedy is determined to be necessary to address sources of non-MGP contamination present at the site, this will be evaluated separately for further action. Citizen Participation Plan (CPP) implementation will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment;
- -a provision for evaluation of the potential for soil vapor intrusion for any buildings developed, or change in use of existing buildings, on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- -provisions for the management and inspection of the identified engineering controls; and,
- -a provision for Department notifications under applicable circumstances;
- -descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions; and
- -the steps necessary for the annual reviews and certification of the institutional and/or engineering controls.

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- b. A monitoring plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- -a schedule of monitoring and frequency of submittals to the Department; and,
- -monitoring for vapor intrusion for any buildings developed, or change in use of existing buildings, on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- 4) Green remediation principles and techniques will be implemented to the extent feasible in the 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 gas and other emissions;
- -increasing energy efficiency and minimizing use of non-renewable energy;
- -conserving and efficiently managing resources and materials; and,
- -reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.



APPROXIMATE SITE LOCATION OUTLINED ON THE USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES: JERSEY CITY, N.J.-N.Y (photorevised 1981) AND BROOKLYN, N.Y. (photorevised 1979).

HESTER STREET FORMER MANUFACTURED GAS PLANT SITE



MANHATTAN, NY

SCALE 1" ~2000'

Figure 1

SITE LOCATION MAP

