PROPOSED DECISION DOCUMENT

CE - E. 17th St. Station
Voluntary Cleanup Program
New York, New York County
Site No. V00541
October 2017

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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing 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 proposed by this Proposed Decision Document (PDD). The disposal or release of contaminants at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." This document is a summary of the information that can be found in the site-related reports and documents in the document repositories identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all Proposed Decision Documents. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repositories:

Manhattan Borough President Gale A. Brewer's Office
19th Floor
1 Centre Street
New York, NY 10007
Phone: 212-669-8300

Epiphany Branch, New York Public Library
228 E. 23 St.
New York, NY 10010
Phone: 212-679-2645

A public comment period has been set from:

10/11/2017 to 11/10/2017

A public meeting is scheduled for the following date:

10/24/2017 at 7:00 PM

Public meeting location:

JHS 104, 330 E. 21st Street

At the meeting, the findings of the remedial investigation (RI) and the alternatives analysis (AA) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the Proposed Decision Document.

Written comments may also be sent through 11/10/2017 to:

Douglas MacNeal
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
douglas.macneal@dec.ny.gov

The proposed remedy may be modified based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein.

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 1.5-acre East 17th Street Station former MGP site is located between East 17th/East 18th Streets on the Western side of Avenue C in the borough of Manhattan in New York City, New York. This site is located adjacent to the Avenue C Loop Road within the present-day residential campus of Stuyvesant Town, which comprises 61-acres from First Avenue to Avenue C and from East 14th Street to East 20th Street.

Site Features: The general topography of the site is flat. The portion of the Stuyvesant Town campus associated with the East 17th Station site contains portions of three residential high-rise apartment buildings, playgrounds and courts, and a private underground parking garage.

The remainder of the Stuyvesant Town apartment complex surrounds the East 17th Street Station Site. Con Edison facilities are located east of Stuyvesant Town between East 18th /East 14th Streets and Avenue C/FDR Drive. These facilities include the East River Generating Station, various substations, an administration building, ball fields, and parking areas.

Current Zoning: The New York City Planning Commission designates the property as R7-2: Moderate to High-Density Residential District.

Past Use of the Site: The 18-block area developed at Stuyvesant Town was formerly part of the East River and associated marshland well into the 1800s. The area has undergone extensive filling activities. Historic filling along waterfront areas was generally carried out unregulated, using a wide variety of materials including construction debris, organic soil matter, excavated material from adjacent construction sites, and miscellaneous debris. Therefore, the composition and condition of these materials are highly variable. This mix of material is still present in the subsurface today.

Tenements were constructed on the property subsequent to the filling and prior to the development of the former MGP station sites as gas storage and/or gas plant facilities. The majority of the larger facility was located on the eastern side of Avenue C between East 14th and East 16th Streets. The East 17th Street Station site operated as a gas storage facility from the 1860s to sometime between 1921 and 1924, when the station was decommissioned. Stuyvesant Town Corporation acquired the land in 1944 for the development of the Stuyvesant Town apartment complex. The current residential complex was built shortly thereafter.

Site Geology and Hydrogeology: The surface topography of Stuyvesant Town is made-land and ranges from approximately 4 to 22 feet (ft) above mean sea level. A dense network of private and public utilities (both active and inactive) are present beneath the site. These utilities are complex and not completely documented.

The site geology consists of four units of varying thickness and distribution across the site. Starting at the ground surface these units consist of fill, organic deposits, glacial deposits and bedrock. In general, the fill thickness varies between 20 and 25 ft across the site. The fill most likely reflects man-made disturbances to pre-existing natural soils from historic building construction and eastern expansion of the shoreline. The fill consists of sand, silt, and gravel intermixed with varying amounts of brick, concrete, cinders, and other debris. Beneath the fill layer are organic deposits and then glacial deposits. Bedrock occurs at depths below 80 ft below ground surface (bgs).

Taken together, the soils and fill materials beneath the site constitute a single, unconfined aquifer. Groundwater is found at approximately 8 ft bgs and the overall flow direction is east-southeast toward the East River. The groundwater is not used as a source of potable water.

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, at a minimum, an alternative that restricts the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in DER-10, Technical Guidance for Site Investigation and Remediation is being evaluated.

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

SECTION 5: ENFORCEMENT STATUS

The Department and Consolidated Edison Company of New York, Inc. (Con Edison) entered into a Voluntary Cleanup Agreement (VCA) Index D2-0003-02-08 on August 15, 2002. The Agreement requires Con Edison to implement a full remedial program for this site.

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

- indoor air

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:

- Coal Tar
- Total Polycyclic Aromatic Hydrocarbons (PAHS)
- Benzene, Toluene, Ethylbenzene and Xylenes (BTEX)

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: Based upon investigations conducted to date, the primary contaminant of concern for the site is coal tar. Coal tar contains both volatile and semi-volatile organic compounds. Specific volatile organic compounds (VOCs) of concern are benzene, toluene, ethylbenzene and xylenes (BTEX). Specific semi-volatile organic compounds (SVOCs) of concern are Polycyclic Aromatic Hydrocarbons (PAHs).

Concentrations of PAHs and BTEX found in surface soils slightly exceed the soil cleanup objectives (SCOs) for restricted-residential use, but are generally consistent with background levels for Manhattan soils.

Physical evidence of MGP-related impacts in the subsurface on-site is generally limited to locations within, and in the vicinity of the former gasholders. Off-site impacts are primarily limited beneath the water table, at depths below 8 ft below ground surface (bgs). In general, the highest concentrations of MGP constituents (BTEX and PAHs) were associated with soils exhibiting observable impacts (e.g., sheen, staining or odor).

Exceedances of the restricted residential soil cleanup objectives (SCOs) for PAHs and BTEX in the shallow subsurface soils and fill materials are found to depths of 0.1-17 ft bgs adjacent to the holders and in a location to the east of the holders (offsite, across the Avenue C Loop Road). Exceedances in the intermediate/deep soil interval (fill and native soil below 17 ft bgs) are limited to areas beneath the holders and the location to the east of the holders (offsite, across the Avenue C Loop Road.) The large majority of impacted soil is found beneath buildings or paved/covered surfaces.

Groundwater containing at least one MGP-related compound at a concentration exceeding its respective NYSDEC Ambient Water Quality Standard or Guidance Value is present at on-site locations in the shallow (5-15 ft bgs) and intermediate (25-35 ft bgs) zones. Off-site exceedences appear to be limited to the intermediate zone, and no impacts above criteria have been observed in the deep zone (40-70 ft bgs). The groundwater is not used as a source of potable water.

Concentrations of benzene within soil gas samples ranged from 5.4 to 191.4 ug/m3. Indoor air concentrations of VOCs (including BTEX) potentially associated with MGP residuals are consistent with background levels typically found in residential indoor air. When comparing soil gas and indoor air samples, it appears that the indoor air more closely resembles the ambient air in chemical constituents and concentrations than it does the subsurface soil gas.

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 contaminated by the site. Direct contact with contaminants from manufactured gas plant activities is unlikely since they are located under pavement and the on-

site buildings or soil brought in for cover from an unknown off-site location. Volatile organic compounds in the groundwater and/or 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. Although there are elevated concentrations of potentially site related contaminants in soil vapor, indoor air samples from the on-site buildings indicate that soil vapor intrusion is not occurring.

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.

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 PROPOSED REMEDY

The alternatives developed for the site and 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.

The proposed remedy is referred to as the Institutional Controls remedy.

The elements of the proposed remedy, as shown in Figure 2, are as follows:

1. 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;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

2. A site cover currently exists and will be maintained to allow for restricted residential use of the site. The current site cover has areas which slightly exceed the SCOs for restricted-residential use, but are generally consistent with background levels for Manhattan soils. Any site redevelopment will maintain the site cover, which may 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 SCOs or background levels. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, cement, paved surface parking areas, sidewalks, building foundations and building slabs. In areas that may be proposed for community vegetable gardening in the future, an additional thickness of cover soil may be required, subject to Department approval in accordance with 6NYCRR 375-1.8(g)(2)(ii)(a).

3. Imposition of an institutional control in a form of a Deed Restriction for the controlled property (the site) 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 Department, NYSDOH or NYCDOH, and
- requires compliance with the Department approved Site Management Plan.

4. A Site Management Plan is required for the site and the surrounding parcel. This Site Management Plan will replace the Interim Site Management Plan and will include the following:

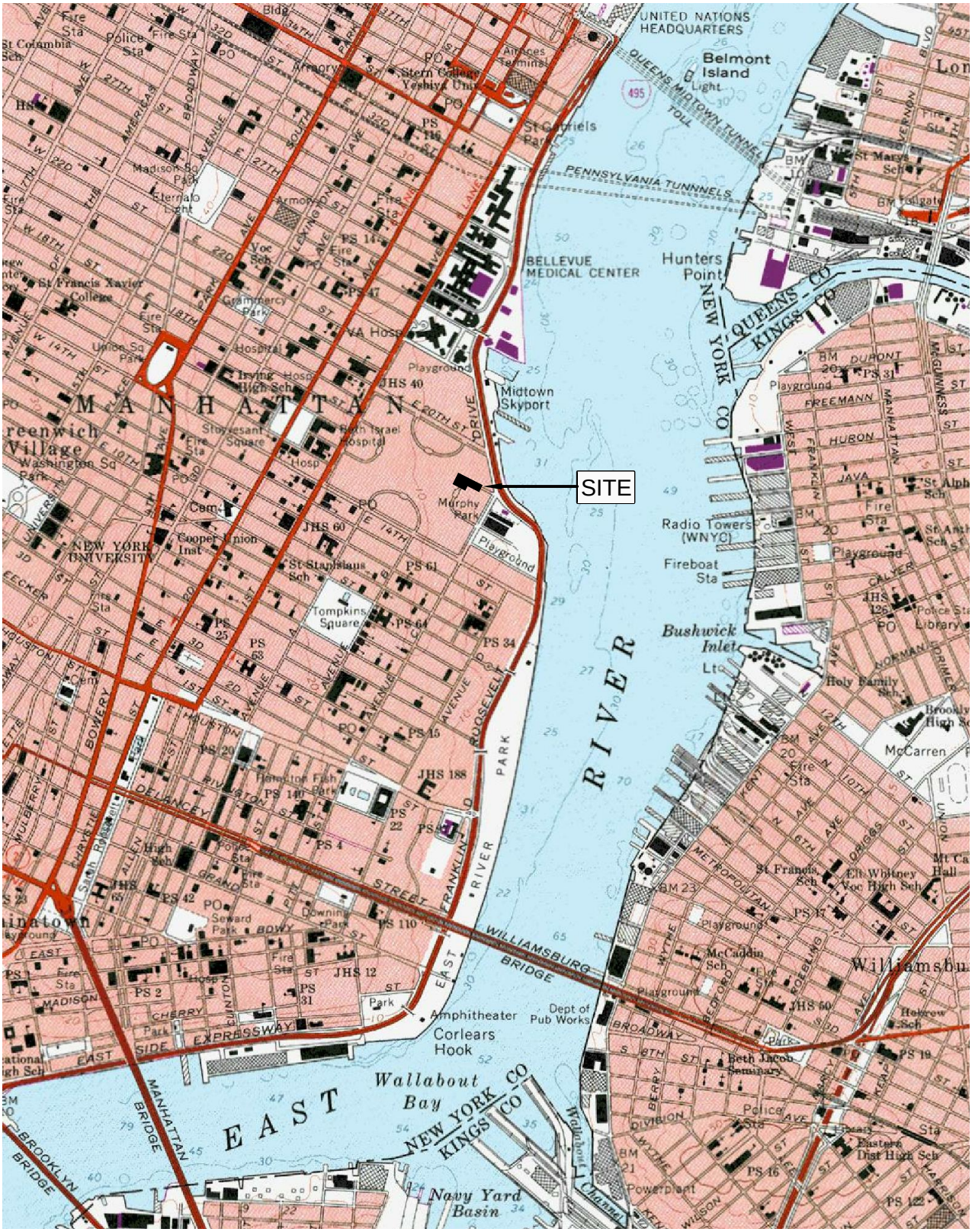
a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Deed Restriction discussed in Paragraph 3 above.

Engineering Controls: The soil cover discussed in Paragraph 2 above.

This plan includes, 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 will be immediately and thoroughly investigated pursuant a plan approved by the Department. Based on the investigation results and the determination by the Department of the need for a remedy, a Remedial Action Work Plan (RAWP) will be developed for the final remedy for the site, including removal and/or treatment of any source areas to the extent feasible. The Citizen Participation Plan (CPP) will continue to be in effect 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 existing buildings which are significantly modified or for buildings which may be constructed on the site in the future, 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;
- descriptions of the provisions of the deed restriction including any land use and groundwater use restrictions;
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.



SOURCE:
BROOKLYN QUADRANGLE, NEW YORK – NEW JERSEY, USGS 7.5 MINUTE (TOPOGRAPHIC), DATED 1967, PHOTOREVISED 1981.

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SCALE IN FEET

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. EAST 17th SREET STATION SITE 60136641.312			SITE LOCATION MAP
DATE: 02/2010	DRWN: RCW/WFD		FIGURE 1

File: F:\PROJECTS\Consolidated Edison NY\StyTown\60136641-312\CADD\RASR-17thST\60136641_312-SL-02.dwg Layout: ANSI_AVI-CP User: vershonb Plotted: Feb 07, 2010 - 5:09pm Xref's:

E. 19th St Site

E. 17th St Site

E. 14th St Site

LEGEND

EXISTING STRUCTURES

HISTORICAL STRUCTURES

SMP and Deed Restriction Area

FIRST AVENUE

AVENUE C

14 STREET

STUYVESANT TOWN

100 0 200

1"=200'

ENSR | AECOM

Merged with ENSR in 2007

RETEC

01869-154-320				STUYVESANT TOWN SITE MAP
DATE: 10/30/07	DRWN: MAW/BIL			FIGURE 2

File: J:\01869154\ST\ST_BASE.dwg Layout: ANSL_BI-LJ User: mwilliamson Plotted: Oct 30, 2007 - 8:22am Xref's: