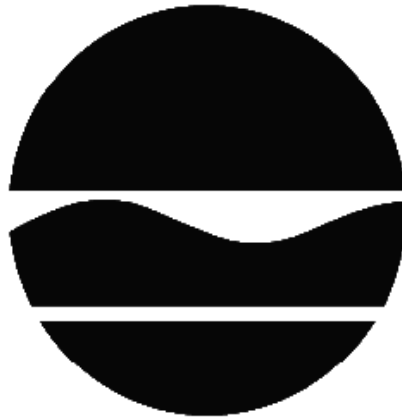


DECISION DOCUMENT

Cedar Manor (LIRR)
Voluntary Cleanup Program
Queens, Queens County
Site No. V00388
August 2011



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

DECLARATION STATEMENT - DECISION DOCUMENT

Cedar Manor (LIRR)
Voluntary Cleanup Program
Queens, Queens County
Site No. V00388
August 2011

Statement of Purpose and Basis

This document presents the remedy for the Cedar Manor (LIRR) site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

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

Description of Selected Remedy

The elements of the remedy are as follows:

1) All exposed on-site soils which exceed industrial SCGs in fenced areas and residential SCGs in unfenced areas will be excavated and transported off-site for disposal. It is estimated that approximately 200 cubic yards of soil will require removal to a depths of 1 to 10 feet, depending on location. An additional estimated 20 cubic yards of soil will be removed during the planned removal of two dry wells and a water meter pit. Back fill which meets the requirements of Part 375-6.7(d) will then be brought in to replace the excavated soil and establish the designed grades at the site.

2) A site cover currently exists and will be maintained to allow for industrial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, and/or sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). The upper six inches of the soil cover will be 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).

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

a. 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).

b. allows the use and development of the controlled property for industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. prohibits agriculture or vegetable gardens on the controlled property; and

d. requires compliance with the Department approved Site Management Plan;

4) A Site Management Plan is required, which 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:

i. the Institutional Controls described above.

ii. the existing site cover of ballast stone, buildings and pavement will provide engineering controls to limit access to contaminated soils.

This plan includes, but may not be limited to:

i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

ii. a description of the provisions of the deed restriction including any land use and groundwater use restrictions;

iii. a provision for the management and inspection of the identified engineering controls;

iv. maintaining site access controls and Department notification; and

v. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

5) Green remediation principals 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;

a. Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

b. Reducing direct and indirect greenhouse gas and other emissions;

c. Increasing energy efficiency and minimizing use of non-renewable energy;

- d. Conserving and efficiently managing resources and materials; and
- e. 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.

August 15, 2011



FOR

Date

Robert Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Cedar Manor (LIRR)
Queens, Queens County
Site No. V00388
August 2011

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 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.

SECTION 2: SITE DESCRIPTION AND HISTORY

Location: The LIRR Cedar Manor site is an electrical substation for the Long Island Railroad. The site is located at the northern dead end of 158th St., immediately south of 110th Ave. in Cedar Manor, Queens. It's located in an urban residential area bordered by LIRR tracks to the east and by single family residences to the south and west.

Site Features: The site is an approximately 0.25 acre area and includes an 1800 square foot, one story brick building and a 1600 square foot transformer yard. The site is covered with several inches of crushed stone railroad ballast.

Current Use: The site is railroad property operated by LIRR as an electrical substation to convert alternating current to direct current for the LIRR.

Historic Use: The historic use is the same as current use. From the early 1930s until 1951, the LIRR constructed electric substations that utilized mercury rectifiers. These mercury rectifiers were removed and replaced with non-mercury solid state components in the early 1980s. Mercury contamination was found in and around this substation during a 2000 site investigation.

Site Geology and Hydrology: The depth to groundwater is approximately 16 feet in the vicinity of the site. Assumed groundwater flow direction is to the south. Soils at the site are sand and

gravel from unconsolidated glacial outwash.

A site location map is attached as Figure 1.

SECTION 3: 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, alternatives (or an alternative) that restrict(s) the use of the site to industrial use as described in DER-10, Technical Guidance for Site Investigation and Remediation were/was evaluated.

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 4: ENFORCEMENT STATUS

The voluntary cleanup agreement is with a responsible party. The agreement requires the party to address on-site and off-site contamination. Accordingly, no enforcement actions are necessary.

The Department and Metropolitan Transportation Authority/Long Island Railroad, entered into a multi-site Voluntary Cleanup Agreement on November 1, 2004. The Agreement allows the volunteer to implement a full remedial program with NYSDEC oversight.

SECTION 5: SITE CONTAMINATION

5.1: 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 5.4.

5.1.1: 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>

5.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- indoor air

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:

mercury

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

- soil

5.2: 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.

5.3: Summary of Human Exposure Pathways

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

The site is completely fenced, which restricts public access.

5.4: 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 samples were analyzed for the presence of volatiles, semi-volatiles, metals, and PCBs. Investigations have indicated that mercury is the only contaminant of concern at this site. Mercury is found in soil primarily in the vicinity of the southern entrance to the building.

12 surface soil samples and 32 subsurface soil samples exceeded the industrial soil cleanup objective (SCO) for mercury of 5.7 ppm for the fenced portion of the site. No samples exceeded 100 ppm of mercury. In the LIRR-owned but unfenced portion of the site off the southwest corner of the building 5 surface soils and 10 subsurface soils exceeded the residential SCO for mercury of 0.81 ppm with a maximum concentration of 10 ppm in surface and 969 ppm in subsurface soils. The unfenced portion of the site is covered with approximately two inches of crushed stone.

A 62 point mercury vapor study was conducted in and around the substation building. No mercury vapor was detected.

Three temporary direct push groundwater sampling points were installed at the site and filtered and unfiltered groundwater samples were taken from each. One unfiltered groundwater sample slightly exceeded the groundwater standard for mercury of 0.7 parts per billion (ppb) with a concentration of 0.77 ppb. The exceedance is attributed to high turbidity in the sample.

SECTION 6: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and evaluation of the remedial criteria are present 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 elements of the selected remedy, as shown in Figure 2, are as follows:

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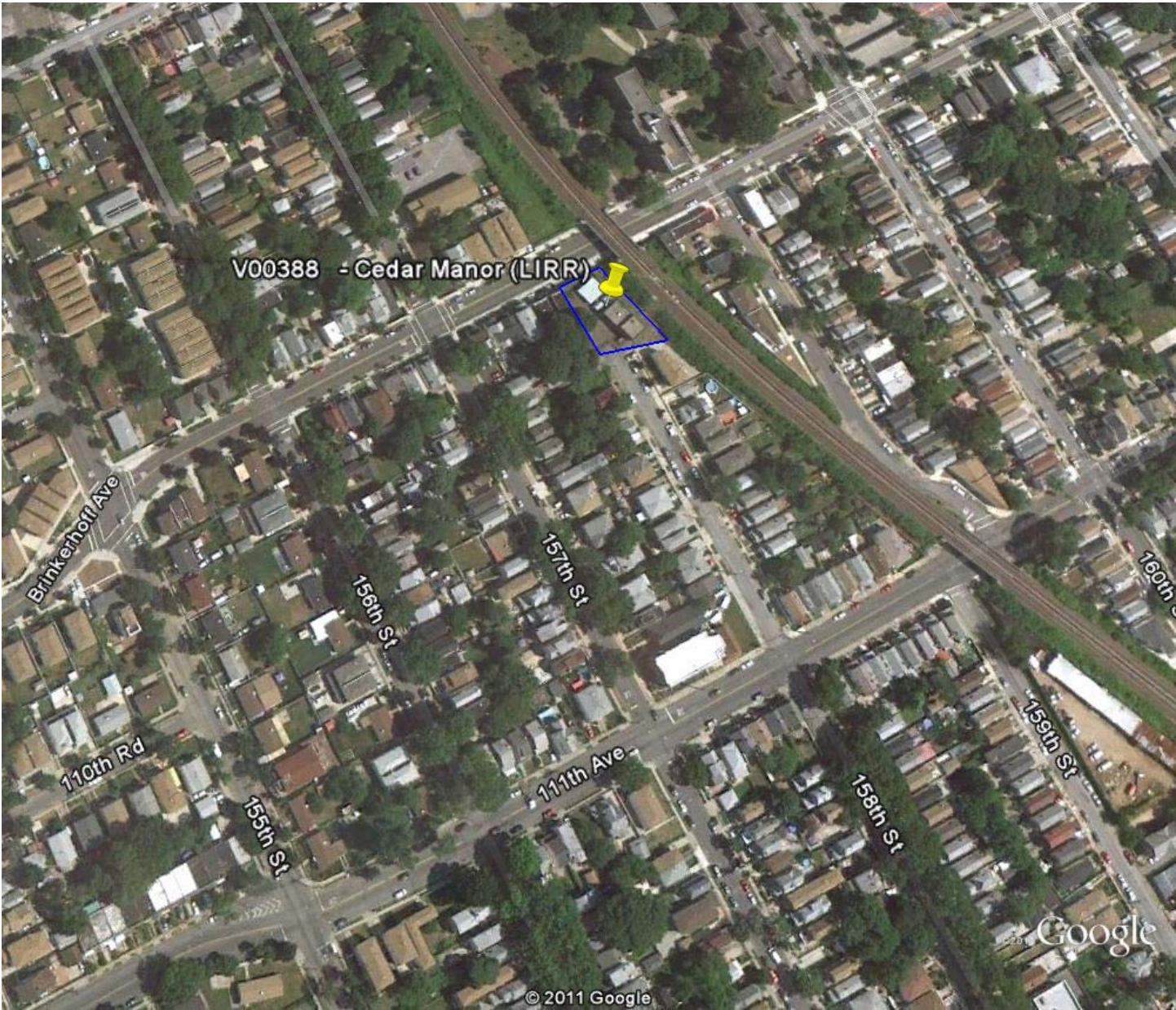
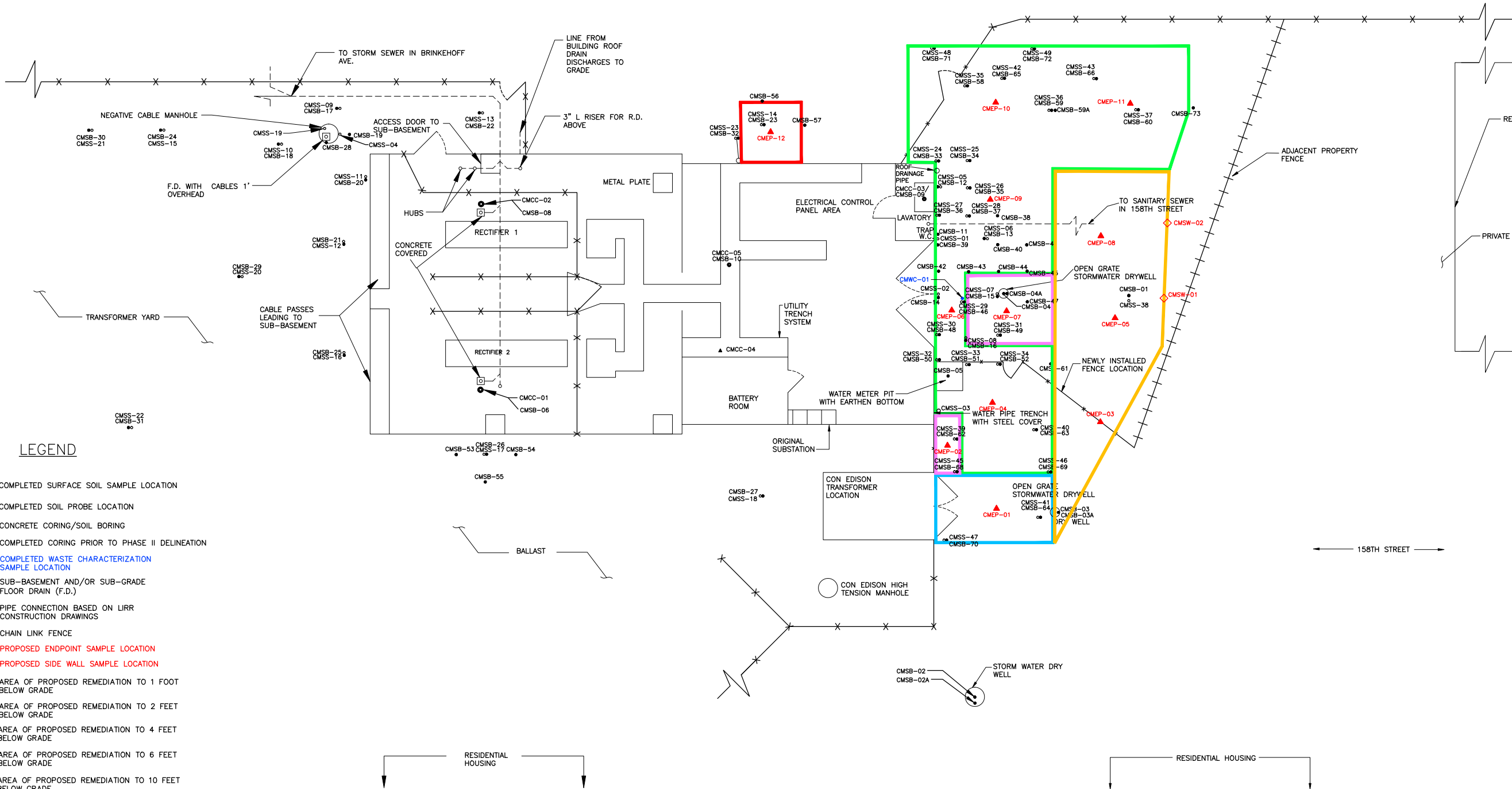
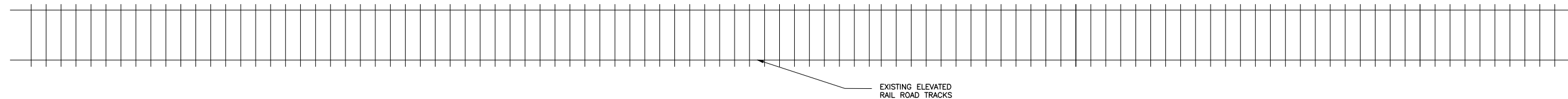


Figure 1 - LIRR Cedar Manor Location Map



- LEGEND**
- CMSS-01 ○ COMPLETED SURFACE SOIL SAMPLE LOCATION
 - CMSB-01 ● COMPLETED SOIL PROBE LOCATION
 - CMCC-01/ CMSB-01 ● CONCRETE CORING/SOIL BORING
 - CMCC-01 ▲ COMPLETED CORING PRIOR TO PHASE II DELINEATION
 - CMWC-01 ● COMPLETED WASTE CHARACTERIZATION SAMPLE LOCATION
 - SUB-BASEMENT AND/OR SUB-GRADE FLOOR DRAIN (F.D.)
 - PIPE CONNECTION BASED ON LIRR CONSTRUCTION DRAWINGS
 - CHAIN LINK FENCE
 - CMEP-01 ▲ PROPOSED ENDPOINT SAMPLE LOCATION
 - CMSW-01 ◇ PROPOSED SIDE WALL SAMPLE LOCATION
 - AREA OF PROPOSED REMEDIATION TO 1 FOOT BELOW GRADE
 - AREA OF PROPOSED REMEDIATION TO 2 FEET BELOW GRADE
 - AREA OF PROPOSED REMEDIATION TO 4 FEET BELOW GRADE
 - AREA OF PROPOSED REMEDIATION TO 6 FEET BELOW GRADE
 - AREA OF PROPOSED REMEDIATION TO 10 FEET BELOW GRADE

NO.	DATE	REVISION	BY

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Dvirka and Bartilucci
 CONSULTING ENGINEERS
 A DIVISION OF WILLIAM F. COSOLICH ASSOCIATES, P.C.

LONG ISLAND RAIL ROAD
 QUEENS COUNTY NEW YORK
CEDAR MANOR SUBSTATION

ENDPOINT SAMPLE LOCATIONS AND REMEDIATION AREAS
 Figure 2

PROJECT NO.	2001	1
DATE	08/20/11	
SCALE	1"=10'	