DECISION DOCUMENT

Beach 21st Street Development
Brownfield Cleanup Program
Far Rockaway, Queens County
Site No. C241239
December 2019

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

DECLARATION STATEMENT - DECISION DOCUMENT

Beach 21st Street Development
Brownfield Cleanup Program
Far Rockaway, Queens County
Site No. C241239
December 2019

Statement of Purpose and Basis

This document presents the remedy for the Beach 21st Street Development 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 Beach 21st Street Development 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent

feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- Soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- Any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Excavation and off-site disposal of all on-site soils which exceed unrestricted soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a cover system will not be a required element of the remedy.

Approximately 10,000 cubic yards of contaminated soil and historic fill will be removed from the site.

3. Backfill

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

4. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code which prohibits potable use of groundwater without prior approval.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 4 cleanup.

Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs), an environmental easement, and site management plan as described below.

6. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). 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, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

7. Institutional Control

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

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

8. 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:

Institution Control: The Environmental Easement discussed in paragraph 6 above.

Engineering Controls: The cover system discussed in paragraph 5 above.

This plan includes, but may not be limited to:

- An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 5 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- Provisions for the management and inspection of the identified engineering controls;
- Maintaining site access controls and Department notification; and
- The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

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

December 17, 2019

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Beach 21st Street Development
Far Rockaway, Queens County
Site No. C241239
December 2019

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:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C241239

Queens Library at Arverne
Attn: Nicole Gordon
312 Beach 54th Street
Arverne, NY 11692
Phone: (718) 634-4784

Queens Community Board 14
Attn: Jonathan Gaska
1931 Mott Avenue, Room 311
Far Rockaway, NY 11691
Phone: (718) 471-7300

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 encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The site is located at 10-37 Beach 21st Street in Far Rockaway, NY and is identified on the Queens Borough Tax Map as Block 15705, Lot 69. The 42,500-square-foot (0.98 acre) site is located mid-block, on the city block bound by Beach 21st Street to the east, Cornaga Avenue to the south, Beach 22nd Street to the west, and Mott Avenue to the north. Motts Basin, which is a section of Jamaica Bay, is about 2,400 feet north-northwest of the site.

Site Features:

The site is used for a bus stop and a municipal parking lot that contains a temporary bus shelter. All surfaces, except for an approximately 2,000-square-foot unpaved area in the southwest corner, are covered with pavement. The unpaved area is separated from the bus stop area by a NYC DOT-controlled parking area. There are no permanent structures on-site.

Current Zoning and Land Use:

According to the on-line NYC Zoning and Land Use Map, the site is located within the Special Downtown Far Rockaway District, and is zoned R6 residential with a C2-4 commercial overlay. The surrounding area is primarily commercial, residential, and industrial, along with vacant land and the Far Rockaway subway station.

Past Use of the Site:

Sanborn Fire Insurance Maps indicate that a Long Island Rail Road (LIRR) right-of-way traversed the western portion of the site from 1886 to 1996. Other site uses include a coal/lumber yard (1890 to 1933), paint shop/storage (1912 to 1951), manufacturing facilities (1912 to 1951), woodworking (1912 to 1962), carpet cleaning (1912), and a tin shop (1951). The 1912 Sanborn map reveals a

100-gallon underground gasoline tank on the site that is not shown on subsequent maps. Based on aerial photos, the site appears to have been used for parking and a bus stop since 1975.

Site Geology and Hydrogeology:

Based on findings from the Remedial Investigation, the site is underlain by fill material predominantly consisting of brown to grey, fine- to coarse-grained sand with varying amount of gravel, concrete, roots, glass, and brick. The fill was observed to depths varying between 1.6 to 10 feet below grade surface (bgs). The historic fill layer was underlain by a sand layer (approximately 2.5 to 55 feet bgs) predominantly consisting of fine- to coarse-grained sand with varying amounts of gravel and silt. A clay layer was observed at depths ranging from 55 to 70.5 feet bgs. Bedrock was not encountered during the investigation.

Groundwater was encountered at depths ranging from 18.43 to 18.7 feet bgs on-site. Based on measured groundwater elevations, site groundwater flows towards the northwest.

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, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (SCGs) for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site or leaving the site. The RI

reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings, or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil 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:

lead
barium
benzo(a)anthracene
benzo(a)pyrene
chrysene
toluene
benzo(b)fluoranthene
tetrachloroethene (PCE)
phenol
indeno(1,2,3-CD)pyrene

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:

A site wide investigation was conducted to delineate contamination in soil, groundwater and soil vapor. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi volatile organic compound (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Groundwater was also analyzed for the emerging contaminants per-and polyfluoroalkyl substances (PFAS) and 1,4 dioxane. Soil vapor was analyzed for VOCs. According to the most recent analytical results, the primary contaminants of concern at the site are metals and SVOCs. Results are summarized below:

Soil: Based on the investigation conducted to date, the primary contaminants of concern detected in soil at the site include SVOCs and metals. The following SVOCs were detected in sub-surface soil at concentrations exceeding their 6NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs): benzo(a)anthracene up to 12.3 parts per million (ppm) (UUSCO is 1 ppm), benzo(a)pyrene up to 11.1 ppm (UUSCO is 1 ppm), benzo(b)fluoranthene up to 8.48 ppm (UUSCO is 1 ppm), indeno (1,2,3-c,d)pyrene up to 7.37 ppm (UUSCO is 0.5 ppm), chrysene up to 11.7 ppm (UUSCO is 1ppm). Lead concentrations in shallow soil (0-2 feet bgs) significantly exceeded the UUSCOs, with a maximum concentration of 3,570 ppm (UUSCO is 63 ppm), barium was detected up to 821 ppm (UUSCO is 350 ppm). PCE, toluene and phenol were not detected in soil. Based on the sampling results, there is no indication that these contaminants have migrated off-site.

Groundwater: Phenol was identified at a maximum concentration of 5 parts per billion (ppb), compared to its ambient groundwater quality standard of 1 ppb in on-site groundwater. PCE and toluene were not detected in groundwater. Based on the Remedial Investigation (RI) results there are no other primary contaminants of concern found in on-site groundwater. Data does not indicate any off-site impacts in groundwater related to this site.

Soil Vapor: Tetrachloroethene (PCE) was detected in soil vapor at concentrations up to 160 micrograms per cubic meter (µg/m3). Toluene was detected in soil vapor as high as 1,200 ug/m3. Data does not indicate any off-site impacts in soil vapor related to this 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.

Since some contaminated soils remain at the site below concrete, people will not come in contact with contaminated soils unless they dig below the surface materials. 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 soil vapor (air spaces within the soil) may move into 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. Because the site is vacant, the inhalation of site related contaminants due to soil vapor intrusion does not represent a current concern onsite. The potential exists for the inhalation of site contaminants due to soil vapor intrusion offsite and for any future onsite redevelopment and occupancy.

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.

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 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 Conditional Track 1 remedy.

The selected remedy is referred to as the Soil Excavation and Backfill 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;
- 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- Soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- Any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Excavation and off-site disposal of all on-site soils which exceed unrestricted soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a cover system will not be a required element of the remedy.

Approximately 10,000 cubic yards of contaminated soil and historic fill will be removed from the site.

3. Backfill

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

4. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code which prohibits potable use of groundwater without prior approval.

6. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 4 cleanup.

Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs), an environmental easement, and site management plan as described below.

6. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). 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, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

7. Institutional Control

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

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

8. 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:

Institution Control: The Environmental Easement discussed in paragraph 7 above.

Engineering Controls: The cover system discussed in paragraph 6 above.

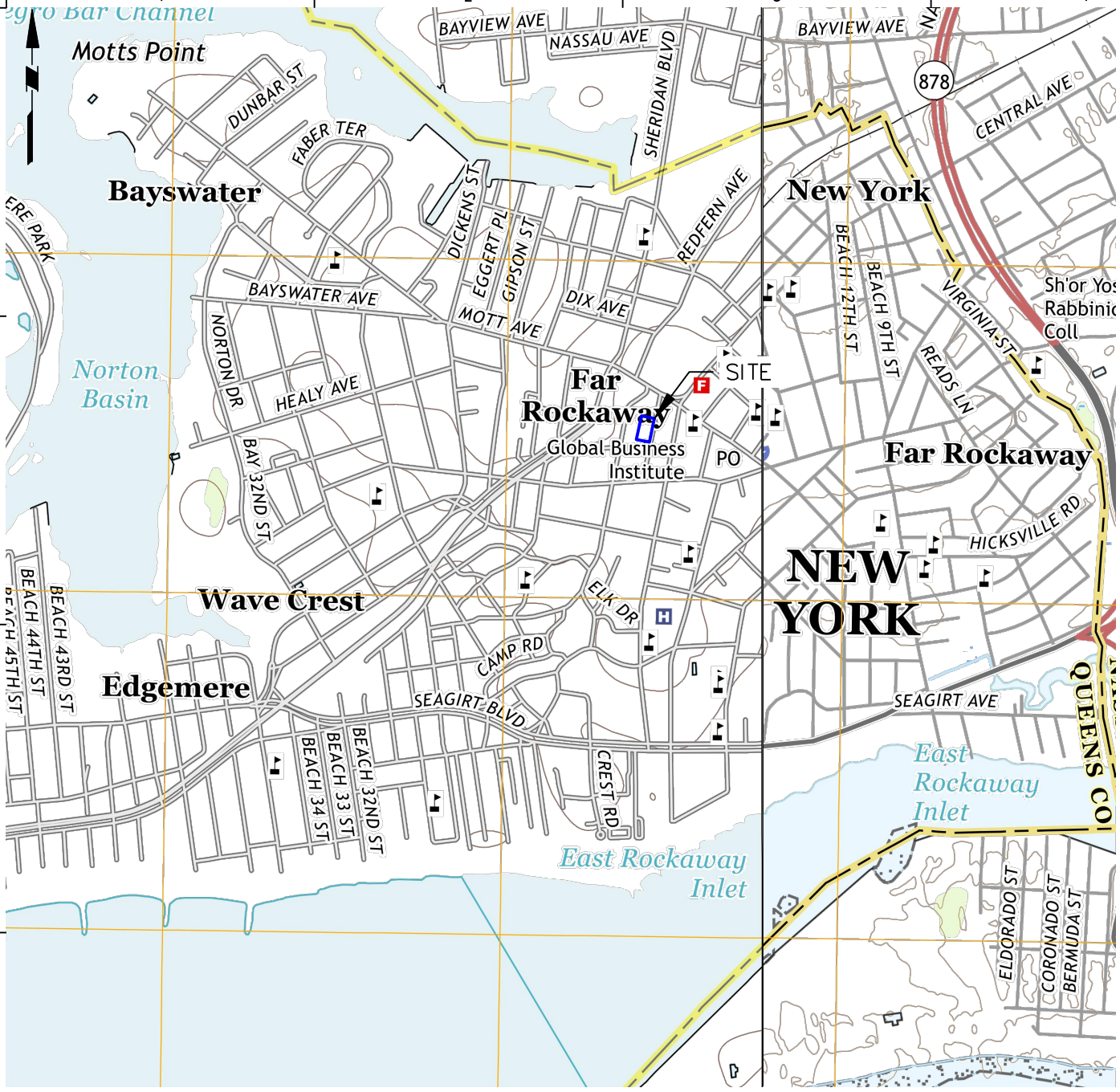
This plan includes, but may not be limited to:

- An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;

- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 6 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- Provisions for the management and inspection of the identified engineering controls;
- Maintaining site access controls and Department notification; and
- The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



NOTES:
1. IMAGE FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) FAR ROCKAWAY, NY AND LAWRENCE, NY 7.5–MINUTE QUADRANGLE MAPS
2. FIGURE NOT DRAWN TO SCALE

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

1500 0 300 1500
SCALE IN FEET

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

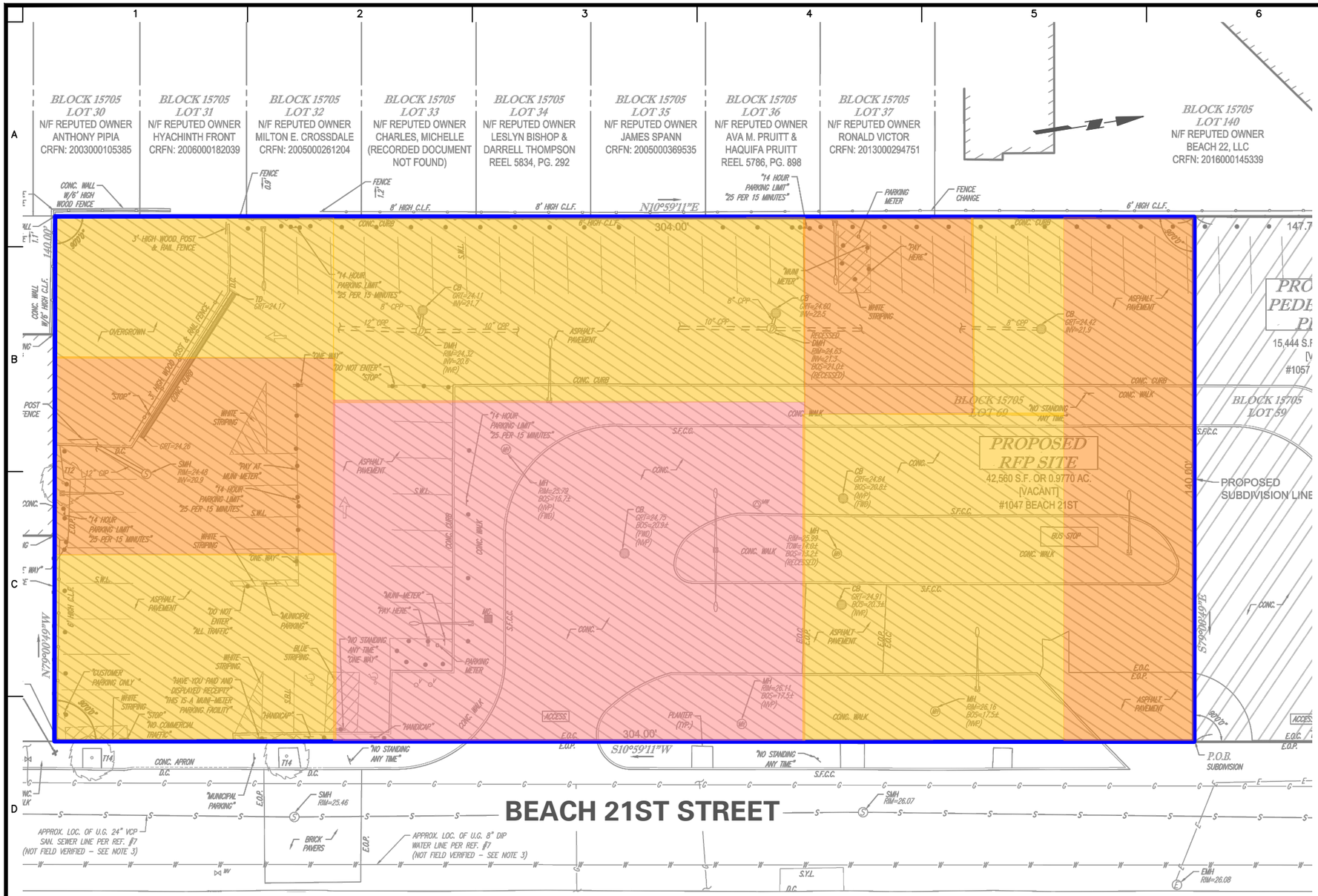
Project
10-37 BEACH 21ST STREET
BLOCK No. 15705, LOT No. 69 AND p/o 59
FAR ROCKAWAY
QUEENS NEW YORK

Figure Title
SITE LOCATION MAP

Project No.	170540601
Date	09/07/18
Drawn By	EB
Checked By	JA

Figure No. **1**
Sheet 1 of 10

Filename: \\langan.com\data\NYC\data6\170540601\Project Data\CAD\01\SheetFiles\RAWP\Figure 1 - Site Location Map.dwg Date: 4/10/2019 Time: 14:19 User: mtan Style Table: Langan.stb Layout: ANSIA-BP



LEGEND:

- APPROXIMATE SITE BOUNDARY
- REMEDIAL EXCAVATION TO ABOUT 4 FEET BGS
- REMEDIAL EXCAVATION TO ABOUT 6.5 FEET BGS
- REMEDIAL EXCAVATION TO ABOUT 10.5 FEET BGS

NOTES:

1. BOUNDARY AND TOPOGRAPHIC SURVEY OBTAINED FROM CONTROL POINT ASSOCIATES INC. PC, DATED OCTOBER 22, 2018, REVISED JUNE 5, 2019.
2. DEPTH AND DIMENSION OF REMEDIAL EXCAVATION AREAS ARE ESTIMATED BASED ON ANALYTICAL RESULTS EXCEEDING TRACK 1 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES OR MAXIMUM DEPTH OF FILL.
3. BGS = BELOW GROUND SURFACE

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

30 0 15 30
SCALE: 1 INCH = 30 FEET

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Project
10-37 BEACH 21ST STREET
BLOCK No. 15705, LOT No. 69
FAR ROCKAWAY
QUEENS **NEW YORK**

Figure Title
TRACK 1 CLEANUP PLAN

Project No.	Figure No.
170540601	2
Date: 06/17/2019	
Drawn By: MT	
Checked By: JA	

Filename: \\langan.com\data\NYC\data6\170540601\Project Data\CAD\01\SheetFiles\RAWP\Figure 7 - Track 1 Cleanup Plan.dwg Date: 11/20/2019 Time: 17:09 User: ssaleh Style Table: Langan.stb Layout: ANSIB-BL