

PROPOSED REMEDIAL ACTION PLAN

College Point 3
State Superfund Project
College Point, Queens County
Site No. 241122
February 2022



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

PROPOSED REMEDIAL ACTION PLAN

College Point 3
College Point, Queens County
Site No. 241122
February 2022

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 hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the RI indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site. This PRAP identifies the IRM(s) conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of 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 document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. 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 repository:

Poppenhusen Queens Library
12123 14th Ave
College Point, NY 11356
Phone: (718) 359-1102

Access project documents through the DECinfo Locator <https://www.dec.ny.gov/data/DecDocs/241122/>

A public comment period has been set from: February 4, 2022 to March 6, 2022.

A virtual public meeting is scheduled for the following date: March 2, 2022 at 7:00PM.

Please attend virtual meeting at <https://meetny-broadcast-pilot.webex.com/meetny-broadcast-pilot/onstage/g.php?MTID=ea96cf970b6bb29b88403665252fab4be>

or at: <https://www.webex.com>

Meeting Event No: 2339 543 9317

Password: Mar2-7PM

At the meeting, the findings of the remedial investigation (RI) 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 PRAP. Written comments may also be sent through to:

Michael Haggerty, QEP
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
michael.haggerty@dec.ny.gov

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located in an urban residential area of the College Point section of Queens adjacent to the East River. The site lies within the Riverview Condominium complex. The complex is comprised of multiple tax lots. The 0.24-acre site occupies one tax lot within the larger condominium property. The site and off-site areas/surrounding property, totaling 4.7 acres, were the subject of the Interim Remedial Measures. The project site is bounded by the East River to the north, the Soundview Pointe condominiums to the west, and the Powell Cove Estates condominiums to the east. Additional condominiums within the Riverview complex, but outside the site boundary, are located to the south. The adjacent property to the west, Soundview Pointe condominiums, was remediated under the NYSDEC Voluntary Cleanup Program (NYSDEC Site No. V00254: College Point Properties) and is currently in site management; the adjacent property to the east, Powell Cove Estates condominiums, was remediated under the NYC Office of Environmental Remediation Hazardous Materials Restrictive Declaration program (Project Nos. 10RHAZ022Q, 10RHAZ177Q, 11RHAZ019Q, 11RHAZ241Q, 12RHAZ231Q, 12RHAZ357Q and 13RHAZ191Q) and is currently in site management.

Site Features: The site is a courtyard area within four multi-story condominium buildings. The surrounding area includes streets and green spaces. The lawn along the East River is a NYC waterfront park with public access during the day.

Current Zoning: The site and adjacent properties are zoned R4 – residential which allows for low-rise attached residences such as condominiums.

Past Uses of the Site: The local area landmass was created from the East River by unregulated landfilling. Land within the site boundary was created between 1966-1975 and developed into condominiums during the 1980s. The landfilled material primarily consists of soil mixed with varying amounts of construction and demolition (C&D) debris; however, hazardous waste, in the form of polychlorinated biphenyl (PCB) contaminated oil, was also disposed. Prior to landfilling, the College Point Dry Dock & Supply Company, Inc. operated at the site from the 1920s to the early 1950s.

Site Geology: This land, as well as the adjacent properties to the east and west, is part of a large-scale landfilling and reclamation project. The landfill thickness varies from approximately 20-40 feet and extends 20 feet or more into the water table. The fill material consists of a heterogeneous mixture of sand, silt, clay and varying amounts of C&D debris (e.g., bricks, wood, concrete, gravel, rubber, slag, metal, asphalt, wire, foam, and plastic). Native soils, consisting of stratified mixtures of sand and silt were encountered at depths ranging from 15-35 feet below ground surface. Groundwater is approximately 11-18 feet below ground surface and flows to the north and west across the site. Tidal influence from the East River is negligible.

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 that restricts the site to a combination of restricted-residential and commercial/passive recreational use, as described in Part 375-1.8(g), were evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

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 PRPs for the site, documented to date, include:

- New York City Department of Citywide Administrative Services (DCAS)
- Blankman Associates, Inc.
- Schorr Brothers Development Corp.
- Jopel's Construction and Trucking Company, Inc.
- Jack Diamond Trust

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- indoor air
- sub-slab vapor
- sediment
- surface water

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. The tables found in Exhibit A list the applicable SCGs in the footnotes. 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 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 in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

- Polychlorinated Biphenyls (PCBs)
- Benzene
- Toluene
- Ethylbenzene
- Xylene
- Tetrachloroethene (PCE)
- Naphthalene
- Benzo(b)fluoranthene
- Lead

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

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 Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

LNAPL (Oil) Recovery

The Department began passive collection of oil or LNAPL as an IRM beginning in March 2008. An oil-absorbent material, referred to as a “sock”, was placed in 15-20 monitoring wells across the site to collect LNAPL for disposal. Absorbent socks were removed and replaced on a bi-weekly schedule from March 2008 to June 2010. Bi-weekly absorbent sock replacement resumed in January 2012, after additional wells were installed as part of the remedial investigation. Bi-weekly to monthly absorbent sock replacement has continued since that time. The Department evaluated different technologies to enhance LNAPL recovery; however, the viscosity of the LNAPL and the heterogeneous nature of the landfill material limits the effectiveness of active recovery methods. A peristaltic pump is used if sufficient LNAPL is present in wells during recovery events.

LNAPL Recovery through May 2016 was summarized in the August 2016 Interim Remedial Measure Letter Report. To date, 248 gallons of LNAPL have been collected and properly disposed. As a result, the extent and thicknesses of oil has decreased substantially, and groundwater quality has significantly improved. LNAPL recovery will continue in site management as necessary.

Soil Cover

The Department designed and constructed an engineered soil cover on the site and surrounding area in 2018. As part of the soil cover installation, surface soil was excavated from vegetated areas and replaced with a clean soil cover to prevent potential direct contact exposures. All excavated soil was properly disposed and backfilled with soil meeting restricted-residential SCOs. Prior to backfilling, a demarcation layer was placed at depth to represent a visual boundary between clean and potentially contaminated soil. Vegetation (grass, shrubs, trees) was replaced to prevent soil erosion and to provide an aesthetically pleasing community for residents.

Based on the use of the properties (lots), either a one or two-foot soil cover was installed. Refer to the description below and Figure 3: Cover Type Map for clarification.

- Block 3916, Lots 250 and 255 are privately-owned condominium properties and meet the definition restricted-residential use, as defined in 6 NYCRR Part 375-1.8(g)(2)(ii). Lots 250 and 255 received a two-foot soil cover.
- Block 3916, Lot 27 is owned by the NYC Department of Citywide Administrative Services (DCAS) through tax lien foreclosure. While the lot does not meet the definition of restricted-residential use due to its ownership status, the Department installed a two-foot soil cover given the property’s use and proximity to restricted-residential areas. The lot is

surrounded by private condominium properties which meet the definition of restricted-residential use and property is used as a common backyard area by condo residents.

- Block 3916, Lot 108 meets the definition of commercial use, as defined in 6 NYCRR Part 375-1.8(g)(2)(iii) and received a one-foot soil cover. While privately-owned, Lot 108 has a deed restriction establishing the property as a public access park and tidal wetland buffer area. The deed restriction prohibits “performing any gardening, agricultural activity, change in grade, or change in vegetation on or within said public park” which meets the definition of a passive recreational (commercial) use.
- The condominium properties (Lots 250 and 255) contained numerous planter boxes and small landscaped areas which also required installation of a soil cover. A two-foot soil cover was installed in any landscaped areas large enough to excavate without undermining the adjacent concrete or asphalt. Smaller areas and planter boxes received a one-foot soil cover.

Installation of the soil cover was documented in a September 2019 IRM Construction Completion Report.

Drum/Soil Removal

Approximately ten steel drums were identified in the subsurface during construction of the soil cover. The drums contained waste oil when buried; however, corrosion of the steel over time allowed the liquid inside to leak out into the surrounding soil, and the drums eventually collapsed under the weight of the landfilled material. Samples were collected to characterize the material and determine the regulatory requirements to remediate the area. In addition to petroleum compounds, impacted soil was contaminated with PCBs, which were detected up to 3,000 parts per million (ppm). At this concentration, the material meets the definition of PCB remediation waste which requires disposal at a permitted hazardous waste landfill. After a comprehensive subsurface investigation to delineate the extent of contamination, 268.10 tons of PCB remediation waste was excavated and properly disposed. A demarcation layer was placed at the base of the excavation and the area was backfilled with soil meeting restricted-residential SCOs. The disposal of the drums and associated soil was documented in the September 2019 IRM Construction Completion Report.

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 the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary.

Nature and Extent of Contamination Post-Remediation:

Subsurface Soil

Soil below the cover system at the site (and surrounding area) is impacted by volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals above restricted-residential SCOs.

- VOC and SVOC contamination related to residual waste oil is present in soil at the groundwater interface. For example, benzene was detected up to 280 ppm (compared to the restricted-residential SCO of 4.8 ppm) and naphthalene was detected up to 1,100 ppm (compared to the restricted-residential SCO of 100 ppm).
- SVOC and metals contamination related to historic fill/solid waste is present in the vadose and saturated zones. For example, benzo(b)fluoranthene was detected up to 75.1 ppm (compared to the restricted-residential SCO of 1 ppm) and the lead was detected up to 14,400 ppm (compared to a restricted-residential SCO of 400 ppm).
- PCB contamination related to both residual waste oil and historic fill is present both above and below the groundwater table. PCBs were detected up to 49.2 ppm (compared to a restricted-residential SCO of 1 ppm).

LNAPL

Measurable floating oil or LNAPL remains in multiple wells. Prior analysis identified the LNAPL as petroleum waste oil with total PCB concentrations up to 490 ppm. The LNAPL on-site is generally not mobile in the subsurface; however, to prevent potential migration, a subsurface barrier was installed along the western property boundary. The barrier was installed as part of the remedial program at the adjacent site, NYSDEC Site No. V00254: College Point Properties (Soundview Pointe condominiums). A fiberglass reinforced plastic sheet pile wall was installed into the water table to prevent LNAPL from potentially re-contaminating the property.

Groundwater

Several VOCs and SVOCs were detected above Ambient Water Quality Standards and Guidance Values. For example, benzene was detected up to 120 parts per billion or ppb (compared to a standard of 1 ppb) and naphthalene was detected up to 150 ppb (compared to a guidance value of 10 ppb). Based on the January 2020 groundwater sampling event, dissolved-phase contamination related to residual waste oil is contained on-site.

Soil Vapor

Soil vapor, sub-slab soil vapor (below structures) and indoor air (inside structures) samples were collected to determine whether actions are needed to address exposures to site-related contaminants. 19 first floor residences were evaluated for potential exposure from soil vapor intrusion. Low levels of VOCs were identified in both sub-slab and indoor air samples; however, based on the concentrations detected, and in comparison, with the NYSDOH Guidance for Evaluating Soil Vapor Intrusion, no actions were necessary to address indoor air impacts to site-related contaminants via the soil vapor intrusion pathway.

Sediment and Surface Water

Sediment and surface water samples were collected along the East River shoreline bordering the site. Several SVOCs, PCBs and metals were detected in sediment samples at concentrations above sediment screening criteria; only copper exceeded water quality standards in the surface water samples. Sediment and surface water are not considered site-specific media of concern due to the local area's history and the large-scale unregulated landfilling which took place prior to development. Therefore, sediment and surface water are not addressed by the remedy.

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*.

Access to the site is unrestricted. However, contact with contaminated soil or groundwater is unlikely unless people dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in 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. Environmental sampling indicates soil vapor intrusion is not a concern onsite or for offsite 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 contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued LNAPL recovery, maintenance of the cover system as an engineering control and the implementation of institutional controls. The Department believes that this remedy is protective of human health and the environment and satisfies the remedial action objectives described in Section 6.5.

The elements of the remedy, in addition to those already completed as IRMs, include the institutional and engineering controls listed below:

LNAPL Recovery

Existing monitoring wells and recovery wells will be used to collect and dispose of PCB-contaminated waste oil (LNAPL) floating on the water table. An oil-absorbent material will be placed in existing wells and replaced after the material becomes saturated with oil. The absorbent material will be stored on-site in a fenced-in and locked drum storage area prior to disposal. LNAPL recovery will continue in site management as necessary.

Cover System

A site cover currently exists in areas not occupied by buildings and will be maintained to allow for restricted residential use for the condominium properties and commercial use for the waterfront park. Currently, the site cover includes paved streets, paved parking areas, sidewalks and soil where the exposed surface soil meets the applicable soil cleanup objectives (SCOs). The upper two feet of exposed soil meets restricted-residential SCOs on the condominium properties and the upper one foot of exposed soil meets commercial SCOs for the waterfront park property. Refer to Section 6.2 for additional information. Any future site redevelopment will maintain the existing site cover and any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

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 a 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 on the condominium properties and commercial use on the waterfront park property, 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.

Site Management Plan

A Site Management Plan is required, which includes the following:

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

Institutional Controls: The environmental easement discussed above.

Engineering Controls: The oil collection system and site cover discussed 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;
- 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 to a plan approved by the Department. Based on the investigation results and the Department determination 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. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment. This includes on-site condominium buildings built prior to the remedial investigation;
- descriptions of the provisions of the environmental easement including any land use and groundwater restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described above will be placed in any

areas where the upper one or two feet of exposed surface soil, depending on location, exceed the applicable soil cleanup objectives (SCOs);

- 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.
2. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater to assess the performance and effectiveness of the remedy;
 - a schedule of monitoring and frequency of submittals to the Department
3. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- procedures for operating and maintaining the remedy

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, the Restricted Use SCGs (i.e. restricted-residential) identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater and soil.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Waste/source areas identified at the site include the following:

- PCB-contaminated oil or LNAPL was encountered floating on the groundwater table. Lab analysis of the oil revealed the presence of multiple petroleum products with high viscosities. The results indicate a mixture of fuel oil #2, fuel oil #6, hydraulic oil and lube oil (i.e., waste oil) with total PCB concentrations up to 490 ppm. The Department began collecting oil as an IRM beginning in 2008; a significant reduction in the extent/volume of oil has been achieved during that time.
- Drums of PCB-contaminated oil had previously been disposed on the property. Over time, the metal drums corroded and allowed oil to seep out into the surrounding soil. PCB concentrations in soil were encountered up to 3,000 ppm. Drums and associated PCB-contaminated soil exceeding 10 ppm were excavated and disposed of as an IRM.

Refer to Section 6.2 for additional information on IRMs.

Soil

Surface soil and subsurface soil samples from various depths were analyzed to determine the nature and extent of contamination at the site and to implement IRMs. All soil samples were compared 6 NYCRR Part 375 Soil Cleanup Objectives for unrestricted use and restricted-residential use. Site-specific contaminants of

concern were also compared to protection of groundwater SCOs. Since the previously implemented IRMs included the excavation and disposal of soil, only soil currently remaining on-site is presented in Table 1 and Figure 4. As of December 2018, when construction of the soil cover IRM was completed, all surface soil within the site boundary, as well as those lots that comprised the IRM project area, meets restricted-residential SCOs.

All samples were analyzed for VOCs, SVOCs, PCBs, pesticides and metals during the remedial investigation. The results identified contaminants commonly associated with historic urban fill (i.e., polycyclic aromatic hydrocarbons, metals and low-level pesticides) as well as hazardous waste. The hazardous waste encountered during the RI (PCB-contaminated waste oil and soil exceeding 50 ppm total PCBs by weight) were remediated as IRMs and are discussed in Section 6.2.

Oil staining at the groundwater interface resulted in the exceedance of multiple petroleum-related VOCs and SVOCs. For example, benzene, toluene, ethylbenzene and total xylenes (collectively known as BTEX) and naphthalene exceeded restricted-residential SCOs in several isolated locations at the groundwater interface; however, any remaining oil stained soil post-IRMs is present a minimum of 10 feet below ground surface.

Table 1 - Soil

Detected Constituents	Concentration Range Detected (ppm)	375 Soil – Unrestricted Use ^b (ppm)	Frequency Exceeding Unrestricted Use SCG	375 Soil – Protection of Groundwater ^c (ppm)	Frequency Exceeding Restricted Use SCG	375 Soil – Restricted-Residential Use ^d (ppm)	Frequency Exceeding Restricted Use SCG
Metals PART 375							
Arsenic	0-104	13	10/104	16	7/104	16	7/104
Barium	13.8-4,790	350	7/118	820	3/118	400	7/118
Beryllium	0-7.40	7.2	1/118	47	0/118	72	0/118
Cadmium	0-17.2	2.5	16/118	7.5	4/118	4.3	6/118
Chromium, Total	3.90-168	30	14/118	19	53/118	110	2/118
Copper	14.1-1,430	50	66/109	1720	0/109	270	8/109
Lead	17.3-14,400	63	108/118	450	23/118	400	27/118
Mercury	0-6.42	0.18	79/118	0.73	11/118	0.81	9/118
Nickel	0-1,100	30	26/118	130	5/118	310	2/118
Selenium	0-37.6	3.9	4/118	4	4/118	180	0/118
Silver	0-2.30	2	2/72	8.3	0/72	180	0/72
Zinc	11.3-17,300	109	97/118	2480	3/118	10000	1/118
Pesticides/PCBs PART 375							
Alpha Chlordane	0-1.30	0.094	2/47	2.9	0/47	4.2	0/47
Endrin	0-0.210	0.014	3/46	0.06	3/46	11	0/46
P,P'-DDD	0-0.280	0.0033	1/47	14	0/47	13	0/47
P,P'-DDE	0-0.480	0.0033	1/47	17	0/47	8.9	0/47

P,P'-DDT	0-0.900	0.0033	5/47	136	0/47	7.9	0/47
Detected Constituents	Concentration Range Detected (ppm)	375 Soil – Unrestricted Use ^b (ppm)	Frequency Exceeding Unrestricted Use SCG	375 Soil – Protection of Groundwater ^c (ppm)	Frequency Exceeding Restricted Use SCG	375 Soil – Restricted-Residential Use ^d (ppm)	Frequency Exceeding Restricted Use SCG
PCB-1016 (Aroclor 1016)	0-5.10	0.1	7/144	3.2	1/144	1	4/144
PCB-1242 (Aroclor 1242)	0-12.0	0.1	30/144	3.2	6/144	1	18/144
PCB-1248 (Aroclor 1248)	0-16.0	0.1	25/144	3.2	6/144	1	17/144
PCB-1254 (Aroclor 1254)	0-6.40	0.1	37/142	3.2	5/142	1	11/142
PCB-1260 (Aroclor 1260)	0-5.90	0.1	56/142	3.2	6/142	1	16/142
PCB-1262 (Aroclor 1262)	0-48.0	0.1	2/144	3.2	2/144	1	2/144
PCB-Total	0-49.2	0.1	102/144	3.2	24/144	1	52/144
SVOC PART 375							
Acenaphthene	0-350	20	15/143	98	4/143	100	4/143
Benzo(A)Anthracene	0-110	1	102/143	1	102/143	1	102/143
Benzo(A)Pyrene	0-110	1	101/142	22	14/142	1	101/142
Benzo(B)Fluoranthene	0-75.1	1	99/142	1.7	79/142	1	99/142
Benzo(K)Fluoranthene	0-68.0	0.8	90/142	1.7	62/142	3.9	35/142
Chrysene	0-110	1	103/143	1	103/143	3.9	52/143
Dibenz(A,H)Anthracene	0-13.0	0.33	40/140	1000	0/140	0.33	40/140
Dibenzofuran	0-100	7	12/143	210	0/143	59	1/143
Fluoranthene	0-190	100	10/143	1000	0/143	100	10/143
Fluorene	0-210	30	10/143	386	0/143	100	5/143
Indeno(1,2,3-C,D)Pyrene	0-100	0.5	81/142	8.2	15/142	0.5	81/142
Naphthalene	0-1,100	12	33/159	12	33/159	100	14/159
Phenanthrene	0-710	100	13/143	1000	0/143	100	13/143
Phenol	0-8.50	0.33	3/143	0.33	3/143	100	0/143
Pyrene	0-410	100	9/143	1000	0/143	100	9/143
VOC PART 375							
1,1,1-Trichloroethane (TCA)	0-1.20	0.68	1/100	0.68	1/100	100	0/100
1,1-Dichloroethane	0-0.290	0.27	1/100	0.27	1/100	26	0/100
1,2,4-Trimethylbenzene	0-57.0	3.6	14/61	3.6	14/61	52	1/61
1,2-Dichlorobenzene	0-10.0	1.1	6/146	1.1	6/146	100	0/146
1,2-Dichloroethane	0-1.20	0.02	1/101	0.02	1/101	3.1	0/101
1,3,5-Trimethylbenzene	0-25.0	8.4	3/60	8.4	3/60	52	0/60

Acetone	0-58.0	0.05	31/88	0.05	31/88	100	0/88
Benzene	0-280	0.06	19/101	0.06	19/101	4.8	6/101
Ethylbenzene	0-270	1	27/101	1	27/101	41	1/101
Detected Constituents	Concentration Range Detected (ppm)	375 Soil – Unrestricted Use^b (ppm)	Frequency Exceeding Unrestricted Use SCG	375 Soil – Protection of Groundwater^c (ppm)	Frequency Exceeding Restricted Use SCG	375 Soil – Restricted-Residential Use^d (ppm)	Frequency Exceeding Restricted Use SCG
Methyl Ethyl Ketone (2-Butanone)	0-5.00	0.12	1/90	0.12	1/90	100	0/90
Methylene Chloride	0-0.270	0.05	2/100	0.05	2/100	100	0/100
N-Butylbenzene	0-43.0	12	4/60	12	4/60	100	0/60
N-Propylbenzene	0-12.0	3.9	5/60	3.9	5/60	100	0/60
Tetrachloroethylene (PCE)	0-10.0	1.3	2/100	1.3	2/100	19	0/100
Toluene	0-250	0.7	11/101	0.7	11/101	100	1/101
Trichloroethylene (TCE)	0-4.20	0.47	3/101	0.47	3/101	21	0/101
Xylenes, Total	0-129	0.26	29/101	1.6	22/101	100	1/101

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives;

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater;

d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted-Residential Use.

Groundwater

Groundwater samples were collected from 30 groundwater monitoring wells to assess overburden groundwater conditions during the RI. Groundwater was analyzed for VOCs, SVOCs, PCBs, pesticides, metals and per/polyfluoroalkyl substances (PFAS) at select wells. The results indicate that contamination in groundwater at the site exceeds SCGs for VOCs, SVOCs, PCBs and metals. Refer to Table 2 and Figure 5.

Predominantly, the contaminants exceeding SCGs in groundwater are petroleum VOCs and SVOCs related to the partitioning of waste oil. All properly developed monitoring wells were subsequently found to contain non-detectable concentrations of PCBs, suggesting that the previous detections were due to suspended particles. Dissolved metals are not considered site-specific contaminants of concern due to large-scale landfilling which occurred on and proximate to the site.

Table 2 - Groundwater

Detected Constituents	Concentration Range Detected (ppb) ^a	SCG ^b (ppb)	Frequency Exceeding SCG
Metals NYS CLASS GA			
Arsenic	0-63.7	25	2/98
Barium	0-1,080	1000	1/76
Beryllium	0-1.00	3	0/100
Cadmium	0-40.3	5	5/100
Chromium, Hexavalent	0-3.70	50	0/2
Chromium, Total	0-246	50	3/100

Iron	0-160,000	300	90/100
Iron (DISSOLVED)	0-175,000	300	66/73
Detected Constituents	Concentration Range Detected (ppb)^a	SCG^b (ppb)	Frequency Exceeding SCG
Lead	0-474	25	6/100
Magnesium	2,220-502,000	35000	49/100
Manganese	0-15,700	300	75/100
Manganese (DISSOLVED)	0-4,810	300	56/73
Nickel	0-101	100	1/100
Selenium	0-169	10	2/76
Sodium	9,860-4,180,000	20000	95/100
Thallium	0-62.6	0.5	1/94
Zinc	0-26,000	2000	3/100
Pesticides/PCBs NYS CLASS GA			
PCB-1242 (Aroclor 1242)	0-15.0	0.09	3/128
PCB-1260 (Aroclor 1260)	0-1.70	0.09	3/128
SVOC NYS CLASS GA			
2,4-Dimethylphenol	0-21.0	1	5/121
Acenaphthene	0-100	20	11/126
Benzo(A)Anthracene	0-5.40	0.002	12/126
Benzo(A)Pyrene	0-4.50	0	112/126
Benzo(B)Fluoranthene	0-4.70	0.002	9/126
Benzo(K)Fluoranthene	0-2.10	0.002	1/126
Biphenyl (Diphenyl)	0-21.0	5	5/86
Bis(2-Ethylhexyl) Phthalate	0-10.0	5	2/126
Chrysene	0-5.40	0.002	2/126
Indeno(1,2,3-C,D)Pyrene	0-2.50	0.002	1/126
Naphthalene	0-2,000	10	36/150
Phenanthrene	0-100	50	3/126
Phenol	0-200	1	12/121
VOC NYS CLASS GA			
1,2,4-Trimethylbenzene	0-140	5	6/62
1,2-Dibromoethane (Ethylene Dibromide)	0-3.00	0.0006	1/114
1,2-Dichlorobenzene	0-9.00	3	15/154
1,3,5-Trimethylbenzene (Mesitylene)	0-33.0	5	4/62
1,4-Dichlorobenzene	0-4.40	3	2/154
Acetone	0-70.0	50	2/106
Benzene	0-1,700	1	38/130

Chlorobenzene	0-29.0	5	25/130
Chloroethane	0-31.0	5	1/130
Cis-1,2-Dichloroethylene	0-8.00	5	1/130
Cymene	0-12.0	5	3/24
Detected Constituents	Concentration Range Detected (ppb)^a	SCG^b (ppb)	Frequency Exceeding SCG
Ethylbenzene	0-590	5	12/130
Isopropylbenzene (Cumene)	0-43.0	5	11/119
N-Butylbenzene	0-19.0	5	2/24
N-Propylbenzene	0-20.0	5	3/24
Styrene	0-14.0	5	1/130
Toluene	0-420	5	10/130
Vinyl Chloride	0-2.40	2	1/130
Xylenes, Total	0-43.0	5	12/130

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

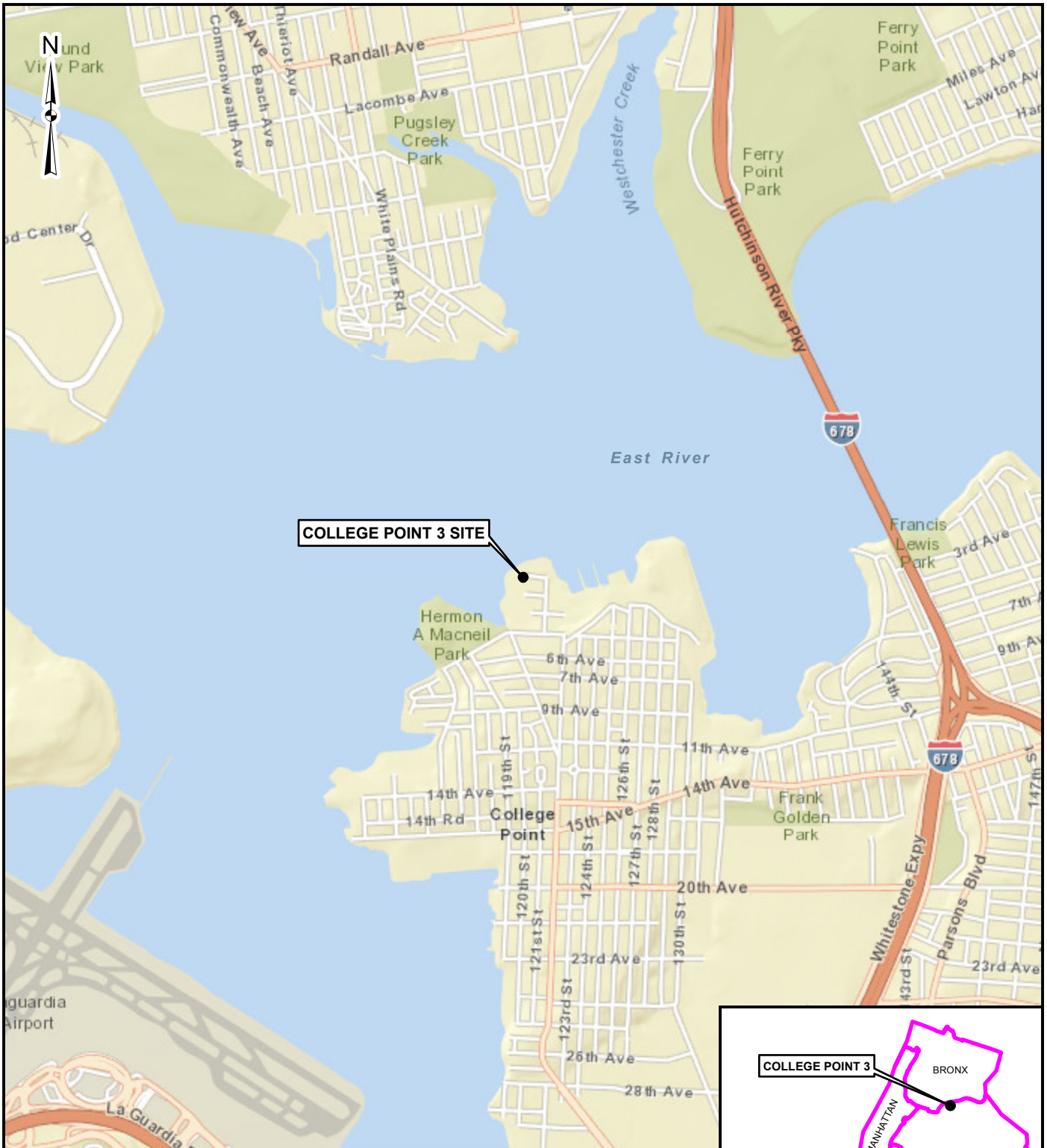
b - SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703.

Sediments and Surface Water

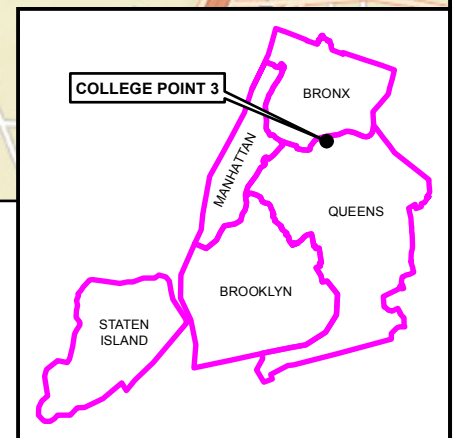
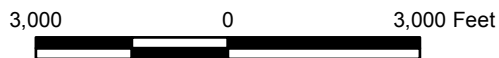
The remedial investigation included the collection of sediment, seep and surface water samples to evaluate the potential impact from the site to the adjacent East River. No site-related contamination of concern was identified during the RI; therefore, sediment and surface water were not addressed in the remedy.

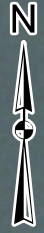
Soil Vapor

Nineteen individual condominiums were sampled to evaluate soil vapor intrusion. Sub-slab vapor, indoor air and outdoor air samples were collected at each residence to evaluate if VOCs are moving from a subsurface source of contamination into the indoor air of overlying structures. Multiple chlorinated and petroleum-related VOCs were detected in samples during the soil vapor intrusion evaluation but at low levels, so that no action was required to prevent potential exposures at any residence. Tetrachloroethene (PCE), a chlorinated VOC commonly used in dry cleaning, was detected up to 17 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in sub-slab air and detected up to 2.4 $\mu\text{g}/\text{m}^3$ in indoor air. Xylene, a petroleum VOC commonly used in paint thinner, was detected up to 7.1 $\mu\text{g}/\text{m}^3$ in sub-slab air and up to 170 $\mu\text{g}/\text{m}^3$ in indoor air. Based on the soil vapor intrusion evaluation, soil vapor was not addressed in the remedy.



Source: ESRI World Street Map, 2012







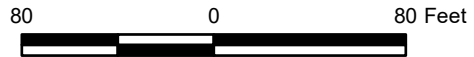
J:\Projects\11174984_00000\00\GIS\PRAP\SITE LOCATION (AERIAL - BOTH).mxd 1/9/2020



Legend

-  Class 2 Area
-  Future Class 4 Area

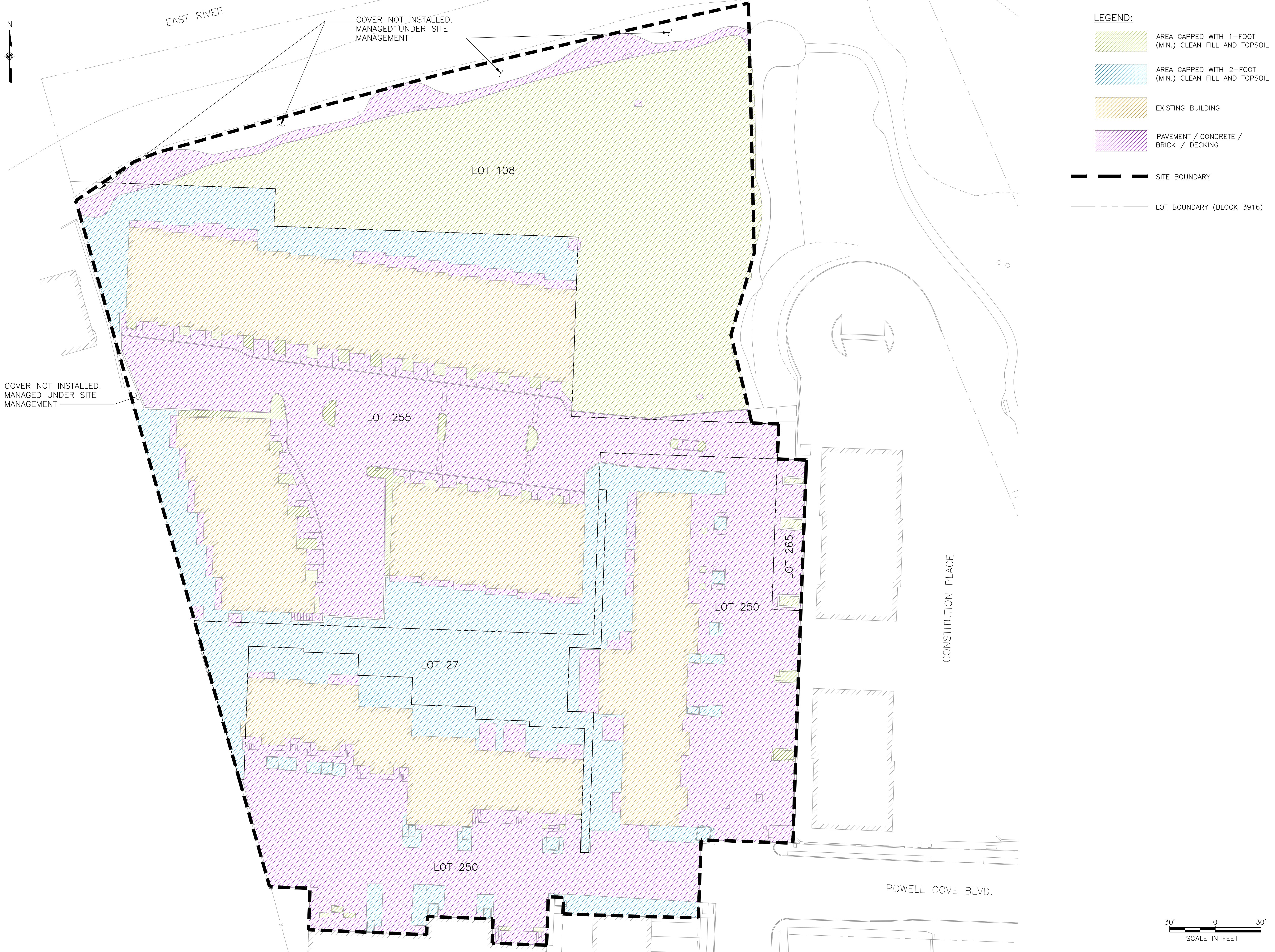
Source: ESRI World Imagery



COLLEGE POINT 3
SITE LOCATION



FIGURE 2



LEGEND:

- AREA CAPPED WITH 1-FOOT (MIN.) CLEAN FILL AND TOPSOIL
- AREA CAPPED WITH 2-FOOT (MIN.) CLEAN FILL AND TOPSOIL
- EXISTING BUILDING
- PAVEMENT / CONCRETE / BRICK / DECKING

- SITE BOUNDARY
- LOT BOUNDARY (BLOCK 3916)

NO.	DATE	BY	PROJECT ARCH/ ENGR APPROVAL	DEPT. MGR/SUPR APPROVAL

REVISIONS

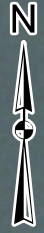
URS Corporation
257 West Genesee Street, Buffalo, New York 14202
 (716)856-2636 phone (716)856-2345 fax

**NEW YORK STATE
 DEPARTMENT OF
 ENVIRONMENTAL
 CONSERVATION**
625 BROADWAY
 ALBANY, NEW YORK 12233

**COLLEGE POINT 3
 COLLEGE POINT, NY
 SITE NO. 241122**

COVER TYPE MAP

OWNER'S PROJECT NUMBER	PROJECT NUMBER 60536797
DATE JANUARY 2020	SCALE AS SHOWN
DRAWN BY RAL	FIGURE 3
CHECKED BY CED	
ARCH/ENGR. RW	



J:\Projects\1174984.00\000\00\GIS\PRAP\REMAINING PCBs IN SOIL.mxd 1/9/2020

Legend

Future Class 4 Area

Total PCBs (mg/kg):

- 0 - 1 ppm
- ▲ 1 - 10 ppm
- 10 - 50 ppm

Location ID	Depth (feet)	Concentration (mg/kg)
DEC-39	7'-9'	0.26

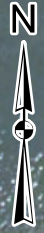
Note: ND - Not Detected
Source: ESRI World Imagery



**COLLEGE POINT 3
REMAINING PCBs IN SOIL**

URS

FIGURE 4



J:\Projects\11174964_00000\DB\GIS\PRAP\GW ANALYTICAL EXCEEDANCES & LNAPL (REV).mxd 1/17/2020



SB-05/MW-05	CRIT	01/20
VOCs:		
Chlorobenzene	5	14

DEC-34	CRIT	01/20
VOCs:		
Benzene	1	120
Chlorobenzene	5	17
Ethylbenzene	5	50
Isopropylbenzene (Cumene)	5	13
Xylene (total)	5	50
SVOCs:		
Acenaphthene	20	29
Naphthalene	10	150

DEC-38	CRIT	01/20
VOCs:		
Benzene	1	13
Isopropylbenzene (Cumene)	5	8.2

DEC-54	CRIT	01/20
VOCs:		
Benzene	1	30
Xylene (total)	5	6.1

Legend

Monitoring Well

DEC-47, (0.00)

Location ID | LNAPL Thickness (feet)

Location ID | Date

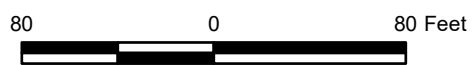
SB-05/MW-05 | CRIT | 01/20

VOCs:

Chlorobenzene | 5 | 14

Parameter | Criteria | Concentration (µg/L)

Criteria: NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values. April 2000; and 6 NYCRR Part 703.3. Effective 02/16/2008. Class GA.
Source: ESRI World Imagery



COLLEGE POINT 3
GROUNDWATER ANALYTICAL EXCEEDANCES
AND LNAPL THICKNESS
(JANUARY 6-9, 2020)



FIGURE 5