DECISION DOCUMENT

Cooper Park Commons Building 2
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224361
June 2024

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

DECLARATION STATEMENT - DECISION DOCUMENT

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Brownfield Cleanup Program
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Statement of Purpose and Basis

This document presents the remedy for the Cooper Park Commons Building 2 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 (NYSDEC) for the Cooper Park Commons Building 2 site and the public's input to the proposed remedy presented by NYSDEC.

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.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise^{TM} (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

Excavation and off-site disposal of all on-site soils which exceed Unrestricted Use Soil Cleanup Objectives (UUSCOs) as defined by 6 NYCRR Part 375-6.8, in the upper 3 feet throughout the Track 1 portion of the site (footprint of the new building) and to 7 feet below ground surface (bgs) at a hot spot (contaminated with mercury) within the Track 1 portion of the site. For the Track 4 portion of the site (outside perimeter of the new development), all soils in the upper two feet which exceed the Restricted Residential SCOs (RRSCOs) will be excavated and transported off-site for disposal. Approximately 6,200 cubic yards of soil would be excavated and disposed off-site. Additional confirmation samples will be collected between 7 and 21 feet in the eastern half of the Track 1 portion of the site to confirm that UUSCOs are met in this area. If there are UUSCO exceedances in soils between 7 and 21 feet in this area of the site, excavation would continue to the depth needed to meet UUSCOs.

Collection and analysis of confirmation samples at the remedial excavation depth in the Track 1 area will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify NYSDEC, submit the sample results, and in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after

confirmation samples demonstrate that SCOs for the site have been achieved.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

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. Cover System

A site cover will be required for the Track 4 portion of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. 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.

5. In-Situ Chemical Oxidation (ISCO)

In-situ chemical oxidation (ISCO) will be implemented to treat chlorinated volatile organic compounds (VOCs) in groundwater. A chemical oxidant will be injected into the subsurface to destroy the contaminants in the western portion of the site where chlorinated compounds were elevated in the groundwater via injection wells. The method and depth of injection will be determined during the remedial design.

Groundwater monitoring will be required within the treatment area and down gradient of the treatment area to demonstrate the effectiveness of the remedy. Monitoring will be conducted for contaminants of concern (i.e., chlorinated VOCs). At least three permanent monitoring wells will be installed to monitor groundwater. Based on the post-remediation sampling, contingency groundwater treatment measures will be implemented.

6. Soil Vapor Intrusion Evaluation

As part of the 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.

7. Institutional Controls

Imposition of an institutional control in the form of an environmental easement for the controlled property (Track 4 portion of the site or entire site should the Track 1 portion of the site fail to meet the requirements of Remedial Element 7 above) which will:

- require the remedial party or site owner to complete and submit to the NYSDEC 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, commercial, or industrial uses 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 NYSDEC approved Site Management Plan.

7. 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:

- Institutional Controls: The Environmental Easement discussed in Remedial Element 7 above.

- Engineering Controls: The Cover System for the Track 4 portion of the site discussed in Remedial Element 4 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 and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion.
- provisions for the management and inspection of the identified engineering controls;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Remedial Element 4 above will be placed

in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- maintaining site access controls and NYSDEC 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 of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to NYSDEC; and
- 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.

June 13, 2024

Date

Scott Deyette, Director
Remedial Bureau B

DECISION DOCUMENT

Cooper Park Commons Building 2
Brooklyn, Kings County
Site No. C224361
June 2024

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (NYSDEC), 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, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

NYSDEC 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

NYSDEC 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 NYSDEC 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=C224361

Brooklyn Public Library - Bushwick Branch
340 Bushwick Avenue
Brooklyn, NY 11206
Phone: (718) 602-1348

Brooklyn Community Board 1
435 Graham Avenue
Brooklyn, NY 11211
Phone: (718) 389-0009

Receive Site Citizen Participation Information By Email

Please note that NYSDEC'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 89 Maspeth Avenue in the East Williamsburg section of Brooklyn, NY. The site is identified as Tax Block 2885, Lot 1 on the New York City Tax Map. The site is bounded by the Barbara Kleiman Residence homeless shelter to the north, Maspeth Avenue to the south, a vacant building that housed a former nurse's residence to the east, and St. Nick's Alliance headquarters and community center to the west.

Site Features: The site is 1.2 acres and is currently comprised of an asphalt-paved parking lot, an asphalt-paved privatized portion of Skillman Avenue, and vacant, overgrown land with several patches of exposed concrete, likely from former on-site structures.

Current Zoning and Land Use: The current property zoning is R6 for residential use. R6 districts are medium-density apartment house districts. There is a pending zoning map amendment to rezone this lot from a R6 zoning district to a R7-2 district with a C2-4 overlay mapped on the southern portion of the block between Skillman and Maspeth Avenues that coincides with the planned development of the site. The area surrounding the site consists primarily of commercial and multi-family residential properties and vacant land.

Past Use of the Site: The site was initially developed by a residential home in 1888, and then the Loughlin Oval, a baseball field and athletic complex, dating back to 1907. Laughlin Oval was demolished, and the Greenpoint Hospital campus was built circa 1913-1915. Greenpoint Hospital was a large regional hospital that operated until approximately 1987. Operations associated with the hospital included residences, coal storage and combustion for heat generation, a laundry facility, and boiler rooms. The site, which occupies a portion of the Greenpoint Hospital campus, appears to have been vacant historically or used as a parking lot/storage.

Site Geology & Hydrogeology: The majority of the site is paved with a layer of asphalt approximately 3 inches thick. The asphalt is underlain by a layer of sub-base material,

consisting of a mix of soil, gravel, silt, concrete, brick, recycled concrete aggregate, and asphalt, ranging from approximately 3 to 9 inches thick. The southeastern portion of the site is not paved and consists of exposed soil and grasses.

A historic fill layer, ranging in depth from approximately 0 to 7 feet below grade is comprised of a mixture of sand, gravel, silt, cobble, concrete, brick, metal, and asphalt. Beneath the historic fill, the apparent native soil is predominantly comprised of fine to medium sand and silt, some coarse sand and fine to coarse gravel, and little to trace amounts of clay.

A clay lens, including sandy, silty, and low to high plasticity clay, was observed in select areas of the site with a thickness of approximately 6 feet between 10 and 16 feet below grade. Intervals of perched groundwater were observed atop the clay lens in select areas of the site. The perched groundwater ranged in thickness from approximately 1 to 7 feet. Perched groundwater was observed from 13 to 20 feet below grade.

Regional groundwater is present at a depth of 23 feet below grade. Based on topography and proximity to Newtown Creek, the direction of groundwater flow at the site is south.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

NYSDEC 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 that restricts the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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 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, NYSDEC 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. NYSDEC 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:

benzo(a)anthracene	arsenic
benzo(b)fluoranthene	chromium
benzo(a)pyrene	copper
chrysene	lead
indeno(1,2,3-cd)pyrene	mercury

1,1-dichloroethene	trichloroethene (TCE)
tetrachloroethene (PCE)	dibenz[a,h]anthracene

The contaminants of concern exceed the applicable SCGs for:

- soil
- groundwater

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: Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, cyanide, per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based upon the investigations conducted to date, the primary contaminants of concern for the site are SVOCs and metals in soils and VOCs in groundwater and soil vapor.

Soil - Soils samples were collected from near surface and subsurface soils throughout the site. Soil data for VOCs were compared to Unrestricted Use Soil Cleanup Objectives (UUSCOs), Restricted Residential SCOs (RRSCOs) and Protection of Groundwater SCOs (PGSCOs).

Only one VOC, acetone, at a maximum concentration of 0.075 parts per million (ppm) in near surface soil (0 to 2 feet below grade) was encountered in soil above its respective UUSCO and PGSCO of 0.05 parts per million (ppm), but below its RRSCOs of 100 ppm.

Several SVOCs were detected in near surface soils samples exceeding their respective UUSCOs and RRSCOs. These SVOCs include benzo(a)anthracene at concentrations up to 3.9 ppm (RRSCO is 1 ppm), benzo(b)fluoranthene at concentrations up to 4.8 ppm (RRSCO is 1 ppm), benzo(a)pyrene at concentrations up to 3.9 ppm (RRSCO is 1 ppm), chrysene at concentrations up to 3.8 ppm (UUSCO is 1 ppm), indeno(1,2,3-cd)pyrene at concentrations up to 2 ppm (RRSCO is 0.5 ppm) and dibenz(a,h)anthracene at concentrations up to 0.55 ppm (RRSCO is 0.33 ppm).

Several metals were also detected in near surface soils samples exceeding their respective UUSCOs. These metals include arsenic at concentrations up to 18.8 ppm (UUSCO is 13 ppm), chromium at concentrations up to 38.6 ppm (UUSCO is 30 ppm), copper at concentrations up to 167 ppm (UUSCO is 50 ppm), lead at concentrations up to 383 ppm (UUSCO is 63 ppm), mercury at concentrations up to 2.9 ppm (UUSCO is 0.18 ppm) and zinc at concentrations up to 274 ppm (UUSCO is 109 ppm).

Pesticides were detected at concentrations above the UUSCOs but below the RRSCOs at two locations in the northeastern part of the site, including 4.4'-DDD at concentrations up to 0.0059 ppm (UUSCO is 0.0033 ppm), 4.4'-DDE at concentrations up to 0.015 ppm (UUSCO is 0.0033 ppm), and 4.4'-DDT at concentrations up to 0.0048 ppm (UUSCO is 0.0033 ppm).

PCBs and cyanide were not detected in any site soils samples.

The PFAS compounds perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were detected in site soils at maximum concentrations of 3.08 parts per billion (ppb) and 0.98 ppb respectively, both in near surface soil. The unrestricted guidance values for PFOS and PFOA are 0.88 ppb and 0.66 ppb respectively.

Data does not indicate any off-site impacts in soil related to this site.

Groundwater - Chlorinated VOCs were detected above their respective Ambient Water Quality Standards and Guidance Values (AWQSGVs) in groundwater collected from two monitoring wells located at the site including tetrachloroethylene (PCE) at a concentration of 11 ppb (AWQSGV is 5 ppb), trichloroethylene (TCE) at a concentration of 25 ppb (AWQSGV is 5 ppb), and 1,1-dichloroethene at a concentration of 10 ppb (AWQSGV is 5 ppb).

The metals manganese and sodium were detected in groundwater above their respective AWQSGVs; however, these concentrations are consistent with regional background concentrations and are naturally occurring elements. These were no exceedance of AWQSGVs for SVOCs, PCBs, pesticides, or cyanide in groundwater samples.

PFOS was detected at concentrations up to 29.3 parts per trillion (ppt) (AWQSGV of 2.7 ppt). PFOA was detected at concentrations up to 18.4 ppt (AWQSGV of 6.7 ppt). 1,4-Dioxane was detected in groundwater samples collected from the site at concentrations up to 1.7 ppb (AWQSGV of 0.35 ppb).

Data does not indicate any off-site impacts in groundwater related to this site.

Soil Vapor - Several petroleum related VOCs were detected in soil vapor samples including benzene (maximum concentration 13 micrograms per cubic meter, or ug/m3), ethylbenzene (maximum concentration of 16 ug/m3), toluene (maximum concentration of 35 ug/m3) and m,p-xylene (maximum concentration of 70 ug/m3). Chlorinated VOCs were also detected in soil vapor samples including tetrachloroethylene (PCE) at concentrations up to 200 ug/m3 and trichloroethylene (TCE) at concentrations up to 2.9 ug/m3.

Data does not indicate any off-site impacts in soil vapor related to the site.

6.4: Summary of Human Exposure Pathways

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

Access to the site is unrestricted and much of the site is covered with asphalt. However, people could contact contaminants in the soil by walking on, digging in the soil or otherwise disturbing soils. 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. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. In addition, environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings.

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 chosen for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

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

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor
RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The 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 Multiple Cleanup Tracks remedy. A Track 1 unrestricted use cleanup will be implemented for majority of the site comprising the footprint of the new building, and a Track 4 restricted-residential use cleanup will be implemented along outside perimeter of the new development.

The selected remedy is referred to as the Excavation, Cover System, ISCO and Vapor Intrusion Evaluation remedy.

The elements of the selected remedy, as shown in Figures 2 and 3 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.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise™ (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

Excavation and off-site disposal of all on-site soils which exceed Unrestricted Use Soil Cleanup Objectives (UUSCOs) as defined by 6 NYCRR Part 375-6.8, in the upper 3 feet throughout the Track 1 portion of the site (footprint of the new building) and to 7 feet below ground surface (bgs) at a hot spot (contaminated with mercury) within the Track 1 portion of the site. For the Track 4 portion of the site (outside perimeter of the new development), all soils in the upper two feet which exceed the Restricted Residential SCOs (RRSCOs) will be excavated and transported off-site for disposal. Approximately 6,200 cubic yards of soil would be excavated and disposed off-site. Additional confirmation samples will be collected between 7 and 21 feet in the eastern half of the Track 1 portion of the site to confirm that UUSCOs are met in this area. If there are UUSCO exceedances in soils between 7 and 21 feet in this area of the site, excavation would continue to the depth needed to meet UUSCOs.

Collection and analysis of confirmation samples at the remedial excavation depth in the Track 1 area will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify NYSDEC, submit the sample results, and in consultation with NYSDEC, determine if further

remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

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. Cover System

A site cover will be required for the Track 4 portion of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. 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.

5. In-Situ Chemical Oxidation (ISCO)

In-situ chemical oxidation (ISCO) will be implemented to treat chlorinated volatile organic compounds (VOCs) in groundwater. A chemical oxidant will be injected into the subsurface to destroy the contaminants in the western portion of the site where chlorinated compounds were elevated in the groundwater via injection wells. The method and depth of injection will be determined during the remedial design.

Groundwater monitoring will be required within the treatment area and down gradient of the treatment area to demonstrate the effectiveness of the remedy. Monitoring will be conducted for contaminants of concern (i.e., chlorinated VOCs). At least three permanent monitoring wells will be installed to monitor groundwater. Based on the post-remediation sampling, contingency groundwater treatment measures will be implemented.

6. Soil Vapor Intrusion Evaluation

As part of the 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.

7. Institutional Controls

Imposition of an institutional control in the form of an environmental easement for the controlled property (Track 4 portion of the site or entire site should the Track 1 portion of the site fail to meet the requirements of Remedial Element 7 above) which will:

- require the remedial party or site owner to complete and submit to the NYSDEC 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, commercial, or industrial uses 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 NYSDEC approved Site Management Plan.

7. 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:

- Institutional Controls: The Environmental Easement discussed in Remedial Element 7 above.

- Engineering Controls: The Cover System for the Track 4 portion of the site discussed in Remedial Element 4 above.

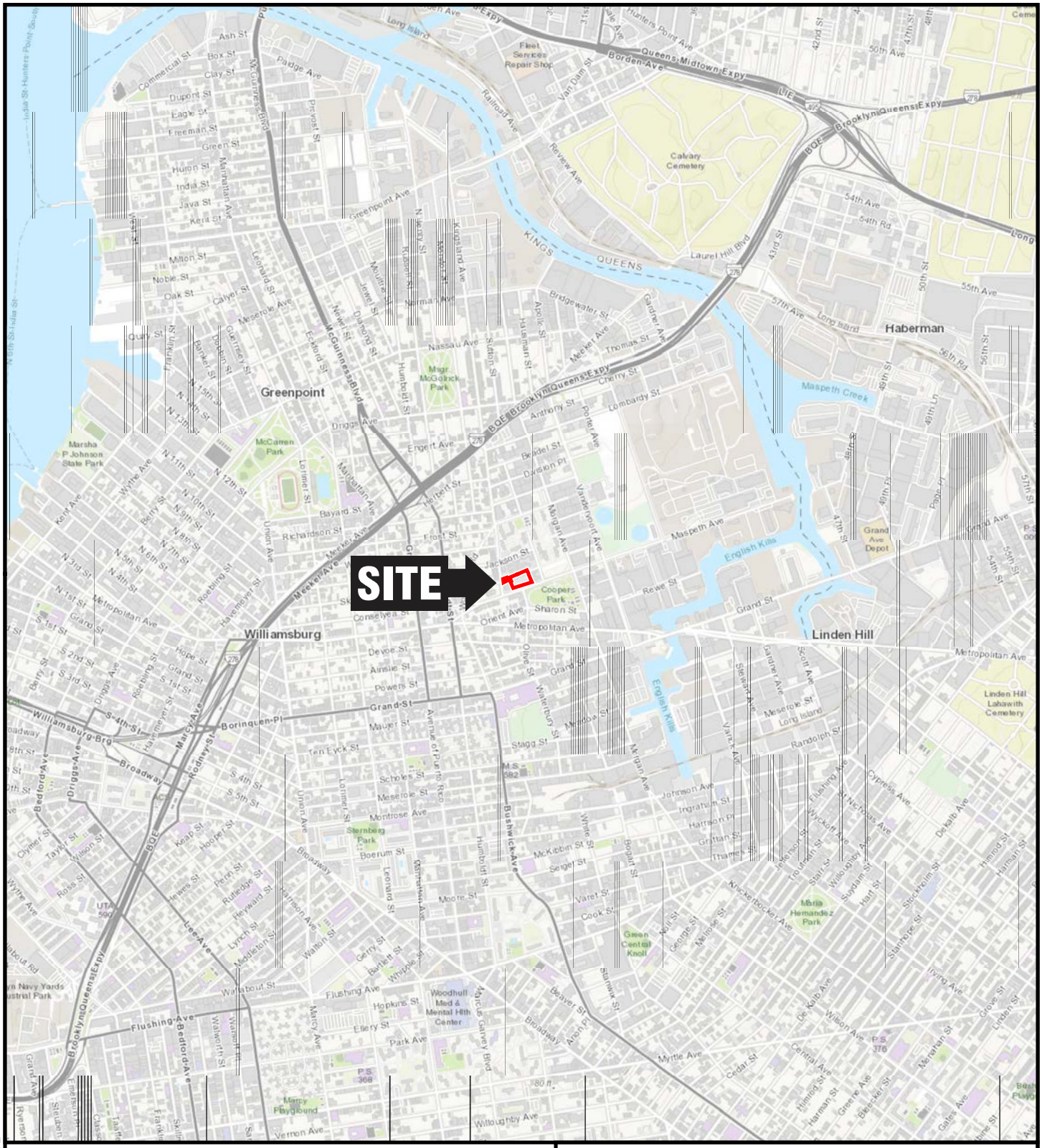
This plan includes, but may not be limited to:

- 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 and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion.
- provisions for the management and inspection of the identified engineering controls;

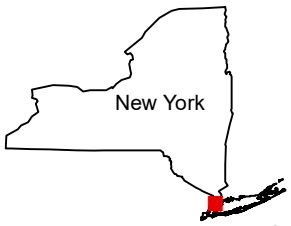
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Remedial Element 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- maintaining site access controls and NYSDEC 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 of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to NYSDEC; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



QUADRANGLE LOCATION



N

2,000 0 2,000'

Title:

SITE LOCATION MAP

COOPER PARK COMMONS BUILDING 2
BCP SITE #C224361

89 MASPETH AVENUE, BROOKLYN, NEW YORK

Prepared for:

MASPETH B2 OWNER LLC

ROUX

Compiled by: P.R.	Date: 08/22/23
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: MB.L.	Project: 2611.0006Y000
File: 2611.0006Y104.1.mxd	

FIGURE 1

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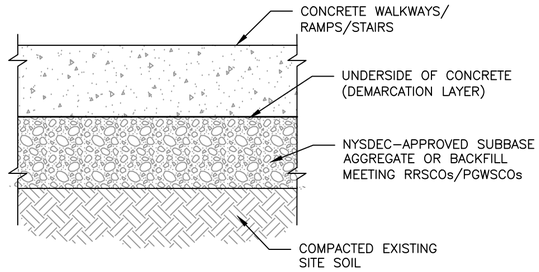
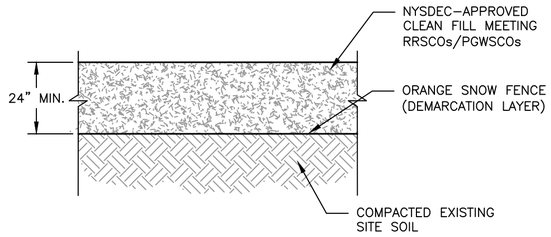


1 PROPOSED SITE COVER SYSTEM: EXTERIOR PAVED WALKWAYS/RAMPS/STAIRS

SCALE: NOT TO SCALE



2 PROPOSED SITE COVER SYSTEM: EXTERIOR LANDSCAPED AREAS

SCALE: NOT TO SCALE

LEGEND

- SITE BOUNDARY
- SOIL BORING FROM THE ROUX REMEDIAL INVESTIGATION
- SOIL BORING AND MONITORING WELL FROM THE ROUX REMEDIAL INVESTIGATION
- MONITORING WELL FROM THE ROUX REMEDIAL INVESTIGATION
- SOIL VAPOR SAMPLE FROM THE ROUX REMEDIAL INVESTIGATION
- SOIL BORING (TO WATER TABLE), TEMPORARY WELL, AND SOIL VAPOR POINT FROM THE ROUX PHASE II ESA AND ADDITIONAL SOIL SAMPLING
- SOIL BORING (TO WATER TABLE) AND SOIL VAPOR POINT FROM THE ROUX PHASE II ESA AND ADDITIONAL SOIL SAMPLING
- SOIL BORING (TO 6 FEET BLS) FROM THE ROUX PHASE II ESA AND ADDITIONAL SOIL SAMPLING
- SHALLOW SOIL BORING FROM THE ROUX PHASE II ESA AND ADDITIONAL SOIL SAMPLING
- PROPOSED BUILDING FOOTPRINT
- PROPOSED BUILDING CELLAR LEVEL FOOTPRINT
- PROPOSED TRACK 1 UNRESTRICTED USE AREA – EXCAVATION TO 3 FT BLS
- PROPOSED TRACK 4 RESTRICTED RESIDENTIAL USE AREA – EXCAVATION TO 2 FT BLS
- PROPOSED TRACK 1 UNRESTRICTED USE AREA – EXCAVATION TO 7 FT BLS

NOTES

1. BASEMAP SOURCED FROM ALTA/NSPS LAND TITLE SURVEY OF GREENPOINT HOSPITAL, PREPARED BY GALLAS SURVEYING GROUP DATED JULY 9, 2019.
2. TRACK 4 REMEDIAL AREA WILL CONSIST OF EXCAVATION TO 2 FT BLS TO ALLOW FOR PLACEMENT OF COMPOSITE COVER. COMPOSITE COVER WILL CONSIST OF CONCRETE OR ASPHALT PAVEMENT OR AT LEAST 2 FEET OF CLEAN FILL AS DEFINED IN THE RAWP. SEE DETAILS 1 AND 2.
3. TRACK 1 REMEDIAL AREA WILL CONSIST OF EXCAVATION TO THE DEPTH INDICATED ON THE FIGURE AND MAY BE MODIFIED BASED ON THE RESULT OF THE PRE–DESIGN INVESTIGATION AND ENDPOINT SAMPLING.

N

20' 0 20'

Title:

REMEDIAL ALTERNATIVE 2: COMBINATION TRACK 1 UNRESTRICTED USE / TRACK 4 RESTRICTED RESIDENTIAL USE CLEANUP

COOPER PARK COMMONS BUILDING 2 BCP SITE #C224361
89 MASPETH AVENUE, BROOKLYN, NEW YORK

Prepared for:

MASPETH B2 OWNER LLC

ROUX

Compiled by: J.T.	Date: 2/12/2024	PLATE
Prepared by: B.H.C.	Scale: AS SHOWN	2
Project Mgr: J.T.	Project: 2611.0006Y000	
File: 2611.0006Y105.01.DWG		

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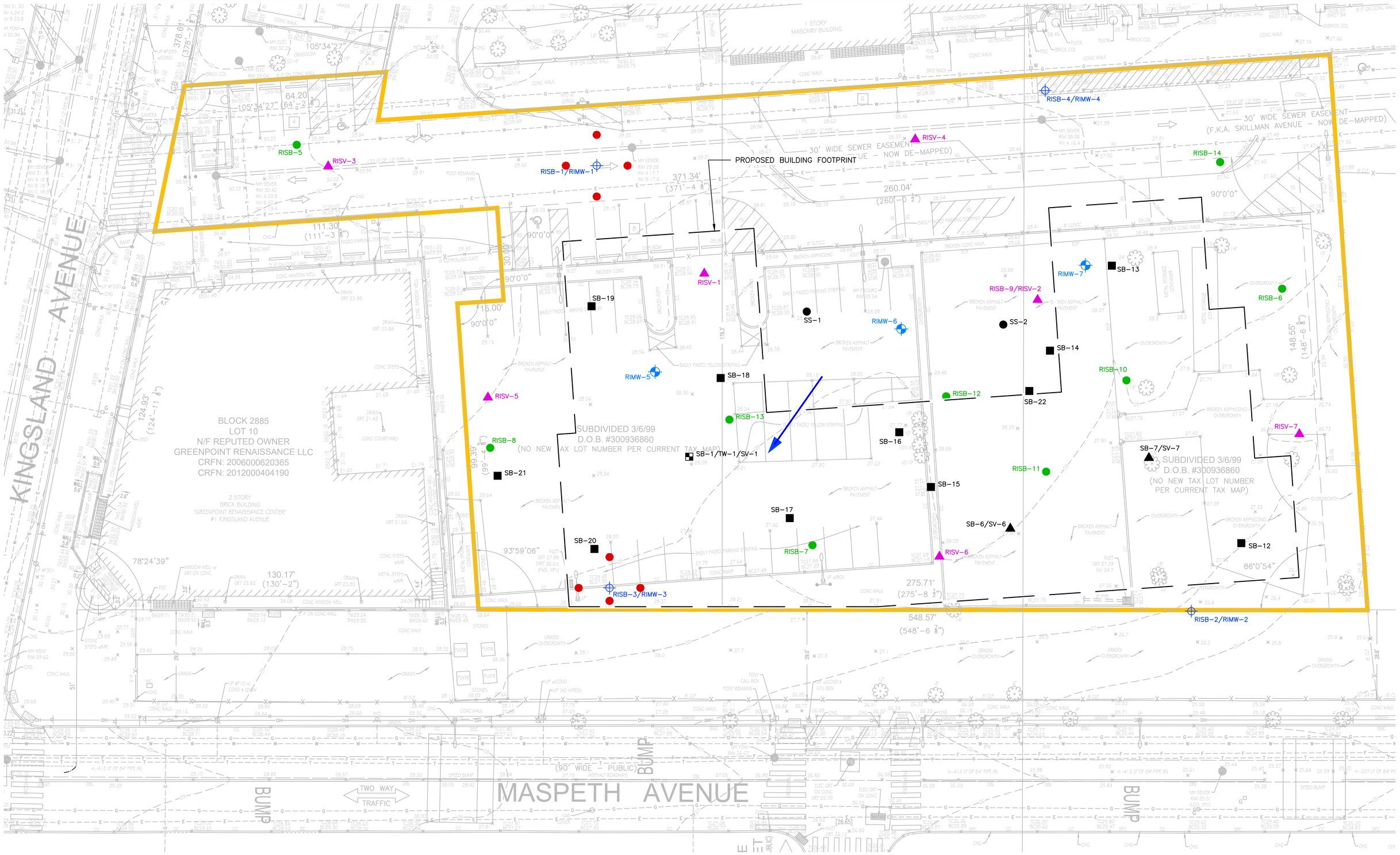

LEGEND

- SITE BOUNDARY
- SOIL BORING FROM THE ROUX REMEDIAL INVESTIGATION
- SOIL BORING AND MONITORING WELL FROM THE ROUX REMEDIAL INVESTIGATION
- MONITORING WELL FROM THE ROUX REMEDIAL INVESTIGATION
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- SOIL BORING (TO 6 FEET BLS) FROM THE ROUX PHASE II ESA AND ADDITIONAL SOIL SAMPLING
- SHALLOW SOIL BORING FROM THE ROUX PHASE II ESA AND ADDITIONAL SOIL SAMPLING
- APPROXIMATE IN-SITU CHEMICAL OXIDATION INJECTION POINT LOCATION
- PROPOSED BUILDING FOOTPRINT
- GROUNDWATER FLOW DIRECTION

SOURCE

BASEMAP SOURCED FROM ALTA/NSPS LAND TITLE SURVEY OF GREENPOINT HOSPITAL, PREPARED BY GALLAS SURVEYING GROUP DATED JULY 9, 2019.

NOTE

IN-SITU CHEMICAL OXIDATION MONITORING WILL OCCUR AT RIMW-1 AND RIMW-3.

N

20' 0 20'

Title:

IN-SITU CHEMICAL OXIDATION APPLICATION AND MONITORING PLAN

COOPER PARK COMMONS BUILDING 2 BCP SITE #C224361
89 MASPETH AVENUE, BROOKLYN, NEW YORK

Prepared for:

MASPETH B2 OWNER LLC

ROUX

Compiled by: S.S.	Date: 20MAY24	PLATE 3
Prepared by: B.H.C.	Scale: AS SHOWN	
Project Mgr: F.C.	Project: 2611.0006Y000	
File: 2611.0006Y104.01.DWG		

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