Excavation Work Plan

Flatbush Station A&B Former Gas Holder Site
Brooklyn, New York
NYSDEC Site No.: 2-24-061
Order on Consent Index #: A2-0552-0606

August 2022

Revised November 2023

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Introduction

CAMBA Housing Ventures (CHV) intends to redevelop a 54,843 square foot site located at 329 Clarkson Avenue, in Brooklyn, New York ("the Site") as part of the Vital Brooklyn Initiative. The project will involve the demolition in place of the existing 1-story, 45,120 gross-square-foot (GSF) parking garage that was originally constructed in 1958. The new development, Clarkson Estates (the "Proposed Development"), would consist of a 9-story – 98'-8"-foot tall, 334,745 GSF mixed-use building, which would include 289,683 GSF of residential space, 30,302 GSF of community facility space – (which is to include an approximately 6,336- square foot basketball court), and 14,760 GSF of enclosed parking with approximately 80 parking spaces. The Proposed Development would provide 328 new units of affordable housing with a mix of 36.286% studios (119 units), 35.06% 1-bedroom (115 units), 20.43% 2-bedroom (67 units) and 8.23% 3-bedroom units (27 units), approximately 30,750 square feet of community facility space in the cellar and on the first floor and adds a community-oriented amenity of an approximately 6,336-square foot basketball court.

The Site is located at 329 Clarkson Avenue in the Prospect Lefferts Gardens-Wingate neighborhood in Brooklyn, New York and is identified as Block 4828/Lot 21. Figure 1 shows the Site Location. The Site is currently improved with a 45,120-sqaure foot building in use as a SUNY Downstate one-story parking garage (Figure 2). The area surrounding the Site is relatively flat and consists of primarily institutional, commercial, and residential use properties. The Site is bounded by SUNY (State University of New York) Downstate Biotechnology Incubator to the north, a commercial permitted parking lot and residential to the south, the Rolph Henry Playground and a BP gasoline station to the east, and a commercial building to the west. Figure 3 is a land use map of the area in which the site is located.

The Site currently is zoned M1-1. To facilitate the Proposed Development, the New York State Urban Development Corporation d/b/a Empire State Development (ESD), in accordance with the New York State Urban Development Act (UDC Act), would override certain provisions of the NYC Zoning Resolution to allow for the substantial equivalent of an R7A zoning district with a C2-4 commercial overlay and associated height and setback waivers (the ESD Zoning Override). The ESD Zoning Override will be incorporated into ESD's proposed General Project Plan (GPP) for the Proposed Development in accordance with the UDC Act. In addition, the New York State Division of Housing and Community Renewal (HCR) would provide construction funding for the project.

The Site comprises part of a former Manufactured Gas Plant (MPG) site, known as the Flatbush Station A&B Former Gas Holder Site (DEC Site No. 224601) that was originally owned and operated by Brooklyn Union Gas. National Grid is responsible for the investigation and remediation of MGP contamination at the Development Site pursuant to an Order on Consent and Administrative Settlement (Index No. #A2-0552-0606) administered by the New York State Department of Environmental Conservation (NYSDEC).

National Grid completed a Site Characterization Report in 2011, which determined that although MGP contamination was identified at the Development Site, there were no ongoing exposures to such contamination. NYSDEC approved a Site Management Plan (SMP), dated July 2016, which sets forth various engineering and institutional controls required to prevent future exposure to contamination at the Site. The SMP restricts the use of the Site to commercial or industrial uses unless further investigation and remediation is undertaken. Given the proposed redevelopment of the Site, National Grid recently implemented a Remedial System Optimization Investigation Work Plan, dated May 21, 2021, and approved by NYSDEC. As detailed in the February 2022 Remedial System Optimization Investigation Report, no MGP contamination was identified within the areas to be excavated for redevelopment. Accordingly, site redevelopment will be undertaken in accordance with this Excavation Work Plan, prepared in accordance with the SMP, and 29 CFR 1910.120.

1.0 Notification

CAMBA Housing Ventures (CHV) will notify both the DEC (New York State Department of Environmental Conservation) and National Grid at least two weeks prior to the commencement of the implementation of this EWP. Such notification will include a copy of the contractor's HASP and a tentative schedule to complete the work.

2.0 Excavation Work Plan

The excavation will be conducted across the entire site for the purposes of construction of the new mixed-use building. The depth of excavation will be approximately 18 feet below ground surface for the installation of the foundation and utility connections. Sheeting and shoring will be installed during the remediation/construction. The estimated volume of soil to be excavated is 60,000 tons. The current engineering control, the Composite Cover System, will be disturbed and new CCS installed during the construction. The new construction will include sub-surface parking, indoor and outdoor community facilities, etc.

2.1 Soil Screening Methods

Visual, olfactory, and instrument-based soil screening will be performed by a qualified environmental professional (QEP) during all remedial and development excavations into known or potentially residual MGP contaminated material and non-MGP contaminated soils. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work.

Soils will be segregated based on previous environmental data and screening results into material that requires offsite disposal as either MGP-contaminated, hazardous, or non-hazardous. Excavated soil may be reused onsite except as set forth in Section 2.6 pending approval of the DEC.

2.2 Stockpile Methods

Stockpiles containing known or suspected impacts and or imported fill will be continuously encircled with a berm. It will be protected to prevent migration of dust regardless of the level of contamination. Tarps anchored such that they are not blown away will be used to cover the stockpiled soil. Contaminated water draining from the stockpiled soil will be collected from inside the bermed area and disposed of offsite in an appropriate manner. Hay bales will be used as needed near catch basins, surface waters, and other discharge points.

Stockpiles containing known or suspected impacts will be covered at the end of each workday with appropriately anchored tarps. Stockpiles containing known or suspected impacts will be routinely inspected and damaged tarp covers will be promptly replaced. Stockpiles containing known or suspected impacts will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. Stockpiled material not being used will be removed within 30 days following disposal facility characterization.

2.3 Materials Excavation and Load Out

A QEP or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated residual MGP contaminated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this EWP.

The presence of utilities and easements on the project site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under the SMP is posed by utilities or easements on the project site.

Loaded vehicles leaving the project site will be appropriately tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYS

Department of Transportation (DOT) requirements (and all other applicable transportation requirements).

Locations where vehicles enter or exit the project site shall be inspected daily for evidence of off-site soil tracking. If necessary, trucks will be cleaned (via approved dry or wet methods) of loose soil found on outside of vehicle or tires.

The QEP will be responsible for ensuring that all egress points for truck and equipment transport from the project site are clean of dirt and other materials derived from the project site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

2.4 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

At a minimum, trucks should have competent cover systems and functional tailgates to prevent leakage of liquids. Trucks transporting residual MGP contaminated soils shall be lined with 6-mil polyethylene sheeting large enough to fully cover the top of the load. The truck covers shall be an impermeable soil cover. Additional automatic mesh tarps will be used to secure the liners. Loose- fitting canvas-type truck covers, or mesh covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. All trucks transporting residual MGP contamination will be decontaminated prior to leaving the project site. Decontaminated water, if any, will be collected and disposed of off-site in an appropriate manner.

The following truck transport routes are recommended for transporting residual MGP and non-MGP contaminated soil:

1. Trucks will be required to enter and exit the project site via Rogers Avenue and Nostrand Avenue in Brooklyn.
2. The entry truck route (Figure 4) shall be as follows:
    - Traveling East of Prospect Parkway (NW-27E) to Exit 5
    - Left onto Caton Avenue.
    - Continue on Linden Avenue
    - Left onto Rogers Avenue.
    - Right onto Parkside Avenue.
    - Right onto Site.
3. The exit trucking route (Figure 5) shall be:
    - Right out of Site onto Parkside Avenue
    - Right onto New York Avenue
    - Right onto Church Avenue
    - Right onto Prospect Avenue/NY-27W

It is the property owner/contractor's responsibility to follow all applicable state, local, and municipal rules, regulations, and guidelines (including NYCDOT and NYSDOT) regarding truck routes.

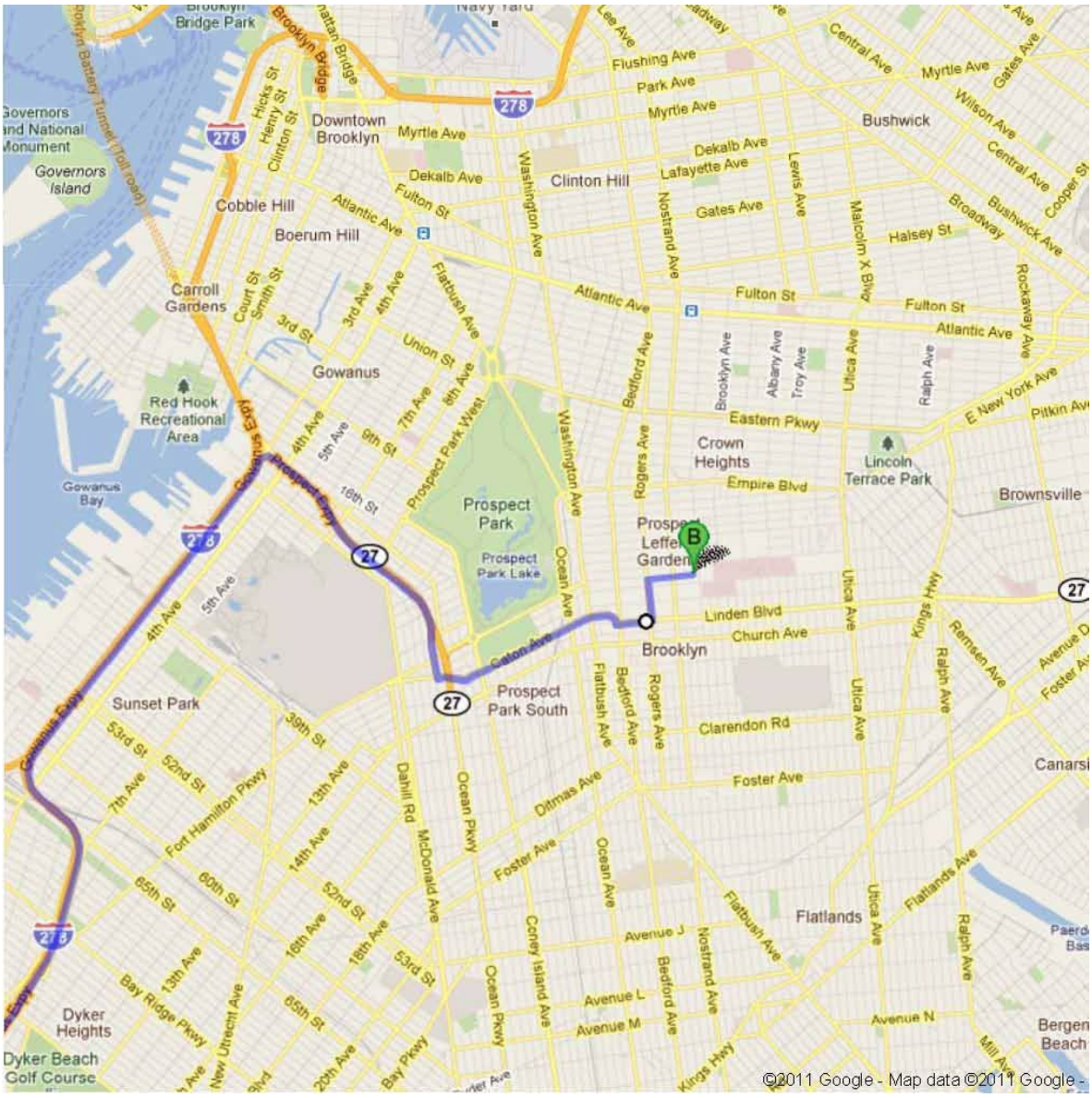


Figure 4 Truck Entry Route

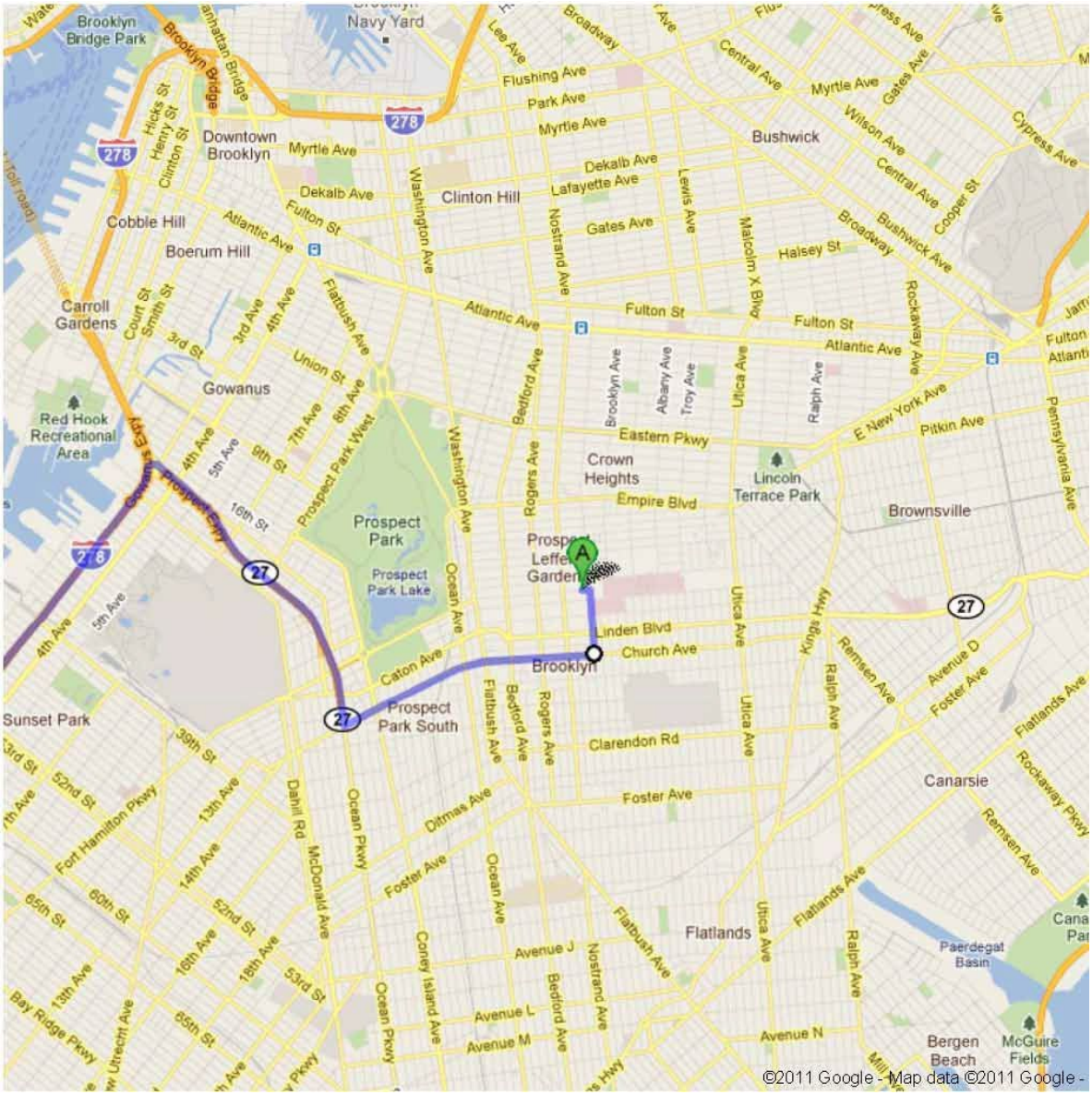


Figure 5 Truck Exit Route

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the project site will be kept clean of dirt and other materials during any project site activity and development.

2.5 Materials Disposal Off-Site

All soil/fill/solid waste excavated and removed from areas known to have residual MGP contamination will be designated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this project site is proposed for unregulated off-site disposal (i.e., clean or non-MGP contaminated soil removed for development purposes), a formal request with an associated plan will be made to the DEC. Unregulated off-site management of materials from this project site will not occur without formal DEC approval.

Offsite disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate (i.e., hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc.), a copy of each facility's Part 364 permit and facility acceptance letter. Actual disposal quantities and associated documentation will be reported to the DEC in the Periodic Review Report. This documentation will include waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken offsite will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

2.6 Materials Reuse Onsite

There is a potential for the reuse of soil/fill onsite around foundation elements of the proposed building and no closer than 2-feet from the final grade. Onsite soil will be used as backfill around the foundation elements of the proposed building. Onsite soil will be placed in lifts and properly compacted between 2-6 feet deep. Plans for reuse will be prepared in accordance with the requirements in DER-10. This plan will be evaluated and approved by DEC prior to implementation. The full Soil Reuse Plan is provided in Appendix A.

2.7 Fluids Management

All liquids to be removed from the project site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported, and disposed in accordance with applicable local, State, and Federal regulations. Dewatering and purge and development fluids will not be recharged back to the land surface or subsurface of the project site but will be managed off-site. Discharge of water generated during large-scale construction activities to surface waters (i.e., a local pond, stream, or river) will be performed under a SPDES permit.

2.8 Cover System Restoration

After the completion of soil removal and any other invasive activities, the CCS will be restored in a manner that complies with the Decision Document. The demarcation layer, consisting of orange snow fencing material or equivalent material will be placed in excavation areas with residual MGP contamination. The demarcation layer will provide a visual reference to the top of the 'Residual MGP Contamination Zone', the zone that requires adherence to special conditions for disturbance of residual MGP contaminated soils defined in this SMP. If applicable, Figures 1-8, 1-9, and 1-10 of the SMP will be updated to show the revised residual MGP contamination. The revised figures will be included in the subsequent Periodic Review Report and in any updates to the SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Residual MGP Contamination Zone". A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the SMP.

2.9 Backfill from Off-Site Sources

All materials proposed for import onto the project site must be approved by the qualified environmental professional and DEC in compliance with the applicable provisions in the SMP prior to receipt at the project site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the project site. The appropriate Request to Import Form will be completed and submitted to the NYSDEC.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the applicable soil quality standard is the Restricted Residential standard. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this project site, will not be imported onto the project site without prior approval by NYSDEC. Solid waste will not be imported onto the project site. Additionally, all imported soils must meet 6 NYCRR Part 375 Restricted Residential Use SCOs.

Trucks entering the project site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases as discussed in Section 2.2 above.

2.10 Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

2.11 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc., as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In that case, a reduced list of analytes will be proposed to the DEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the DEC spills hotline and included in the periodic reports prepared pursuant to Section 5 of the SMP.

2.12 Community Air Monitoring Plan

Air sampling stations will be placed upgradient and downgradient of generally prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the Community Air Monitoring Plan (Appendix D of the SMP) will be reported to DEC and DOH Project Managers.

2.13 Odor Control Plan

Fugitive emissions can be generated from a variety of activities including excavation, drilling, and dewatering and/or from the temporary staging of materials for characterization, consolidation, and scheduling for transportation.

Due to the COIs associated with the remedial activities at former MGP sites; fugitive emissions can take the form of volatile organic compounds (VOC's), odor, and/or dust. Dust can be entrained with low levels of high molecular weight constituents, while VOC's can volatilize into ambient air. Odor emissions may result from the atmospheric exposure of contaminated media. Contamination may be present in soils and groundwater. The potential for odor generation from groundwater is less than that from solids. The constituent concentrations associated with these odors are typically less than the levels that potentially pose a health risk as the odor threshold of COI's are typically less than health-based action levels.

This odor control plan can control emissions of nuisance odors off-site. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. DEC and DOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

A three-tiered set of controls are proposed for this Plan:

- Level I - Built into the design of the Plan and includes proactive measures to minimize the effect of fugitive emissions. Level 1 includes air monitoring to ensure that levels of VOC's and dust are under site-specific action levels.
- Level II – Procedures that are implemented in response to specific increases in fugitive emissions but are not likely to have a significant impact in the schedule of project site activities.
- Level III – More aggressive procedures, also initiated in response to specific increases in fugitive emissions that are likely to have a more significant impact on production schedule and project site activities.

The Site Manager will be required to progressively implement these options until emission sources are controlled and ambient concentrations no longer have the potential to pose a health risk.

2.13.1 Level 1 Controls

Level 1 Controls are built into the design of the field activities and involve physical controls, project site layout, and scheduling.

2.13.1.1 Physical Controls

The simplest form of physical control is the use of visual barrier cloth on the project site perimeter fencing. The resistance caused by the visual barrier will elevate the discharge point of emissions leaving the site to the top of the perimeter fence and will promote better mixing and dispersion. Another form of simple physical control is the required use of tarps on trucks that move, or transport impacted material.

All stockpiles of impacted material should be covered, if left inactive for a period of more than 2 hours.

All trucks used for off-site transport should have tarps in place to cover impacted material as detailed in Section 2.2. On-site haul routes should be routinely wetted to control dust using a hose, sprinkler, or dedicated water truck.

2.13.1.2 Site Layout

The dispersion of fugitive emissions is controlled by meteorological conditions and their impact generally decreases with distance from the source. If possible, transfer/storage areas will be placed either downwind or significantly upwind of off-site receptors.

The height of the stockpiles should be lower than the top of the perimeter fencing (8 feet) to utilize the benefit of the barrier cloth. If stockpiles must be staged near the fence line (within 100 feet), they should be less than 8-feet in height.

2.13.1.3 Scheduling

Every effort should be made to minimize the amount of time that potentially contaminated material is stored on-site. Appropriate strategies involve the in-place pre-characterization of soils to be excavated and the sampling of stockpiles as soon as they are placed. Efficient scheduling/coordination of operations can also limit the impact of active emission sources. Close coordination of excavation activities can decrease the surface area of disturbed material, thereby reducing the size of the emission source. A smaller source area can facilitate the implementation of additional controls, if required.

2.13.2 Level II Controls

Air monitoring will routinely be performed at the fence line of the project site as delineated in the CAMP during all work activities. The results will be compared to site-specific action levels for VOC's and total particulates.

Level II controls will be enacted if the exceedance is confirmed, or odors are detected at the fence line. If the action levels are exceeded, additional monitoring will be conducted to confirm the result. Level II controls will be enacted if the exceedance is confirmed. The Site Manager must then work through the applicable list of site controls until the fence line monitoring results for all parameters are determined to be less that their associated action levels. Specific Level II controls are discussed below.

2.13.2.1 Suppressing Agents

Several agents that can be applied over emissions sources have been determined to be effective in controlling emissions. These include odor suppressant foam for VOC mitigation and water spray for dust suppression.

The following suppressing agents have been identified for use, but additional agents may be used or substituted for other proven agents such as odex, hydromulch, or ecosorb.

Odor suppressant foam

Odor suppressant foam can provide immediate, localized control of VOC and odor emissions. The foam is created by the injection of air into a foam concentrate/water mixture using a Pneumatic Foam Unit. The foam is applied via a hose to cover source areas to a depth of 3 to 6 inches. Foam (Rusmar AC-600 or equivalent) is a short-term remedy and can be actively used to control VOC and odor emissions from active excavations/stockpiles, and during the loading of trucks. It is shipped as a concentrate and diluted with water at the site. Under normal conditions, this foam can last for several hours. However, it has been observed to degrade quickly in direct sunlight or precipitation so it must be applied liberally and frequently to all areas that require odor control.

Water spray

A spray of water can be used to minimize the amount of dust created. A water hose is effective for controlling dust over a small area, while lawn sprinklers or a dedicated water truck may be more efficient for extended control of large areas or on-site haul routes.

2.13.2.2 Tarps

Tarps can provide effective control for source areas that are likely to be inactive for extended periods of time. To be effective, the size of the source area should be controlled such that it can be covered using a single tarp. Rolls of 6-mil polyethylene will be used to cover inactive stockpiles. Tarps will also be used for covering exposed soils loaded into trucks. All trucks will be lined with 6 mil polyethylene sheeting, the liners will be large enough to overlap and fully cover the top of the load.
Additional automatic mesh tarps will be used to secure the liners.

2.13.3 Level III Controls

Level III controls are to be implemented when Level II controls have been exhausted and ambient concentrations of emissions continue to exceed the site-specific action levels. Each of the control options listed in this subsection has the potential to significantly affect the schedule/production rate of site activities. These delays may be required periodically to ensure that acceptable levels of fugitive emissions are maintained and are preferable to a complete work cessation to control an emission event.

2.13.3.1 Production/Schedule

It may be necessary to reduce the excavation rate to reduce the surface area of disturbed media or slow the generation rate of stockpiles. These activities would result in smaller source areas that could be more effectively controlled using Level II techniques.

2.13.3.2 Meteorological Conditions

It may be necessary to limit certain activities to those periods when preferred meteorological conditions exist, such as wind direction or low temperatures are present. Mitigation measures will be provided as necessary.

2.13.3.3 Relocation of Activities

Another option is to cease work and move the remedial activities to lesser-impacted areas until adequate control measures can be implemented, or more favorable meteorological conditions return. Also, it may be beneficial to temporarily relocate material loading and transfer activity areas to other areas of the project site or within subsurface excavations to utilize the natural dispersion of emissions in the atmosphere, or shelter from the wind.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a

temporary containment structure equipped with appropriate air venting/filtering systems.

2.14 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

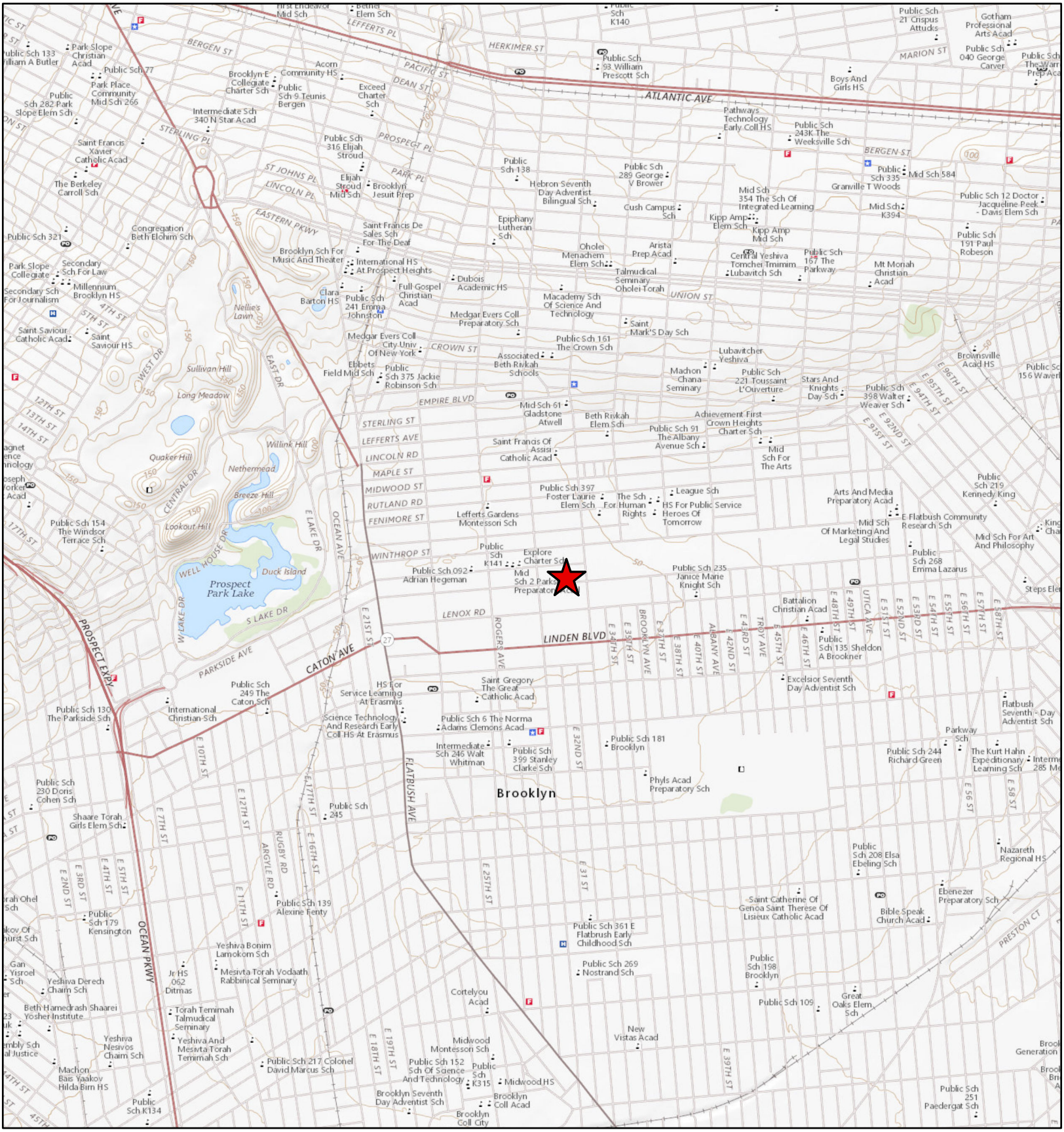
- Dust suppression will be achieved using a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface; and
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

2.15 Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during project site clearing and grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

FIGURES



Legend

329 Clarkson Avenue

N

1 Miles

Figure 1
Site Map

329 Clarkson Avenue
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

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Legend

329 Clarkson Avenue

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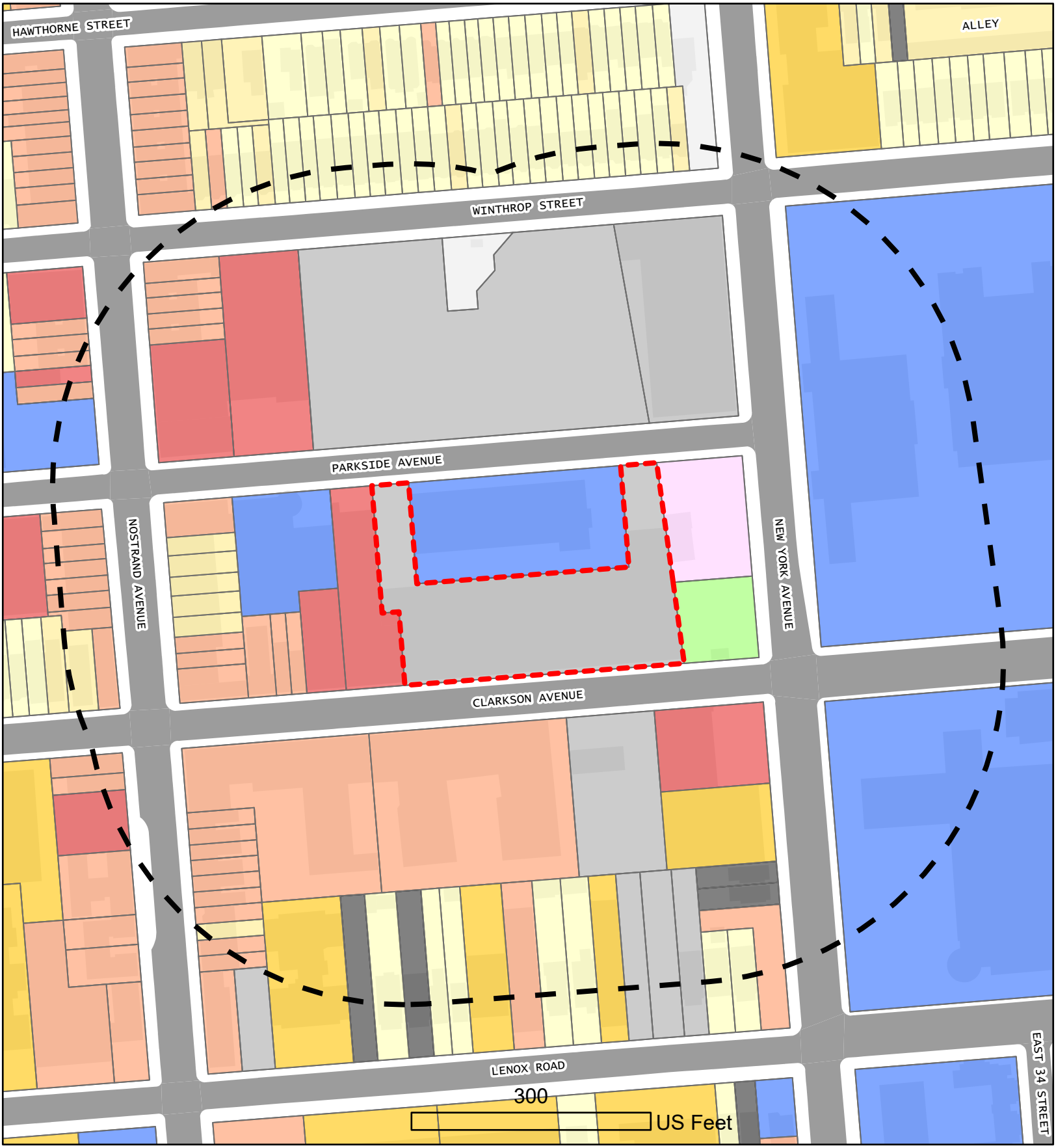
US Feet

Figure 1
Site Map

329 Clarkson Avenue
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

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GB/10.6.20	VC/7.24.23	2020072-02



Legend

- Project Site
- 400' Study Area

Layer

LandUse

- One & Two Family Buildings
- MultiFamily Walkup Buildings
- MultiFamily Elevator Buildings
- Mixed Commercial / Residential Buildings
- Commercial / Office Buildings
- Industrial / Manufacturing
- Transportation / utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- All Others or No Data

N

Figure 3
Land Use Map

329 Clarkson Avenue
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

DRAWN BY / DATE	REV / DATE	DRAWING NUMBER
GB/3.7.22		2020072-03

APPENDIX A
SOIL REUSE PLAN

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Soil Reuse Plan

Introduction

This Soil Reuse Plan has been developed for the redevelopment of the property at 329 Clarkson Avenue in Brooklyn, NY. The current parking garage used for the State University of New York (SUNY) Downstate Medical Center will be demolished and the site will be redeveloped as a mixed-use commercial/residential project. The excavation for the proposed building will extend approximately 20-feet below ground surface (bgs) across the entire property generating some 50,000 tons of soil for offsite disposal. Figure 1 shows the Clarkson site.

Purpose of reuse

The intent of the soil reuse plan is to utilize onsite soil as backfill for the various foundation elements for the proposed building.

Soil Reuse

NYCRR Part 360 states that excavated material may be used to backfill the same excavation or as grade adjustment in areas of similar physical characteristics on the site of generation. If the material exhibits visual or historical evidence of contamination (including odors) and will be used in an area with public access, the e material must be covered with pavement, foundation, or with a minimum of 12 inches of soil or fill that meets the criteria to be used as Fill Type 1 and Fill Type 2 in section 360.13 of this Part. If available, soil from the Office of Remedial Remediation's (OER) Clean Soil Bank may be a source of backfill material given the analytical data for that soil does not contain contaminants greater than that which already exists onsite. A demarcation layer or marker will be installed to designate where onsite soil is located below the clean fill.

The property will be excavated in quadrants as shown on Figure 2. The top 3 to 4 feet of material, which has the highest levels of contaminants, will be transported for off-site disposal prior to excavating deeper. The Site will then be split into quadrants for as the underpinning and SOE installation progresses. As the foundation elements are constructed, the necessary volume of soil will be backfilled around them. It is estimated that approximately 2,500 tons of soil will be reused onsite.

Soil will be excavated and, to the extent possible, stockpiled immediately adjacent to the area where it will be reused. Should soil to be reused have to be stockpiled further away, the area for the proposed basketball court will be the stockpiling area for the East quadrant and the proposed courtyard for the West quadrant. Figure 3 shows the various locations, shaded in purple, where soil will be reused. The areas outlined in red are where soil may be stockpiled temporarily.

Where there is soil that is determined by National Grid to be manufactured gas plant (MGP) related based on visual or olfactory means, etc., that soil will not be reused onsite. In addition, soil located adjacent to the gas station will be carefully examined and segregated as required. No soil that is contaminated based on the following will be reused onsite for any purpose:

> Contamination including substantial quantities of mobile contamination in the form of a NAPL that is identifiable either visually, through strong odor, containing NAPL blebs, coating, saturation, by elevated contaminant vapor levels or is otherwise readily detectable without laboratory analysis.

Soil that is creating a nuisance condition as defined by Commissioner Policy CP-51 Section G, will not be used onsite (including MGP or Petroleum impacted soil).

Stockpiled soil that is not reused will be disposed along with the remaining onsite soil. No onsite soil will be reused within the top 2-feet of the property where there are landscaped areas.

Based on the results of the RSOI that was completed for the site, additional sampling is not required for the soil reuse. The analytical data was fairly homogenous throughout the site, and it does not appear that there are any onsite areas that cannot be reused across the entire site.

Reporting

The soil reuse information will be incorporated into the Final Engineering Report for the project and will indicate the total volume of soil reused and where it was reused.

FIGURES



Legend

329 Clarkson Avenue

N

150

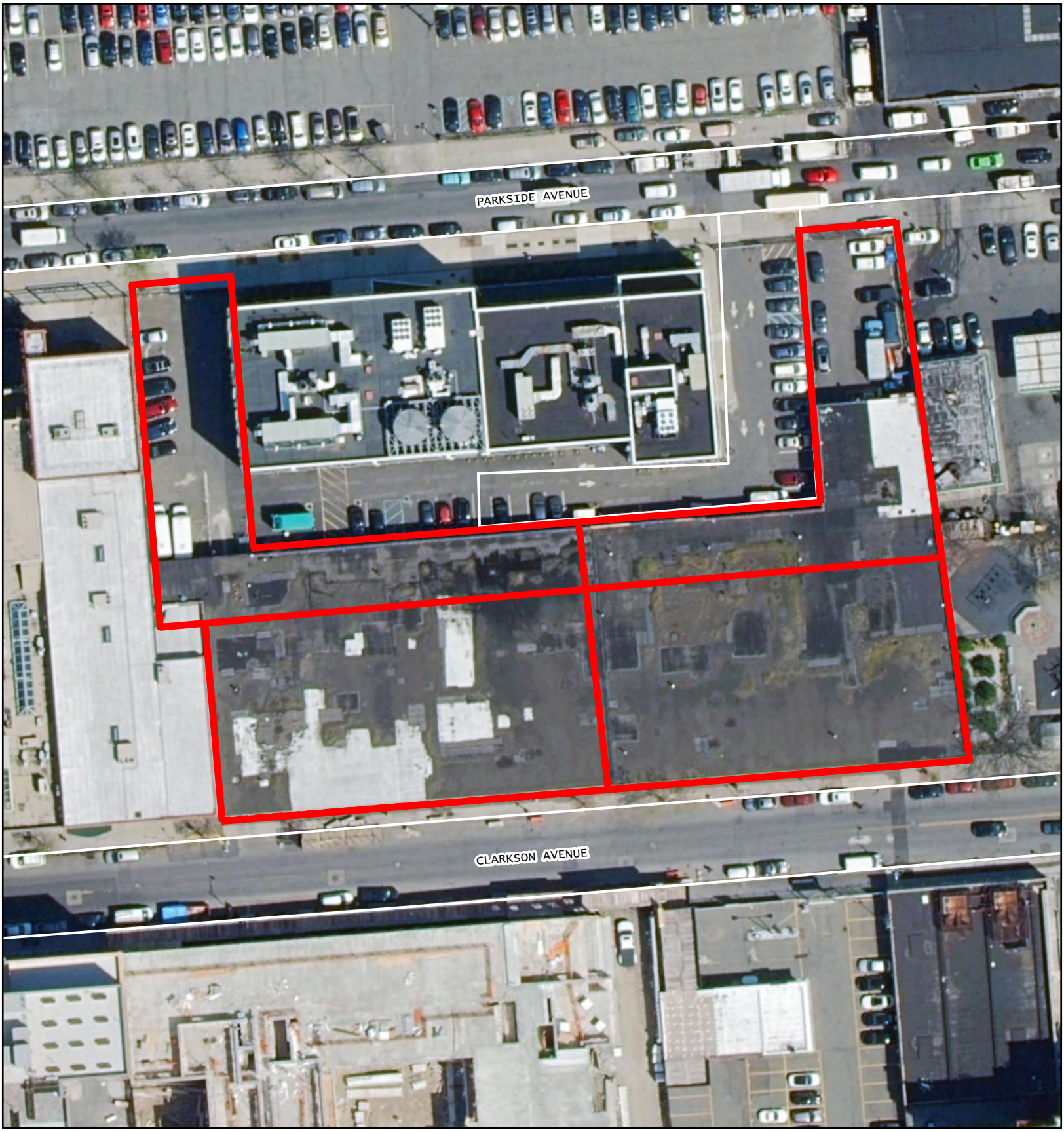
US Feet

Figure 1
Site Map

329 Clarkson Avenue
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

DRAWN BY / DATE	REV / DATE	DRAWING NUMBER
GB/10.6.20	VC/7.24.23	2020072-02



Legend

329 Clarkson Avenue Excavation Quadrants

N

150

US Feet

Figure 2
Excavation Quadrants

329 Clarkson Avenue
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

DRAWN BY / DATE	REV / DATE	DRAWING NUMBER
GB/10.6.20	VC/7.24.23	2020072-02



NOTES:

1. FOR GENERAL NOTES, SEE DRAWING SOE-001.
2. SUBGRADE ELEVATIONS SHOWN ARE DEFINED AS THE UNDERSIDE OF FOOTINGS AND PITS, AND 3" BELOW THE UNDERSIDE OF THE CELLAR SLAB. ELEVATIONS ARE FOR SOE DESIGN PURPOSES ONLY. CONTRACTOR SHALL REFER TO STRUTURAL DRAWINGS FOR SUBGRADE ELEVATIONS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. PRIOR TO THE START OF WORK, CONTRACTOR SHALL PERFORM TEST PITS AS REQUIRED ALONG THE SOUTH SOLDIER PILE ALIGNMENT TO CONFIRM NO CONFLICTS WITH EXISTING UTILITIES.
4. SOLDIER PILES AT RAKER LOCATIONS SHALL BE INSTALLED TO MINIMUM TIP EL. 18.0.
5. TIEBACKS SHALL BE 1¼" DIA. THREADED BARS (GR. 75 KSI) WITH A DESIGN LOAD OF 103 KIPS UNLESS OTHERWISE NOTED HEREIN.
6. ALL HP14 SOLDIER PILES WILL BE PERMANENTLY EMBEDDED INTO THE PROPOSED FOUNDATION WALL. PRIOR TO INSTALLATION, EPOXY COAT SOLDIER PILES PERMANENTLY EXPOSED TO EARTH IN ACCORDANCE WITH ASTM A950.
7. HP14 SOLDIER PILES WITH WT6 WELDED TO BACK FLANGE ARE LOCATED VIA CENTERLINE OF THE HP14 SOLDIER PILES. CENTER OF DRILL HOLE MAY NOT COINCIDE WITH CENTER OF SOLDIER PILE.

Figure 3 - Soil Reuse Map

CLARKSON ESTATES

329 CLARKSON AVE, BROOKLYN, NY 11226

OWNER: CAMBA HOUSING VENTURES, 1720 CHURCH AVENUE, 2ND FL. BROOKLYN, NY 11226, T: 718.287.2600

ARCHITECT: CETRA RUDDY ARCHITECTURE DPC, 1 BATTERY PARK PLAZA, SUITE 800, NEW YORK, NY 10004, 212.941.9801

STRUCTURAL ENGINEER: DESIMONE, 140 BROADWAY, 25TH FLOOR, NEW YORK, NY 10005, T: 212.532.2211

MEP ENGINEER: DAGHER ENGINEERING, 29 BROADWAY, NEW YORK, NY 10006, T: 212.480.2591

LANDSCAPE ARCHITECT: STARR WHITEHOUSE, 80 BROAD STREET, SUITE 1700, NEW YORK, NY 10004, T: 212.487.3272

SUSTAINABILITY / SOLAR: STEVEN WINTERS ASSOCIATES, INC, 307 SEVENTH AVE, SUITE 1701, NEW YORK, NY 10001, T: 212.564.5800

ENVIRONMENTAL: EQUITY ENVIRONMENTAL ENGINEERING, 4 WORLD TRADE CENTER, 29TH FLOOR, NEW YORK, NEW YORK 10006, T: 973.527.7451

SURVEY: CONTROL POINT ASSOCIATES, INC, 200 WEST 41ST STREET, SUITE 1203, NEW YORK, NY 10036, T: 646.780.0411

ELEVATOR: VDA, 120 Eagle Rock Ave., Suite 310, East Hanover, NJ 07936, T 973.994.9220

FACADE CONSULTANT: HATFIELD GROUP, 285 West Broadway, #410, New York, NY 10013, T 212.260.1513

ACCESIBILITY CONSULTANT: ACCESSIBILITY SERVICES, A PROGRAM OF UNITED SPINAL ASSOCIATION, 120-34 Queens Blvd, Suite 320, Kew Gardens, NY 11415, T 718.803.3782

CIVIL ENGINEER: LANGAN, 360 West 31st Street, 8th Floor, New York, NY 10001, T 212.479.5456

GEOTECHNICAL ENGINEER: MUESER RUTLEDGE CONSULTING ENGINEERS PLLC, 225 West 34th Street, 6th Floor, New York, NY 10122, T 917.339.9386

2	ADDENDUM 2	2023.03.01
1	ISSUED FOR CONSTRUCTION	2023.01.19
	ISSUED FOR PRICING	2022.10.14
	PRICING SET_REV	2022.08.12
	PRICING SET	2022.07.15

PROFESSIONAL CERTIFICATION

CETRA RUDDY

SUPPORT OF EXCAVATION PLAN

SOE-100.00

SCALE: AS NOTED
PROJECT: 14149
B00681143-I1

CETRA RUDDY ARCHITECTURE DPC
1 BATTERY PARK PLAZA NEW YORK NY 10004 T 212 941 9801 F 212 941 9440
WWW.CETRARUDDY.COM

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