



OFFICE OF ENVIRONMENTAL REMEDIATION

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Matt Ross
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Charlie Sosik
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**Re: NYC VCP Remedial Action Work Plan Approval
243 Meeker Avenue
Block 2741, Lot 19
VCP Project # 13CVCP078K**

Dear Mr. Ross:

The New York City Office of Environmental Remediation (OER), in consultation with the New York City Department of Health and Mental Hygiene (DOHMH), has completed its review of the Remedial Action Work Plan (RAWP) and Stipulation List for 243 Meeker Avenue, VCP Project # 13CVCP078K, dated October 3, 2012. The Plan was submitted to OER under the NYC Voluntary Cleanup Program (VCP). The RAWP was released for public comment for 30 days as required by program rule. That comment period ended on September 17, 2012. There were no public comments.

The following remedial action elements will be implemented at the project site:

Statement of Purpose and Basis

This document presents the remedy for a Voluntary Cleanup site known as “243 Meeker Avenue” site. This document is a summary of the information that can be found in the site-related reports and documents in the document repository at OER’s website: www.nyc.gov/oer.

The New York City Office of Environmental Remediation (the Office or OER), in consultation with the New York City Department of Health and Mental Hygiene (DOHMH), has established a remedy for the above referenced site. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous substances.

The decision is based on the Administrative Record of the New York City Office of Environmental Remediation (the Office or OER) for the 243 Meeker Avenue site and the public's input to the proposed remedy presented by the Office.

Description of Selected Remedy

The remedy selected for this 243 Meeker Avenue Site is Track 4 remedy and includes soil excavation, application of chemical oxidant, and installation of a vapor barrier and cover system.

The elements of the selected remedy are as follows:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP citizen participation activities according to an approved Citizen Participation Plan;
2. Perform a Community Air Monitoring Program for particulates and volatile organic carbon compounds;
3. Establishment of Track 4 Site-Specific Soil Cleanup Objectives (SCOs).
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;
5. Excavation and removal of soil/fill exceeding SCOs including a hotspot for metals in the vicinity of EBC1 and excavation to a minimum depth of 9 feet in the petroleum contaminated area.
6. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.
7. Removal of underground storage tanks (if encountered) and closure of petroleum spills (if evidence of a spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations;
8. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities;
9. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;
10. Sodium persulfate and a chelated iron activator will be introduced at the bottom of Site excavation in petroleum-impacted areas to remediate the groundwater contamination.
11. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations;
12. Installation of a vapor barrier system beneath all building slabs and along foundation side walls;
13. Capping of entire Site with a 4-inch engineered concrete slab including basement areas, slab on grade areas and rear patio areas;
14. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;
15. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;
16. Submission of a RAR that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP;
17. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency; and

18. Recording of a Declaration of Covenants and Restrictions that includes a listing of Engineering Controls and a requirement that management of these controls must be in compliance with an approved SMP; and Institutional Controls including prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

Remedial activities will be performed at the Site in accordance with this OER-approved RAWP. All deviations from the RAWP will be promptly reported to OER. Changes will be documented in the RAR.

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

10/19/12

Date



Shaminder Chawla
Assistant Director

SITE BACKGROUND

Location:

The Site is located at 243 Meeker Avenue in Brooklyn, New York and is identified as Block 2741, Lot 19 on the New York City Tax Map. Figure 1 shows the Site location.

Site Features:

The Site is 6,050-square feet triangular shaped lot formed by the intersection of Meeker Avenue and Withers Street. The lot is bounded by Withers Street to the north, Meeker Avenue to the south and east, and an 8-story hotel (Le Hotel Jolie) to the west. Currently, the Site is vacant, but was formerly utilized as a gas station. A one-story concrete block service station building consisting of two automotive service bays and a small office/store is located in the northwest corner of the lot and the overhead dispenser canopy is still present along Meeker Avenue.

Current Zoning/uses:

The current zoning designation is M1-R6, Manufacturing and Residence District. The proposed use is consistent with existing zoning for the property.

Historical Use:

The property was utilized as a service station (gas station) from at least 1939 to 2001.

Summary of Environmental Findings:

1. Elevation of the property is approximately 17 feet.
2. Depth to groundwater ranges from 5 to 6.5 feet at the Site.
3. Groundwater flow is generally from east to west beneath the Site.
4. Depth to bedrock is at the Site is greater than 100 feet.
5. The eastern half of the Site was previously excavated to a depth of approximately 13 feet below grade and backfilled with sand. The western half of the Site is comprised of a historic fill layer that varies between 2 to 5 feet below grade followed by a native tan sand and/or brown/tan silty sand. Sand at the groundwater interface that has been negatively impacted by the petroleum spill appears a grey or light grey.

A site location map is attached as Figure 1.

PROPOSED DEVELOPMENT PLAN

The proposed redevelopment plan requires the Site to be divided into three separate lots. Each lot would then be developed with a new 4-story residential building (Building A, Building B, and Building C).

The two western most lots, (Building B and Building C) will be developed with 4-story residential buildings that front Withers Street, each approximately 25 feet by 52 feet. Both buildings will have three residential units. Both buildings will have a basement level that will extend the entire footprint of each building. Excavation to a depth of approximately 6 feet below grade will be performed for both buildings to construct the foundation and slab. The building's concrete slabs will be installed at a depth of 5 feet 2 inches below sidewalk grade. The first floor of each building will be slightly raised to allow for a basement ceiling height of 8 feet. The basement of each building will consist of a boiler room, meter room, bike storage room, and miscellaneous storage. No living space will be located within the basements. Both buildings will have a small concrete capped rear yard located behind each building. Excavation of a depth to approximately 1 foot below grade will be required to install a 6" gravel layer below the 4" thick concrete rear patio. The total volume of soil to be excavated for the basement level of

the two buildings is approximately 575 yd³ (875 tons). An additional 40 yd³ (60 tons) would be excavated from the rear yards.

The entire footprint of the eastern most lot will be developed with a 4-story mixed use residential/commercial building. Building A will be 50 feet wide along Withers Street and approximately 60 feet 8 inches wide along Meeker Avenue. The building will consist of a 2,150 ft² commercial space on the ground level that will front Meeker Avenue. The second, third and fourth floors of the building will consist of two additional residential units (apartments). Building A will not have a basement level, but will have a small crawl space area below the northwest corner of the building. Excavation to a depth of 6 feet will be required to construct the stairwell and crawl space. Additional excavation of 2 to 4 feet below grade will be required around the perimeter of Building A to construct the building's foundation/footings, and additional trenching within the first 2 to 3 feet of soil will be required for sub-grade piping/utilities. The total amount of soil to be excavated from Building A as a part of construction is estimated at approximately 150 yd³.

SUMMARY OF REMEDIAL INVESTIGATION

The Remedial Investigation was conducted in April and May 2012. The Remedial Investigation Report is available in the document repository.

Nature and Extent of Contamination:

Soil: Soil/fill samples collected during the RI showed no pesticides or PCBs at detectable concentrations. Gasoline related VOCs including 1,3,5-trimethylbenzene (28 ppm), ethylbenzene (22 ppm), xylenes (70 ppm) and n-propyl benzene (16 ppm) were detected at concentrations above Unrestricted Use SCOs, with 1,2,4-trimethylbenzene (130,000 ppb) also exceeding its Restricted Residential SCO. These VOC exceedances were identified at the water table interface within the gasoline impacted area. Several SVOCs (benzo compounds, chrysene and pyrene) were detected above Restricted Residential SCOs within the two shallow soil samples retained from the historic fill layer. Nine metals were detected above Unrestricted Use SCOs in 2 shallow and 2 deep soil samples, and of these metals arsenic, barium, cadmium, chromium, copper, lead and mercury were also detected above Restricted Residential SCOs. Relatively high concentrations of lead (4,190 mg/kg), mercury (32.1 mg/kg), copper (2,500 mg/kg), and arsenic (131 mg/kg) were reported within one shallow (0' to 2') soil sample (EBC1). Overall, soil results show (1) that the area near the service station building is impacted with gasoline-related compounds, and (2) that the area of residual historic fill is impacted with SVOCs and metals.

Groundwater: Gasoline-related VOCs were reported within three of five groundwater wells, with 13 constituents, including BTEX, BTEX derivatives, and MTBE, exceeding their GQS in these wells. BTEX concentrations in these wells range from 3.9 ppb to 1660 ppb. One chlorinated VOC, 1,2-dichloroethane (50 ppb) also exceeded its GQS in one sample. In addition, acetone was detected in one sample at 1,300 ppb which is above its GQS. Twelve SVOCs were detected above their corresponding GQS in groundwater collected in proximity to the service station building. Highest SVOC detections included phenol (1,200 ppb), o-cresol (180 ppb), and m&p-cresol (420 ppb) in one well. The other nine SVOCs were PAH compounds and were detected at relatively low concentrations. The dissolved metals iron, magnesium, manganese, sodium, selenium, barium, and lead (detected in 3 of 5 samples at max concentration of 51 ppb) were detected above their respective NYSDEC GQS. No pesticides or PCBs were detected in any of the groundwater samples collected at the Site. Overall, the RI indicates that groundwater is impacted by the historic use of the Site as a gas station.

Soil vapor: Soil vapor samples collected during the RI detected petroleum and chlorinated VOCs at generally low concentrations. The same gasoline related VOCs that were reported within the soil and

groundwater samples, were detected within all three soil vapor samples. The total BTEX concentrations ranged from 38 $\mu\text{g}/\text{m}^3$ to 151 $\mu\text{g}/\text{m}^3$. PCE was identified in all three soil vapor samples at a maximum concentration of 8.61 $\mu\text{g}/\text{m}^3$, and TCE was also identified in one of the three soil vapor samples at a concentration of 1.07 $\mu\text{g}/\text{m}^3$. PCE and TCE concentrations within all three soil vapor samples were reported below the monitoring level ranges established within the State DOH soil vapor guidance matrix. In addition, acetone was identified within all three soil vapor samples at concentrations ranging from 351 to 836 $\mu\text{g}/\text{m}^3$.

Figure 1: Site Map

