



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site No. **C231087**

Site Details

Box 1

Site Name **Former 110th Street Service Station**

Site Address: 2040 Frederick Douglass Boulevard Zip Code: 10026
City/Town: New York
County: New York
Site Acreage: 0.3

Reporting Period: December 23, 2015 to March 24, 2017

- | | YES | NO |
|---|-------------------------------------|-------------------------------------|
| 1. Is the information above correct? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form. | | |
| 5. Is the site currently undergoing development? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Box 2

- | | YES | NO |
|---|-------------------------------------|--------------------------|
| 6. Is the current site use consistent with the use(s) listed below? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Are all ICs/ECs in place and functioning as designed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.



Signature of Owner, Remedial Party or Designated Representative

5-12-17

Date

Box 2A

YES NO

8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?

☐ ☒

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid?
(The Qualitative Exposure Assessment must be certified every five years)

☒ ☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C231087

Box 3

Description of Institutional Controls

ParcelOwnerInstitutional Control

1-1826-1

Crescent 110 Equities LLC

Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
Monitoring Plan
Site Management Plan
IC/EC Plan

A series of Institutional Controls (ICs) is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to Restricted Residential uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under the Site Management Plan (SMP). ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. These ICs are:

- The property may be used for: restricted residential use;
- All ECs must be operated and maintained as specified in the SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the NY City Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in the SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- Vegetable gardens and farming on the site are prohibited (refers to gardening in on- site soil and does not prohibit raised gardens, rooftop gardens, etc.)

Box 4

Description of Engineering Controls

Parcel
1-1826-1

Engineering Control

Groundwater Treatment System
Cover System

A portion of the site has achieved a Track 4 cleanup. The cover system, consisting of concrete-covered sidewalks and concrete building slab, is a required engineering control (EC) in these areas in order to prevent exposure to residual soil contamination. The other EC is a chemical oxidant treatment system, consisting of injection wells for chemical oxidant in the event additional groundwater treatment is required. A network of monitoring wells also exists for monitoring groundwater quality and the effectiveness of the groundwater treatment.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

- a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;
- b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

☒ ☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

- (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
- (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
- (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;
- (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
- (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

☒ ☐

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

A Corrective Measures Work Plan must be submitted along with this form to address these issues.


Signature of Owner, Remedial Party or Designated Representative

5-12-17

Date

IC CERTIFICATIONS
SITE NO. C231087

Box 6


SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Ronen Haron at Crescent 110 Equities LLC,
print name print business address

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.



Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

5-12-17
Date

IC/EC CERTIFICATIONS

Box 7

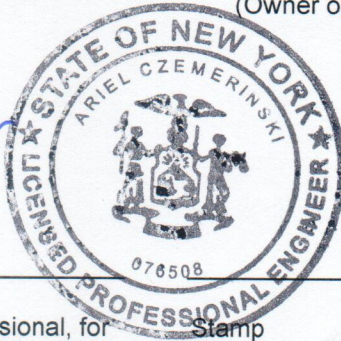
Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Ariel Czemerinski at AMC Engineering PLLC
print name print business address

am certifying as a Qualified Environmental Professional for the Remedial Party
(Owner or Remedial Party)

Ariel Czemerinski



5-12-17

Signature of Qualified Environmental Professional, for
the Owner or Remedial Party, Rendering Certification

Stamp
(Required for PE)

Date

FORMER 110TH STREET SERVICE STATION
2040 FREDRERICK DOUGLAS BOULEVARD, NEW YORK, NEW YORK
BLOCK 1826, LOT 1

PERIODIC REVIEW REPORT

NYSDEC BCP Number: C231087

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 21st Street
Long Island City, NY 11101-5407

Prepared by:



AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105

REPORTING PERIOD:
DECEMBER 23, 2015 TO MARCH 24, 2017

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2040 Frederick Douglass Boulevard
New York, New York 10026

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I. EXECUTIVE SUMMARY

AMC Engineering PLLC (AMC) has prepared the following Periodic Review Report for the period of December 23, 2015 to March 24, 2017, for the property located at 2040 Frederick Douglas Boulevard under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with the Brownfield Cleanup Agreement (BCA) #C231087.

Groundwater was sampled from four on-site monitoring wells (MW1501-MW1503, MW1505) and three off-site monitoring wells (MW1504, MW1506, MW6) on a quarterly basis.

Based on Groundwater Sampling results, on October 20, 2016 a letter from the NYSDEC approved the request of groundwater monitoring cessation.

Exposure to remaining contamination at the Site is prevented by a cover system placed over the Track 4 portions of the Site. The cover system is comprised of concrete building slabs. Cover inspections will be performed annually.

Within this PRR reporting period, the highest PVOC concentrations were detected in MW1504: in February 2016 at 2.4 ppb, in May 2016 at 1.7 ppb, and in August 2016 at 2.9 ppb. MW1504 is located along Frederick Douglas Circle outside the site boundary.

Within this PRR reporting period, no CVOC concentrations were detected.



II. SITE OVERVIEW

A. Site Location

The 0.31-acres site is bordered on the west by Frederick Douglas Boulevard, on the south by West 110th Street (Central Park North), on the north by West 111th Street in Manhattan, and on the east by mixed commercial and residential buildings. **Figure 1** shows Site Location. It is currently being developed with a multi-story residential building. Previously, the Site had been used as a gas station and auto repair facility since approximately 1951 up until December 2013. Following remediation, the site is being developed with a residential building, with ground-level retail and sub-grade parking.

B. Site Chronology

Remedial Action for the Site was performed in accordance with the scope of work presented in the NYSDEC-approved Remedial Work Plan and RAWP amendment. Remedial Action consisted of the following:

1. Excavation and disposal of soil to approximately 30 feet below grade for the majority of the site. Over excavation was performed at several locations to either meet SCOs or to accommodate structural elements of the new building;
2. Installation of a cover system comprised of concrete-covered sidewalks and concrete building slabs over the Track 4 portions of the Site in order to prevent exposure to remaining contamination;
3. Injection of chemical oxidant solution (sodium persulfate) through PVC injection points installed into the water table to remediate the contaminated groundwater beneath the Site, as well as post-remediation groundwater monitoring for a minimum of two years.

Based on the soil vapor intrusion evaluation completed during the Remedial Investigation, no additional actions were needed to address potential soil vapor intrusion at the site.



III. REMEDY PERFORMANCE, EFFECTIVENESS & PROTECTIVENESS

Remedial Action at the Site included the excavation and disposal of source area soils with the exception of a small isolated area in the southeast corner of the Site. Impacted soil in this area was in a clay zone above the water table which was further stabilized with a grout injection. In addition to this, the remaining low level impacts to groundwater were treated with the injection of a chemical oxidant.

Chemical oxidant injections performed at the Site consisted of injecting a 10 to 20% solution of sodium persulfate activated with chelated iron into either temporary or permanent injection wells. Injection well points were installed to a depth of approximately 45 feet below grade with 10 feet of PVC screen.

The remedy achieved a Track 2 / Track 4 Cleanup and included the following elements:

- Removal of nine underground storage tanks
- Excavation of soil/fill exceeding Track 2 restricted use SCOs and groundwater protection SCOs in the majority of the Site to depths as great as 30 feet below grade;
- Excavation of VOC hotspot areas to depths ranging from 32 to 37ft below grade;
- Removal of free phase gasoline and perched groundwater from the UST excavation, via pumping;
- Screening for indications of contamination (by visual means, odor, and monitoring with PID) of all excavated soil during any intrusive Site work;
- Collection and analysis of end-point soil samples and post-remedial groundwater samples to evaluate the performance of the remedy with respect to attainment of unrestricted SCOs and groundwater standards;
- Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State and local rules and regulations for handling, transport, and disposal;
- Installation of twelve injection wells and treatment of residual groundwater contamination via injection of chemical oxidants;
- Import of materials used for backfill and cover in compliance with: (1) chemical limits and other specifications, (2) all Federal, State and local rules and regulations for handling and transport of material;
- Injection of a cement grout to isolate and immobilize petroleum VOCs in soil in a 10 x 15 foot area in the southeast corner of the Site;
- Installation of six monitoring wells and the collection and analysis of two rounds of post excavation groundwater samples to assess bulk reduction in groundwater contamination following source removal;
- Construction of a composite cover system consisting of the concrete building slabs;
- Implementation of a Site Management Plan (SMP) for long term maintenance of the Engineering Controls; and
- An Environmental Easement was filed against the Site to ensure implementation of the SMP.



Groundwater

Groundwater monitoring activities to assess the effectiveness of the remedy and natural attenuation was conducted until the 3rd quarter of 2016. Since monitoring indicated that residual groundwater concentrations were consistently below ambient water quality standards, the site Standards, Criteria, and Guidance (SCGs), or have become asymptotic at an acceptable level over an extended period, a petition to cease monitoring activities was submitted to NYSDEC. This request was granted on October 20, 2016.

Each monitoring well was constructed of 1-inch diameter PVC casing and 0.010 inch slotted PVC well screen. In addition to this, the wells had 10 feet of screen from approximately 10-20 feet below the bottom of the basement slab. A No. 00 Morie or equivalent filter sand was installed in the borehole to within 2 feet above the top of the screen. A 1-foot hydrated bentonite seal was placed on top of the filter sand and the remainder of the borehole was backfilled to grade.

Groundwater samples were collected from all seven monitoring wells. Sample procurement was achieved through the use of dedicated polyethylene tubing, and a peristaltic pump.

Four on-site monitoring wells (MW1501-MW1503, MW1505) and three off-site monitoring wells (MW1504, MW1506, MW6) were located at the Site. Each monitoring well was installed to evaluate the performance of the remedial effort and monitor improvements to groundwater quality.

MW1501 was located within the site boundary along the outer boundary of Frederick Douglas Circle. MW1501 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1502 was located within the site boundary also along the outer boundary of Frederick Douglas Circle. MW1502 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1503 was located towards the center of the site boundary. MW1503 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1504 was located outside the site boundary along the outer boundary of Frederick Douglas Circle, outside the site boundary. MW1504 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. Benzene was observed above standards in all three samples. Benzene concentrations were observed at 2.4 ppb, 1.7 ppb, and 2.9 ppb respectively.

MW1505 was located within the site boundary along Frederick Douglas Boulevard. MW1505 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1506 was located outside the site boundary along the outer boundary of Frederick Douglas Circle. MW1506 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.



MW6 was located outside the site boundary along the outer boundary of Frederick Douglas Circle. MW6 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

Upon receiving approval by DEC to discontinue the monitoring activities, the seven monitoring wells were abandoned and penetrations sealed.



IV. IC/EC PLAN COMPLIANCE REPORT

A1. IC Requirements and Compliance

I. IC Controls

A series of Institutional Controls (ICs), required under the Site Management Plan, were placed on the property in the form of an Environmental Easement which was recorded with the NYC Department of Finance, Office of the City Register (NYSDOF-OCR). The recorded ICs are as follows:

- implement, maintain and monitor Engineering Control systems;
- prevent future exposure to residual contamination by controlling disturbances of the subsurface contamination; and,
- limit the use and development of the site to restricted residential uses only.

Adherence to these Institutional Controls on the Site (Controlled Property) is required under the Environmental Easement and will be implemented under the Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement by the Grantor and the Grantor's successors and assigns with all elements of the SMP;
- All Engineering Controls must be operated and maintained as specified in the SMP;
- A composite cover system consisting of concrete-covered sidewalks and concrete building slabs must be inspected, certified and maintained as required in the SMP;
- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner as defined in the SMP;
- On-Site environmental monitoring devices, including but not limited to groundwater monitoring wells, must be protected and replaced as necessary to ensure the device's function in the manner specified in the SMP;
- Engineering Controls may not be discontinued without an amendment or the extinguishment of the Environmental Easement.

Site restrictions include:



- The property may only be used for restricted residential use provided that the long-term Engineering and Institutional Controls included in the SMP are employed;
- The property may not be used for a higher level of use, such as unrestricted use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it suitable for intended use;
- Vegetable gardens and farming on the property are prohibited;
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2. *Status of each IC*

An inquiry was made with the NYCDOF-OCR to confirm that the Environmental Easement, as described above, remains in place and has not been changed, revised or modified.

3. *Corrective Measures*

No deficiencies in the ICs were noted for this time period, therefore no corrective measures were required.

4. *IC Conclusions and Recommendations*

It is recommended that the environmental easement remain in place and to not be changed, revised or modified.

A2. **EC Requirements and Compliance**

1. *EC Controls*

Cover (or Cap)

Exposure to remaining contamination at the site is prevented by a cover system placed over the Track 4 portions of the Site. This cover system is comprised of concrete-covered sidewalks and concrete building slabs. **Figure 10** presents the location of the cover system and applicable



demarcation layers. The Excavation Work Plan (EWP) outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site.

Chemical Oxidant Treatment

To continue reductions in any remaining residual mass of VOCs in groundwater within the petroleum "hotspot" areas, a chemical oxidant (sodium persulfate) has been injected into the groundwater at the locations with remaining petroleum VOCs in groundwater during previous reporting periods. The last injection event occurred in September 2015.

Procedures for performing the chemical oxidant injections are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). The locations of the injection wells are shown in.

2. Status of each EC

Cover (or Cap)

In an inspection performed by AMC in May 2017, the basement concrete slab was inspected and found to be in good condition, with no cracks or penetrations observed, except to one injection well that was removed and sealed during the inspection by C Squared Environmental under the oversight of AMC Engineering. Multiple patching areas were observed, corresponding to abandoned injection wells. In addition to this, the concrete slab on the first floor corresponding to the Track 4 area above the stairs was covered by 2" of gravel. This area is underlain by the concrete cover corresponding to the foundation walls and building slab. While a visual observation was not attained, foundation walls and building slabs are assumed to be devoid of cracks or deficiencies. A concrete sidewalk is planned in the next weeks. The next inspection for the PRR will cover an inspection of the integrity of the cover system which will include the sidewalk and stairwell of the Track 4 areas. Because this area remains untouched, it is assumed that it has no penetrations, cracks, or any patching.

Composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with the SMP, in perpetuity.

Oxidant Injections

The SMP indicates that the need for subsequent applications would be determined following the collection and analysis of performance monitoring samples. Since results of groundwater monitoring indicated a drastic reduction in VOC concentrations in the groundwater, no chemical injection was conducted during this reporting period.

Monitoring Wells associated with Monitored Natural Attenuation

Groundwater monitoring activities to assess the effectiveness of the remedy and natural attenuation demonstrated that PVOC contaminants in the groundwater were found to be consistently below ambient water quality standards, the site SCGs, or have become asymptotic at an acceptable level over an extended period. Because of this, a request for cessation of groundwater monitoring was submitted



to the NYSDEC with the 2016 3rd quarter report. The request was granted via letter from the NYSDEC dated October 20, 2016.

3. Corrective Measures

All remaining monitoring wells associated with this project were closed in accordance with the New York State Department of Environmental Conservation (NYSDEC) Groundwater Monitoring Well Decommissioning Procedures (CP-43).

4. EC Conclusions and Recommendations

All remaining monitoring wells associated with this project were closed in accordance with the NYSDEC Groundwater Monitoring Well Decommissioning Procedures (CP-43).

We recommend that the EC in the form of chemical injections be extinguished.

We recommend that the EC in the form of Site Cover be inspected at a 3-year frequency.



B. IC/EC Certification

I, Ariel Czemerinski, am currently a registered professional engineer licensed by the State of New York. I have inspected the Engineering Controls for the Former 110th Street Service Station Site (NYSDEC Site No. C231087).

I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and
- The assumptions made in the qualitative exposure assessment remain valid.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Ariel Czemerinski, of 18-36 42nd Street, am certifying as Remedial Party for the site."

076508

NYS Professional Engineer #

5/15/17

Date



Signature



AMC Engineering PLLC

18-36 42ND ST

ASTORIA, NY 11105

PHONE 718-545-0474

V. MONITORING PLAN COMPLIANCE REPORT

A. Components of the Monitoring Plan

The Monitoring Plan within the Site Management Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the soil cover system, and all affected site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan.

Groundwater samples were to be collected from the on-Site monitoring well network on a quarterly basis. Sampling was to be conducted in accordance with the previously approved Site Management Plan, and groundwater samples are to be analyzed for volatile organic compounds via EPA Method 8260.

B. Summary of Monitoring Completed During Reporting Period

Groundwater quality was monitored during this time period by sampling the on-site monitoring wells on February 2016, May 2016, and August 2016.

Prior to sampling each monitoring well, depth to bottom and depth to water measurements were collected utilizing a decontaminated electronic water level probe. This data was then used to calculate the volume of water to be removed from each monitoring well prior to sampling. A total of approximately 3-5 well casing volumes were removed from each monitoring well utilizing a peristaltic pump equipped with disposable polyethylene tubing. Groundwater samples were then collected in pre-cleaned, laboratory supplied glassware, stored in a cooler with ice and submitted for analysis to Phoenix Environmental Laboratories (Phoenix) of 587 East Middle Turnpike, Manchester, CT 06040, a New York State ELAP certified environmental laboratory (ELAP Certification No. 11301) for laboratory analysis of volatile organic compounds (VOCs) via EPA method 8260C and semi-volatile organic compounds (SVOCs) by EPA Method 8270D.

Groundwater sample results were compared to the water quality standards specified in New York State 6NYCRR Part 703.5 Class GA Groundwater Quality Standards (GQS). VOC concentrations are shown on **Figure 4**.

C. Comparisons with Remedial Objectives

MW1501 is located within the site boundary along the outer boundary of Frederick Douglas Circle. MW1501 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1502 is located within the site boundary also along the outer boundary of Frederick Douglas Circle. MW1502 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1503 is located towards the center of the site boundary. MW1503 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.



MW1504 is located outside the site boundary along the outer boundary of Frederick Douglas Circle. MW1504 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. Benzene was observed above standards in all three samples.

MW1505 is located within the site boundary along Frederick Douglas Boulevard. MW1505 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW1506 is located outside the site boundary along the outer boundary of Frederick Douglas Circle. MW1506 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

MW6 is located outside the site boundary along the outer boundary of Frederick Douglas Circle. MW6 was sampled on three different sampling events during this monitoring period: February 2016, May 2016, and August 2016. No exceedances were detected.

D. Monitoring Deficiencies

No monitoring deficiencies were reported in this reporting period.

E. Conclusions and Recommendations

MW1504 was the only monitoring well with any exceedances in this reporting period, however this MW was outside the property limits, and it was demonstrated that the concentration of remaining contaminants have asymptotically decreased to single digit levels.

A request for cessation of these monitoring activities submitted to the Department was approved by the Department; therefore no further groundwater monitoring activities will take place.



VI. OPERATIONS & MAINTENANCE PLAN COMPLIANCE REPORT

A. Components of the O&M Plan

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge / soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.



VII. OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

A. Compliance with SMP

All requirements of the SMP were implemented during this PRR reporting period. In order to implement all of the SMP requirements, the following items were completed:

- Groundwater samples were collected from the on-Site monitoring wells in February 2016, May 2016, and August 2016.
- The cover system was inspected on an annual basis and the checklists were completed.
- The ICs/ECs were inspected and certified by the remedial engineer.

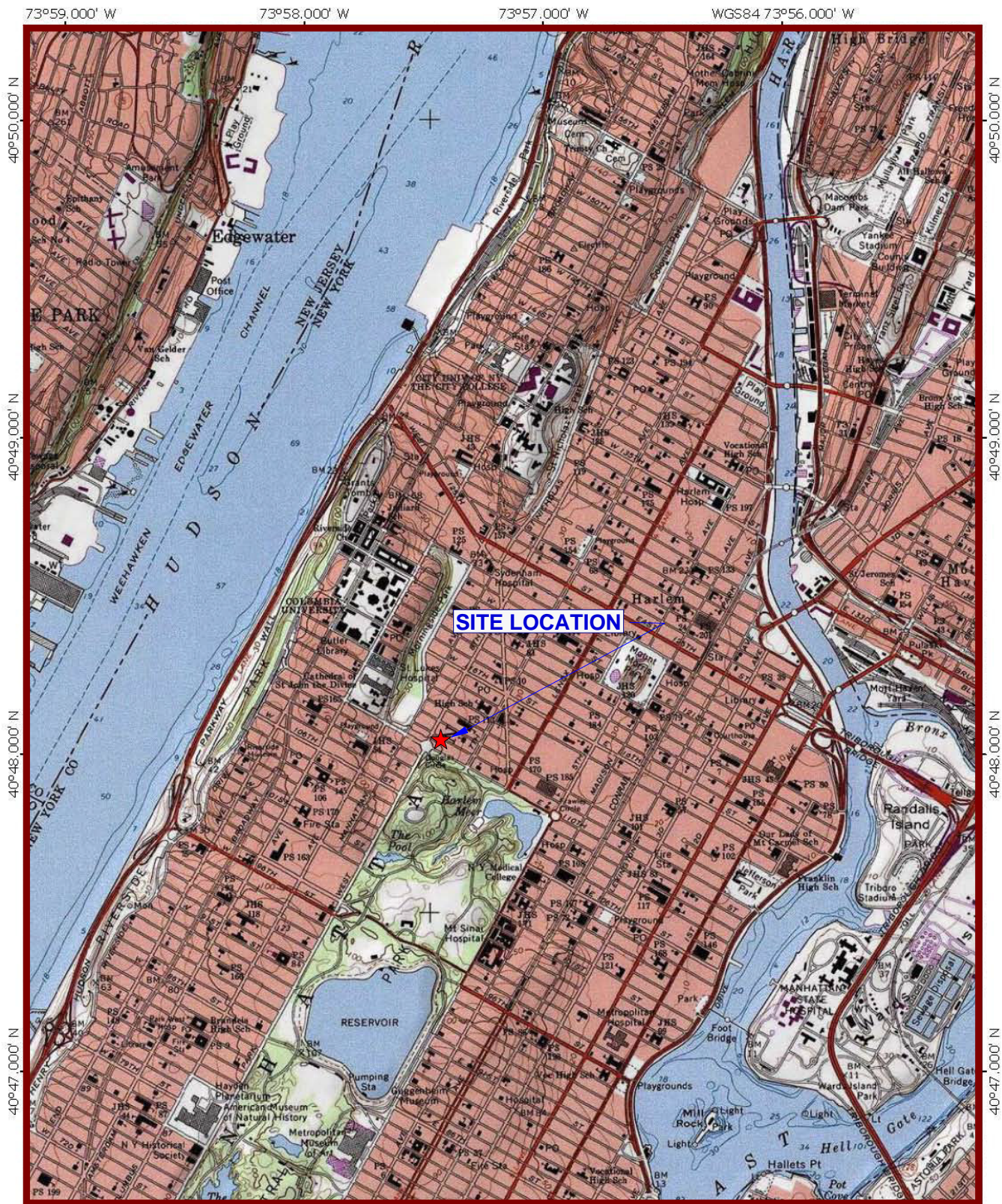
B. Performance and Effectiveness of Remedy

Improvements in the concentration of PVOCs and CVOCs were noted throughout the monitoring well system except for minor exceedances in Benzene concentrations. Due to this conclusion, monitoring wells are no longer needed and were abandoned. NYSDEC approved the termination of the groundwater monitoring program. Approval is attached in Appendix B.

C. Future PRR Submittals

Given that the only EC that remains in place is the cover system over the Track 4 areas, and largely these areas are covered by a slab under the building, and concrete sidewalk, we recommend that the next PRR submittal be submitted every three years to cover the period 2017 through 2020.







W. 111th STREET

FREDERICK DOUGLAS BOULEVARD

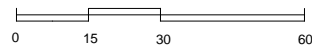
FREDERICK DOUGLAS CIRCLE

KEY

--- Property Line/Site Boundary

TX Tank Pad Vapor Well

CENTRAL PARK NORTH (W. 110th STREET)



1 Inch = 30 feet

Phone 631.504.6000
Fax 631.924.2870

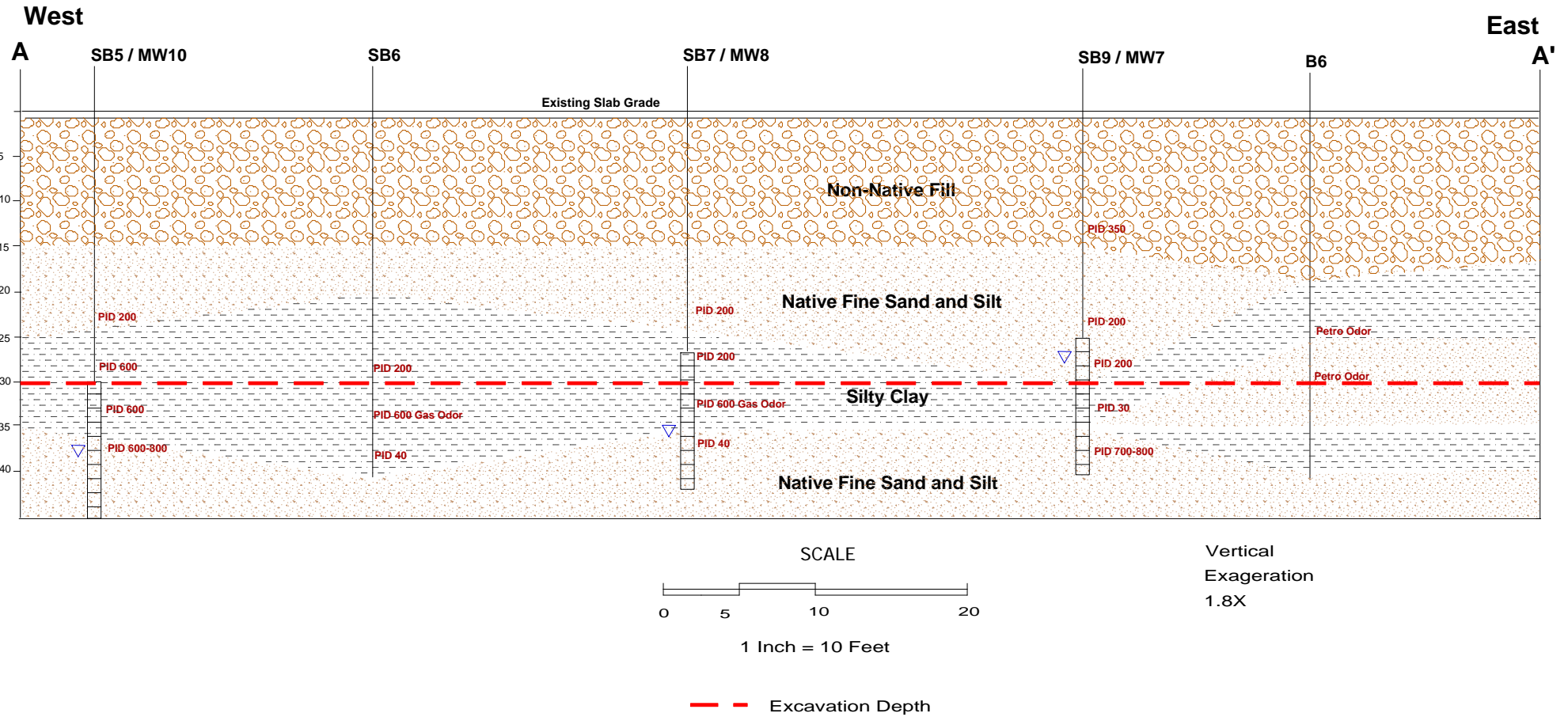
EBC
ENVIRONMENTAL BUSINESS CONSULTANTS

FIGURE

2

FORMER 110TH STREET SERVICE STATION
SITE ADDRESS: 2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY
DRAWING TITLE: SITE PLAN - PRIOR TO REMEDIAL ACTION

16



ENVIRONMENTAL BUSINESS CONSULTANTS

1808 MIDDLE COUNTRY ROAD, RIDGE, NY 11961

Phone: 631.504.6000

Fax: 631.924.2780

FORMER 110 SERVICE STATION
2040 FREDERICK DOUGLAS BLVD, HARLEM, NY

FIGURE 3

GEOLOGIC CROSS SECTION
PRIOR TO REMEDIAL ACTION



W. 111th STREET

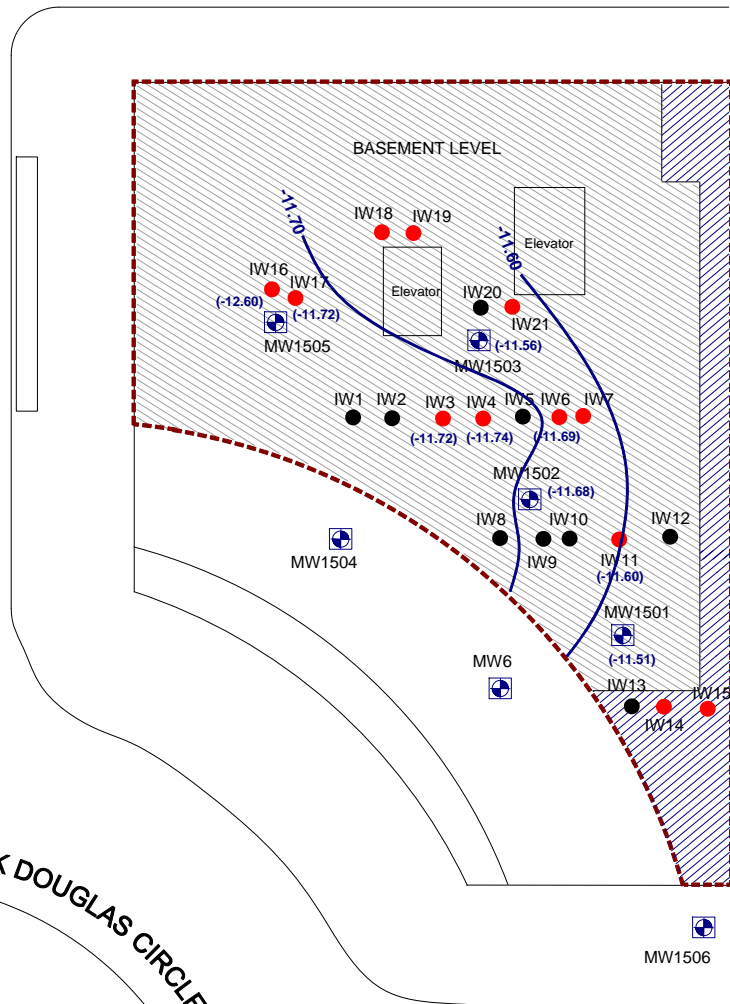
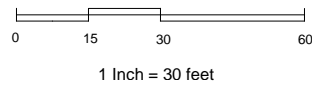
FREDERICK DOUGLAS BOULEVARD

FREDERICK DOUGLAS CIRCLE

KEY

- Property Line/Site Boundary
- Monitoring Well Location
- Injection Well Location
- Injection Well Location (Refusal - Not Installed)

CENTRAL PARK NORTH (W. 110th STREET)

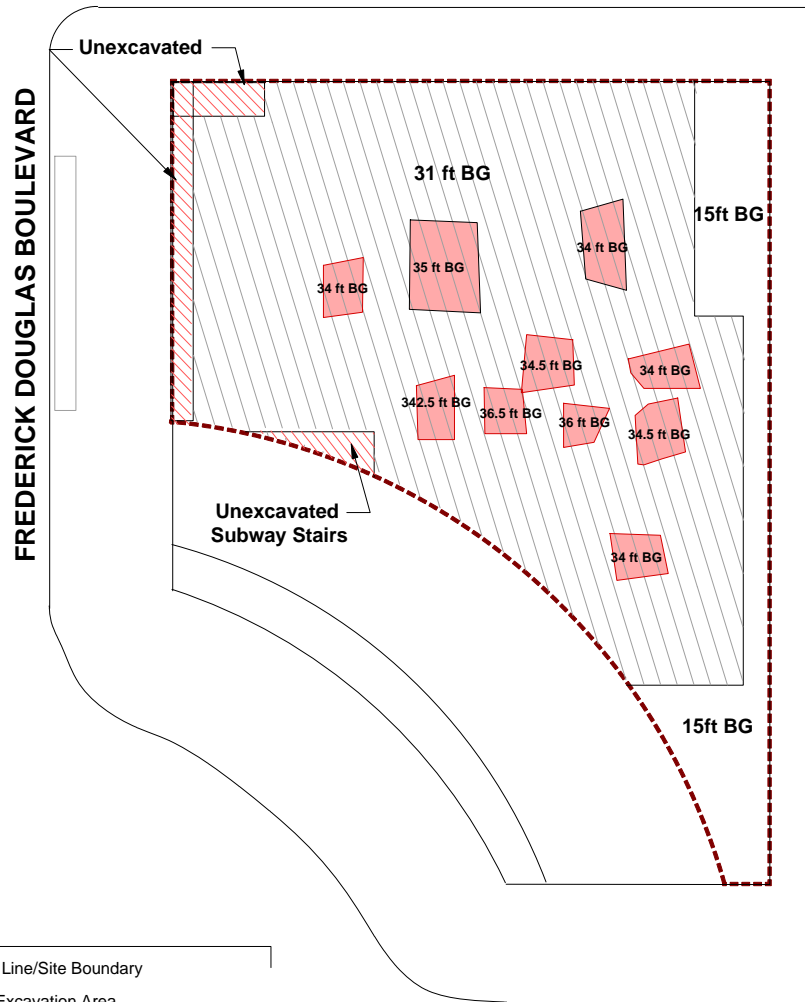


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Fax 631.924.2870

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FIGURE
4

FORMER 110TH STREET SERVICE STATION	
SITE ADDRESS:	2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY
DRAWING TITLE:	GROUNDWATER ELEVATION (11-19-15)
	18



KEY

- Property Line/Site Boundary
- Hotspot Excavation Area

CENTRAL PARK NORTH (W. 110th STREET)

SCALE



1 Inch = 40 feet

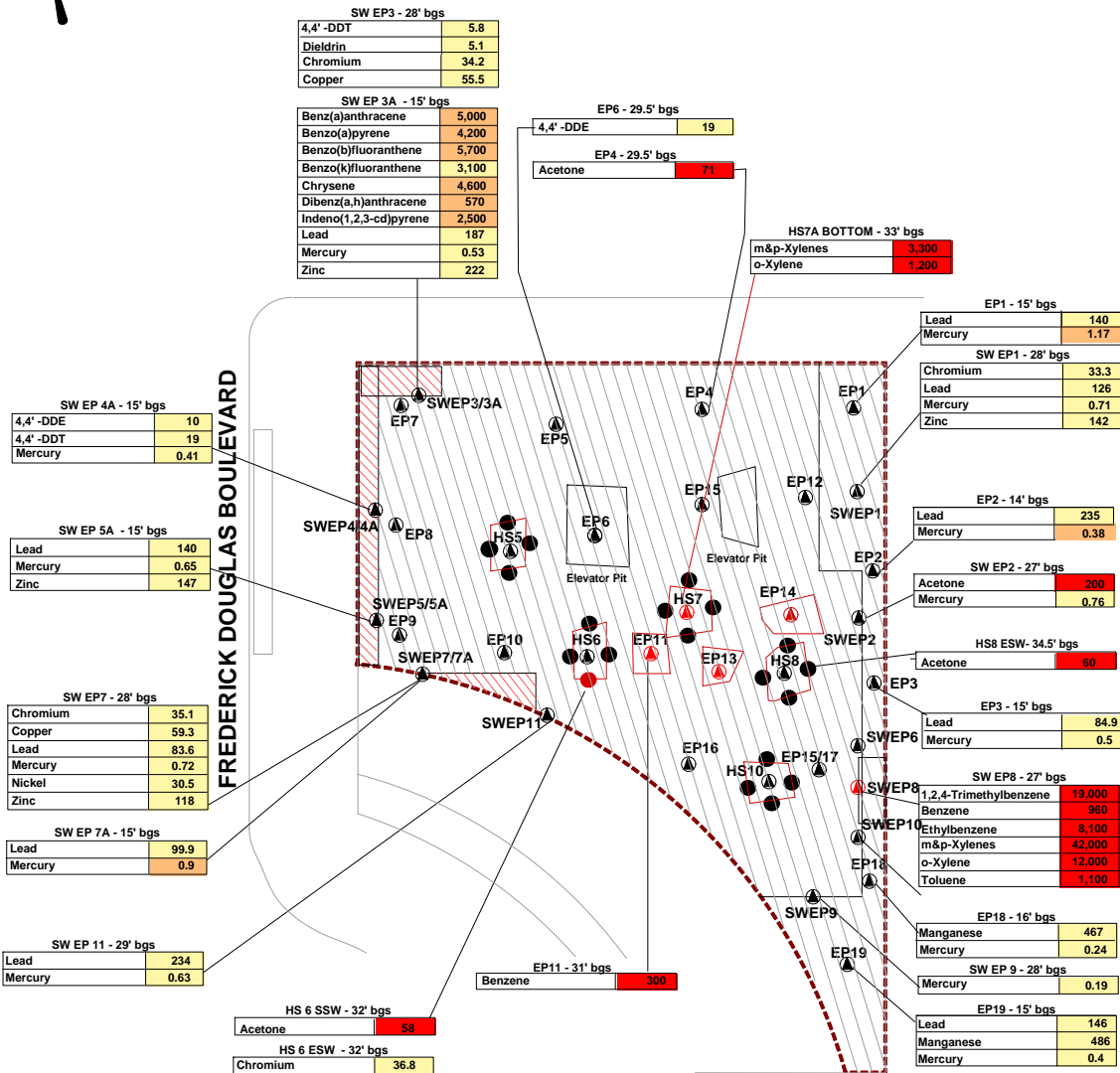


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Fax 631.924.2870

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**FIGURE
5**

SITE ADDRESS:	FORMER 110TH STREET SERVICE STATION 2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY	
	DRAWING TITLE:	FINAL EXCAVATION DEPTHS
		19



KEY

--- Property Line/Site Boundary

Hotspot Excavation Area

Endpoint Sample Location

Sidewall Sample Location

Results Exceed Unrestricted Use SCOs

Results Exceed Restricted Residential SCOs

Results Exceed Relevant GW Protection SCOs

ND Not Detected Above Unrestricted / GW Protection SCOs

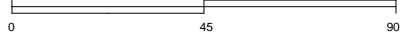
* Reporting Limit for Benzene and Acetone > GW Prot SCOs

Metals:Units: mg/kg,

VOCs, SVOCs, Pesticides: ug/kg

CENTRAL PARK NORTH (W. 110th STREET)

SCALE



1 Inch = 45 feet



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Fax 631.924.2870

FIGURE 6

SITE ADDRESS: FORMER 110TH STREET SERVICE STATION
2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY

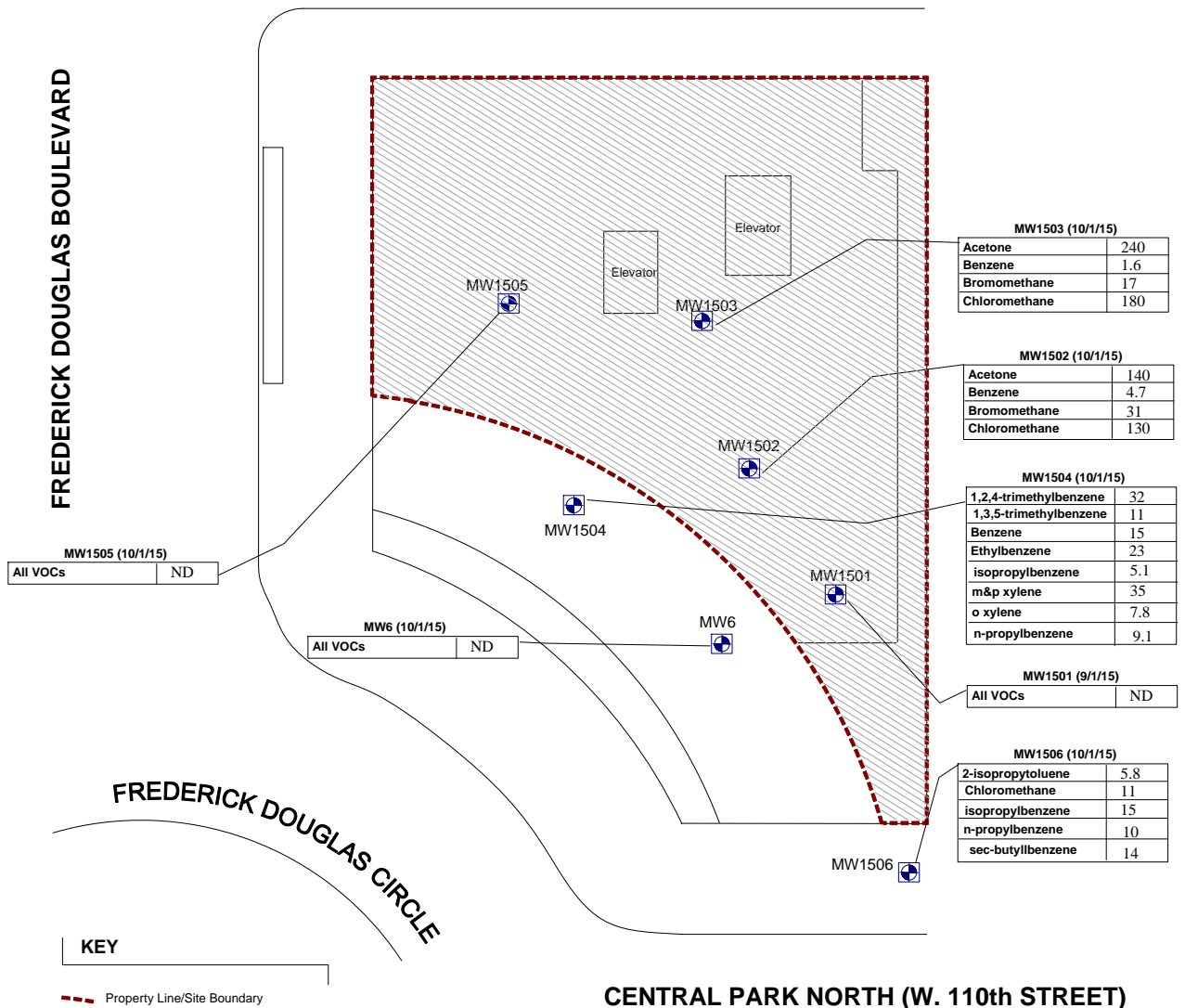
DRAWING TITLE: REMAINING SOIL ABOVE SCOs

20



W. 111th STREET

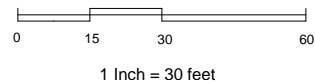
FREDERICK DOUGLAS BOULEVARD



KEY

- Property Line/Site Boundary
 - Monitoring Well Location
 - ND No Detections Above Standards
 - NS Not Sampled
- Note: All results are in ug/L

CENTRAL PARK NORTH (W. 110th STREET)



Phone 631.504.6000
Fax 631.924.2870

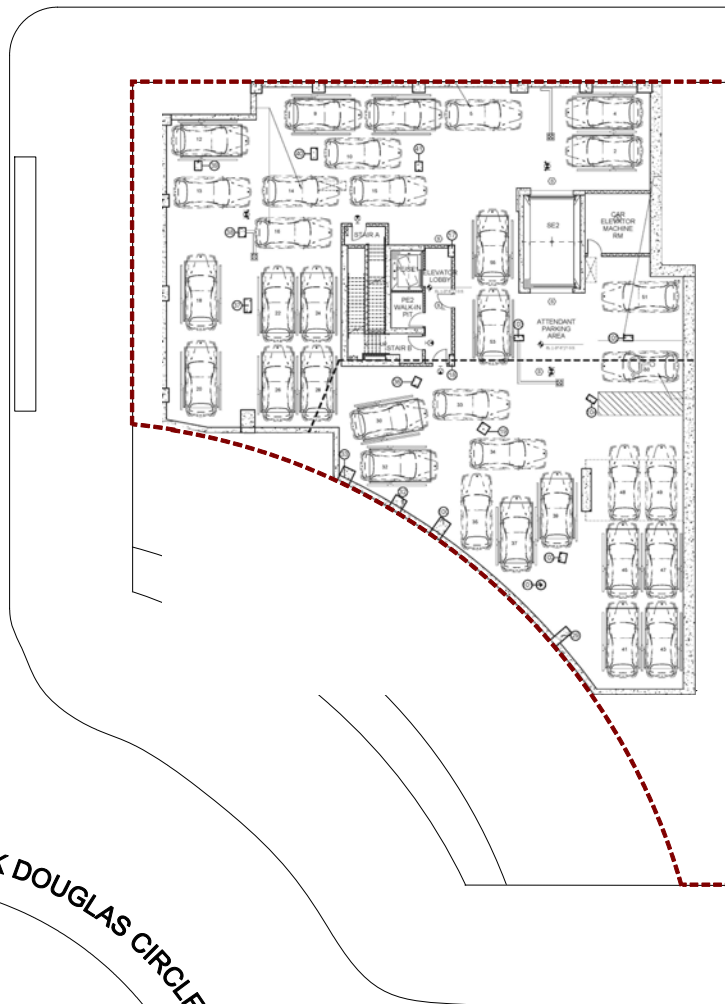
FIGURE
7

SITE ADDRESS: FORMER 110TH STREET SERVICE STATION
2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY
DRAWING TITLE: GROUNDWATER SAMPLING RESULTS ABOVE STANDARDS²¹



W. 111th STREET

FREDERICK DOUGLAS BOULEVARD

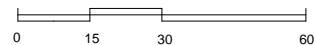


FREDERICK DOUGLAS CIRCLE

KEY

--- Property Line/Site Boundary

CENTRAL PARK NORTH (W. 110th STREET)



1 Inch = 30 feet



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Fax 631.924.2870

ENVIRONMENTAL BUSINESS CONSULTANTS

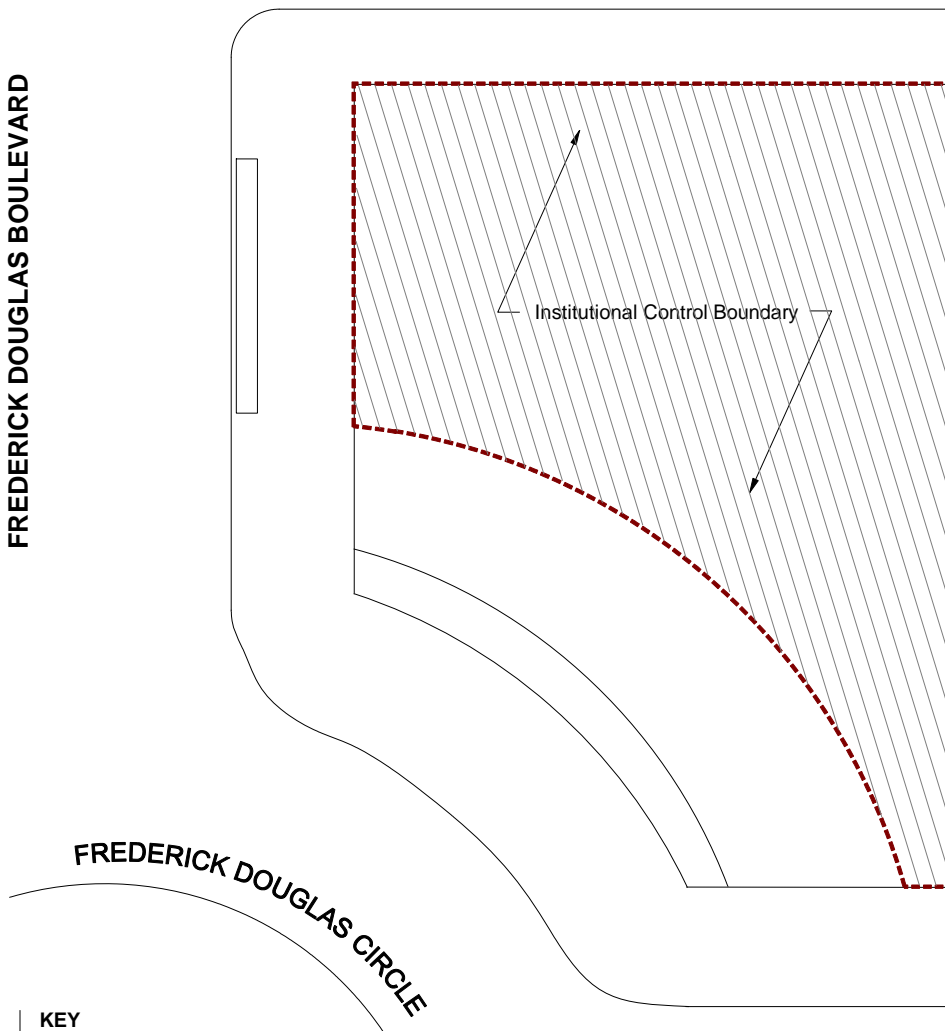
FIGURE
8

FORMER 110TH STREET SERVICE STATION	
SITE ADDRESS:	2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY
DRAWING TITLE:	SUB-CELLAR GARAGE PLAN
	22



FREDERICK DOUGLAS BOULEVARD

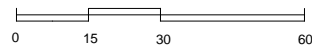
W. 111th STREET



KEY

--- Institutional Control Boundary

CENTRAL PARK NORTH (W. 110th STREET)



1 Inch = 30 feet

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS

Phone 631.504.6000
Fax 631.924.2870

FIGURE
9

SITE		FORMER 110TH STREET SERVICE STATION
ADDRESS:		2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY
DRAWING	INSTITUTIONAL CONTROL BOUNDARY	23
TITLE:		



W. 111th STREET

FREDERICK DOUGLAS BOULEVARD

12 - Inch Concrete Slab

42 - Inch Concrete Slab

Elevator

Elevator

36 - Inch Concrete Slab

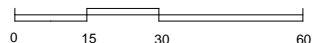
36 - Inch Concrete Slab

FREDERICK DOUGLAS CIRCLE

KEY

Property Line/Site Boundary

CENTRAL PARK NORTH (W. 110th STREET)



1 Inch = 30 feet



ENVIRONMENTAL BUSINESS CONSULTANTS

Phone 631.504.6000
Fax 631.924.2870

FIGURE
10

SITE ADDRESS:	FORMER 110TH STREET SERVICE STATION	
	2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY	
DRAWING TITLE:	SITE COVER SYSTEM	24







W. 111th STREET

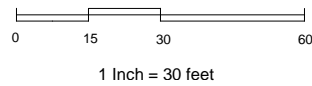
FREDERICK DOUGLAS BOULEVARD

FREDERICK DOUGLAS CIRCLE

KEY

-  Property Line/Site Boundary
-  Monitoring Well Location
-  Injection Well Location
-  Injection Well Location (Refusal - Not Installed)

CENTRAL PARK NORTH (W. 110th STREET)



Phone 631.504.6000
Fax 631.924.2870

ENVIRONMENTAL BUSINESS CONSULTANTS

FIGURE
1 1

FORMER 110TH STREET SERVICE STATION	
SITE ADDRESS:	2040 FREDERICK DOUGLAS BOULEVARD, HARLEM, NY
DRAWING TITLE:	INJECTION WELL & MONITORING WELL LOCATIONS
	25

APPENDIX A **ANNUAL INSPECTION CHECKLIST**



SITE INSPECTION CHECKLIST

Site Inspection Checklist - Cover System
2040 Frederick Douglass Boulevard
Harlem, NY

Date: 5/8/17 Time: 8:30am

Inspector Name/Organization: Ariel Czemerinski / AHC Engineering

Confirm Site Use: Residential Building under construction

VISUAL INSPECTION OF SUB-CELLAR CONCRETE SLAB

Building Interior Inspect basement concrete slab for cracks, perforations and patching

Describe General Condition of Slab

Slab was inspected and found to be in good condition

Describe any Cracks or New Penetrations

No cracks/penetrations observed, except to one injection well that had not been removed.

Describe any Patching

Multiple patching areas observed, corresponding to abandoned injection wells.

VISUAL INSPECTION OF FIRST FLOOR CONCRETE SLAB

Building Exterior Inspect concrete slab for cracks, perforations and patching

Describe General Condition of Slab

Concrete slab on first floor corresponding to track 4 area, above stairs: covered by RCT, not inspected, as it was concealed. Owners must

Describe any Cracks or New Penetrations

coordinate w/ RCT to expose staircase and redo the concrete - this area remains

Describe any Patching

untouched, so it is assumed that it has no penetrations, cracks or any patching.

Repairs Needed and / or Maintenance at this time?

Removed injection well identified during the inspection and patched as per EPA guidelines on 5/8/17 @ 3:00pm. Work conducted by C Squared Environmental under supervision by AHC Engineering

Any Intrusive Work Into Soil Performed?

None observed.

SMP and EWP Followed?

Yes.

Signature: A. Czemerinski

Date: 5/8/17



APPENDIX B
GROUNDWATER MONITORING
CESSATION APPROVAL



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4995
www.dec.ny.gov

October 20, 2016

Mr. Ronen Haron
Crescent 110 Equities LLC
316 West 118th Street
New York, NY 10026

Re: Former 110th Street Service Station
BCP Index C231087
New York, NY
Third Quarter 2016 Groundwater Monitoring Report

Dear Mr. Haron:

The New York State Department of Environmental Conservation (Department) has reviewed the Third Quarter 2016 Groundwater Monitoring Report (GWMR) dated August 22, 2016, which was prepared by Environmental Business Consultants (EBC), on behalf of Crescent 110 Equities LLC (the Volunteer). A request for cessation of the groundwater monitoring at the site was included in the GWMR. Based on the Department's review of this GWMR and the previous data obtained during six groundwater monitoring events, the Department approves the cessation of the groundwater monitoring at the site.

Please ensure that a copy of this letter and all the groundwater monitoring reports are placed in the document repositories. All remaining monitoring wells associated with this project should be closed in accordance with the Department's Groundwater Monitoring Well Decommissioning Procedures (CP-43).

If you have any questions please contact me at (718) 482-4065 or ioana.munteanu-ramnic@dec.ny.gov.

Sincerely,

Ioana Munteanu-Ramnic, P.E.
Environmental Engineer

ec: J. O'Connell, J. Nehila - NYSDEC
J. Deming, J. Kenney - NYSDOH
A. Czemerinski - AMC Engineering
C. Sosik - EBC
L. Schnapf – Schnapf LLC