**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Environmental Remediation, Remedial Bureau A**
625 Broadway, 12th Floor, Albany, NY 12233-7015
P: (518) 402-9543 | F: (518) 402-9722
www.dec.ny.gov

August 21, 2024

Mr. Sungchan Cho, Esq.
3571 162nd Street
Flushing, NY 11358

RE: Site Management Plan
Minuteman Cleaners
Site # 130065
East Massapequa / Nassau County

Dear Mr. Cho:

The New York State Department of Health and the New York State Department of Environmental Conservation (NYSDEC) have reviewed the above referenced Site Management Plan (SMP) for the Minuteman Cleaners site in Nassau County. The SMP for the above referenced site is approved with the following changes and becomes effective immediately:

According to NYSDEC Part 375 – 1.8(g)(2)(i), for residential use, " Restrictions on the use of groundwater are allowed, but no other institutional or engineering controls are allowed relative to the residential use soil cleanup objectives." The Record of Decision (ROD) for the site calls for no restriction of land use and the "residential use" and the "prohibition on vegetable gardens" language are removed from the requirements of this SMP. Since the sludge and sediment were removed from LP-1 per the ROD requirements, "maintenance of a site cover over only the former dry well area" is not required and is removed from the requirements of this SMP.

Cost Recovery information is not pertinent to the SMP and will be removed when the SMP is updated in the future.

If you have any questions or would like to discuss our revisions to the SMP, please contact me at 518-402-9692 or heather.bishop@dec.ny.gov.

Sincerely,
*Heather Bishop*
Heather Bishop, Assistant Engineer
Division of Environmental Remediation

EC:
Stephanie Selmer, NYSDOH

R. Mustico / J. Swartwout / H. Bishop e-file– NYSDEC Central Office
G. Desai – NYSDEC Region 1
Ben Cancemi, FPM, b.cancemi@fpm-group.com

EEA Inc.
Environmental Consultants
To Industry And Government

55 Hilton Avenue
Garden City, New York 11530
Telephone (516) 746-4400
(212) 227-3200

February 20, 2002

Mr. Joseph Peck
Division of Environmental Remediation
New York State
Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7017

**Re: Minuteman Dry Cleaners**
**Site ID # 130065**
**East Massapequa/Nassau County**

Dear Mr. Peck:

The enclosed are the Hazardous Waste Manifests for the contaminated soils removed from LP-1 and LP-2. A total of 12 drums was removed (approximately 6,000 pounds of contaminated soils).

The leaching pools were sealed with two feet of Bentonite and filled with crushed stone and clean fill.

Very truly yours,

Allen Serper

Allen Serper, P.E.
Vice President

AS:dv

cc: Mr. Gerard Burke, DEC

NYG 3194838

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

# HAZARDOUS WASTE MANIFEST

**P.O. Box 12820, Albany, New York 12212**

Please type or print. Do not staple

(Hazardous Waste Manifest 1/5/99)

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. NYD064732357 | Manifest Doc. No. | 2. Page 1 of 1 | Information within heavy bold line is not required by Federal Law.

3. Generator's Name and Mailing Address: MIDRITE MINI CLEANERS, 5640 MERRICK ROAD, EAST MASSAPEQUA NY

4. Generator's Telephone Number ( 516 ) 746-4400

A. NYG 3194838

B. Generator's ID SAME

5. Transporter 1 (Company Name): CHEMICAL WASTE DISPOSAL CORP | 6. US EPA ID Number: NYD077444266

C. State Transporter's ID NYP 5195

D. Transporter's Telephone ( 718 ) 274-3339

7 Transporter 2 (Company Name) | 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Telephone ( )

9. Designated Facility Name and Site Address: CHEMICAL WASTE DISPOSAL CORP, 42-14 19TH AVE, ASTORIA NY 11105 | 10. US EPA ID Number: NYD077444266

G. State Facility ID

H. Facility Telephone ( 718 ) 274-3339

| 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) | 12. Containers Number | Type | 13. Total Quantity | 14. Unit Wt/Vol | I. Waste No. |
|---|---|---|---|---|---|
| a. Hazardous waste, solid, n.o.s. 9, NA3077, III (Tetrachloroethylene, Trichloroethylene) | 002 | DM | 01000 | P | EPA F002 / STATE |
| b. | | | | | EPA / STATE |
| c | | | | | EPA / STATE |
| d. | | | | | EPA / STATE |

J. Additional Descriptions for Materials listed Above

a

b

c

d

K. Handling Codes for Wastes Listed Above

a. T | c.

b. | d.

15. Special Handling Instructions and Additional Information

a. ERG# 171

b.

c.

d.

EMERGENCY RESPONSE # (718) 274-3339
WORK ORDER AND INVOICE # 31446

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| [illegible] | [signature] | 01 | 17 | 02 |

**TRANSPORTER**

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| Anthony Rizzo (a) | Anthony O Brien | 01 | 17 | 02 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| | | | | |

**FACILITY**

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| Fabian Miranda for Ow | [signature] | 01 | 21 | 02 |

COPY 5—Generator—Mailed by TSD Facility

NYG 3195891

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

# HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(HazarGous Waste Manifest 1/5/99)

**UNIFORM HAZARDOUS WASTE MANIFEST**

| 1. Generator's US EPA ID No. | Manifest Doc. No. | 2. Page 1 of | Information within heavy bold line is not required by Federal Law. |
|---|---|---|---|
| NY0064732357 | 00001 | 1 | |

**GENERATOR**

3. Generator's Name and Mailing Address: MINUTE MAN CLEANERS, 5640 MERRICK ROAD, EAST MASSAPEQUA NY

4. Generator's Telephone Number ( 516 ) 746-4400

A. NYG 3195891

B. Generator's ID

| 5. Transporter 1 (Company Name) | 6. US EPA ID Number | C. State Transporter's ID | D. Transporter's Telephone |
|---|---|---|---|
| CHEMICAL WASTE DISPOSAL CORP | NYD071442633 | | (718) 274-3339 |

| 7 Transporter 2 (Company Name) | 8. US EPA ID Number | E. State Transporter's ID | F. Transporter's Telephone ( ) |
|---|---|---|---|
| | | | |

| 9. Designated Facility Name and Site Address | 10. US EPA ID Number | G. State Facility ID | H. Facility Telephone |
|---|---|---|---|
| CHEMICAL WASTE DISPOSAL CORP<br>42-14 19TH AVE<br>ASTORIA NY 11105 | NYD071442633 | | (718) 274-3339 |

| 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) | 12. Containers Number | 12. Containers Type | 13. Total Quantity | 14. Unit Wt/Val | I. Waste No. |
|---|---|---|---|---|---|
| a. Hazardous waste, solid, n.o.s. 9, NA3077, III (Tetrachloroethylene, Trichloroethylene) | 01 | DM | 00500 | P | EPA F002<br>STATE |
| b. | | | | | EPA<br>STATE |
| c | | | | | EPA<br>STATE |
| d. | | | | | EPA<br>STATE |

| J. Additional Descriptions for Materials listed Above | K. Handling Codes for Wastes Listed Above |
|---|---|
| a | a: H |
| b | b: |
| c | c: |
| d | d: |

15. Special Handling Instructions and Additional Information

a. ERG# 171

b.

c.

d.

EMERGENCY RESPONSE # (718) 274-3339
WORK ORDER AND INVOICE # 31397

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping nome and are classified; packed, marked ond labeled, and are in all respects in proper condition for transport by highway according to applicable intemotionol and national government regulations and state laws ond regulations.
If I om a large quantity generator, I certify that I hove a program in place to reduce the volume ond toxicity of waste generated to the degree I have determined to be economicolly practicable and that I have selected the practicable method of treatment, storage, or disposal currently ovoilable to me which minimizes the present and future threat to humon health and the environment; OR if I am o small quantity generator, I hove mode a good foith effort to minimize my waste generation and select the best woste management method that is ovoilable to me ond that I can afford.

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| | | 01 | 12 | 02 |

**TRANSPORTER**

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| Joseph A Goth | | 01 | 12 | 02 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| | | | | |

**FACILITY**

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

| Printed/Typed Name | Signature | Mo. | Day | Year |
|---|---|---|---|---|
| Fabian Miranda for Tech Waste | | 01 | 14 | 02 |

COPY 6—TSD Facility—Retained by TSD Facility

**MINUTEMAN CLEANERS SITE**

**NASSAU COUNTY**

**5640 MERRICK ROAD, EAST MASSAPEQUA, NEW YORK**

# SITE MANAGEMENT PLAN

**Prepared for:**

JKL BROTHERS, INC.

c/o Sung Chan Cho, Esq.

3571 162nd Street, Flushing, NY

**Prepared by:**

FPM GROUP

640 Johnson Avenue- Suite 101

Bohemia, NY 11716

**Revisions to Final Approved Site Management Plan:**

| Revision No. | Date Submitted | Summary of Revision | NYSDEC Approval Date |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**JUNE 2020**

## CERTIFICATION STATEMENT

I Ben T. Conces certify that I am currently a Qualified Environmental Professional as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ QEP

June 30, 2020 DATE

# TABLE OF CONTENTS

## MINUTEMAN CLEANERS SITENASSAU COUNTY
## EAST -MASSAPEQUA, NEW YORK

## SITE MANAGEMENT PLAN

### Table of Contents

## TABLE OF CONTENTS (Continued)

## List of Tables



## List of Figures



## List of Appendices

## List of Acronyms

| | |
|---|---|
| AS | Air Sparging |
| ASP | Analytical Services Protocol |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CAMP | Community Air Monitoring Plan |
| CFR | Code of Federal Regulation |
| CLP | Contract Laboratory Program |
| COC | Certificate of Completion |
| CP | Commissioner Policy |
| DER | Division of Environmental Remediation |
| EC | Engineering Control |
| ECL | Environmental Conservation Law |
| ELAP | Environmental Laboratory Approval Program |
| EWP | Excavation Work Plan |
| GHG | Green House Gas |
| HASP | Health and Safety Plan |
| IC | Institutional Control |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOH | New York State Department of Health |
| NYCRR | New York Codes, Rules and Regulations |
| O&M | Operation and Maintenance |
| OM&M | Operation, Maintenance and Monitoring |
| OSHA | Occupational Safety and Health Administration |
| PID | Photoionization Detector |
| PRP | Potentially Responsible Party |
| PRR | Periodic Review Report |
| QA/QC | Quality Assurance/Quality Control |
| QAPP | Quality Assurance Project Plan |
| RAO | Remedial Action Objective |
| RCRA | Resource Conservation and Recovery Act |
| RI/FS | Remedial Investigation/Feasibility Study |
| ROD | Record of Decision |
| RP | Remedial Party |
| RSO | Remedial System Optimization |
| SCG | Standards, Criteria and Guidelines |
| SCO | Soil Cleanup Objective |
| SMP | Site Management Plan |
| SOP | Standard Operating Procedures |
| SVE | Soil Vapor Extraction |
| SVI | Soil Vapor Intrusion |
| TAL | Target Analyte List |
| TCL | Target Compound List |
| USEPA | United States Environmental Protection Agency |

## ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification: NYSDEC Site No. 130065, Minuteman Cleaners Site
5640 Merrick Road, East Massapequa, NY

| | |
|---|---|
| Institutional Controls: | • The property may be used for residential, restricted residential; commercial, industrial use;<br>• The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Nassau 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;<br>• Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;<br>• Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;<br>• All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;<br>• Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;<br>• Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;<br>• 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 Consent Order; and<br>• Vegetable gardens and farming on the site are prohibited. |
| Engineering Controls: | 1. Cover system |
| | 2. Monitoring Well System |

| Inspections: | Frequency |
|---|---|
| Cover inspection | Annually, or as otherwise determined by the department |
| Monitoring: | Frequency |
| Groundwater Monitoring Wells MW-1, MW-2 and MW-3,MW-4, MW-6 | Every Fifth Quarter |
| Reporting: | Frequency |
| Inspection Report | Annually, or as otherwise determined by the department |
| Periodic Review Report | Annually, or as otherwise determined by the department |

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan

## 1.0 Introduction

### 1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Minuteman Cleaners Site located in East Massapequa, New York (hereinafter referred to as the "Site"). See Figure 1.1.1 for the Site Location. The Site is currently in the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program Site No. 130065 which is administered by New York State Department of Environmental Conservation (NYSDEC).

JKL Brothers, Inc. entered into an Order on Consent, on October 27, 2019 with the NYSDEC to conduct required reporting and operation and maintenance at the Site. A figure showing the site location and boundaries of the Site is provided in Figure 1.1.2.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". There are no formal Institutional or Engineering Controls (ICs and ECs) for the Site. The ROD functions as an IC and has been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. The former air sparge/soil vapor extraction system functioned as an EC, but has been terminated with NYSDEC. There is no Environmental Easement for the Site.

This SMP was prepared to manage remaining contamination at the site in accordance with the requirements of the Order on Consent (Index No. R1-201810-280). This plan has been approved by the NYSDEC, and compliance with this plan is required by JKL Brothers, LLC and its successors and assigns. A copy of the Order on Consent is provided in Appendix A.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Order on Consent and NYSDEC ROD;
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent, (Index #R1-201810-280; Site #13065) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix B of this SMP.

This SMP was prepared by FPM Group, Ltd , on behalf of JKL Brothers, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Order on Consent for the site.

### 1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

### 1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the Order on Consent 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Order on Consent and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1.3.1 below includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

**Table 1.3.1: Notifications***

| **Name** | **Contact Information** |
|---|---|
| NYSDEC Project Manager<br>Robert DeCandia | 518-402-9647<br>rob.decandia@dec.ny.gov |
| NYSDEC Regional HW Engineer<br>Walter Parish, PE | 631-444-0240<br>walter.parish@dec.ny.gov |
| NYSDEC Site Control<br>Kelly Lewandowski | 518-402-9553<br>kelly.lewandowski@dec.ny.gov |
| NYSDOH Project Manager<br>Christine Voorhis | christine.voorhis@health.ny.gov |

* Note: Notifications are subject to change and will be updated as necessary.

## 2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

### 2.1 Site Location and Description

The site is located in East Massapequa, Nassau County, New York and is identified as Section 66 Block 102 and Lot 66 on the Nassau County Tax Map (see Figure 2.1.1). The site is an approximately 0.38-acre area and is bounded by Merrick Road to the north, residential properties to the south, Carman Boulevard to the east, and a multi-tenant strip mall to the west (see Figure 2.1.2 – Site Plan) The owner of the site parcel at the time of issuance of this SMP is:

JKL Brothers, LLC

### 2.2 Physical Setting

#### 2.2.1 Land Use

The Site consists of the following: a one-story retail building. The Site is zoned commercial and is currently vacant.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include commercial and residential properties. The properties immediately south of the Site include residential properties; the properties immediately to the north (opposite Merrick Road), east and west of the Site include commercial properties.

#### 2.2.2 Geology

The regional and site-specific geology are typical of Long Island; glacial deposits of Pleistocene age overlie Cretaceous deposits, which rest on Precambrian crystalline bedrock. The Cretaceous deposits consist of the Raritan Formation and the Magothy Formation, which collectively extend from about 100 to 1,650 feet below grade at the Site. The Magothy Formation, which underlies the Pleistocene deposits, consists of interbedded fine sands, silts, and clays, with discontinuous zones of sand and gravel. The Magothy Formation is not affected by Site-related constituents and is not further considered herein.

The Pleistocene Gardiners Clay overlies the Magothy Formation and is present from approximately 35 to 45 feet below the Site. The Gardiners Clay is composed primarily of a marine clay that acts as confining unit. The Pleistocene Upper Glacial deposits consist of fine to very coarse sand and gravel that overlie the Gardiners Clay and extend from at or near the ground surface to 45 feet below the ground surface at the Site.

A geologic cross section is shown in Figure 2.2.2.1, the cross-section location is shown on Figure 2.1.2.

2.2.3 Hydrogeology

At the Site the hydrogeologic units correspond to the stratigraphic units. Of primary interest is the Upper Glacial Aquifer which is present in the Pleistocene Upper Glacial deposits and has a hydraulic conductivity in the range of 800 to 1,200 gallons per day per square foot. The Gardiners Clay acts as a confining unit between the Upper Glacial Aquifer and the underlying Magothy Aquifer.

The Upper Glacial Aquifer is a water table aquifer and depth to groundwater at the Site is approximately eight feet below grade. Regional groundwater flow in the Upper Glacial Aquifer in the Site area is generally to the southwest. Groundwater level information from prior site monitoring indicates that groundwater flow is to the southwest towards Carman Creek. A groundwater contour map is shown in Figure 2.2.3.1.

## 2.3 Investigation and Remedial History

The building on the Site was constructed in 1966 and has been operated as a dry cleaner since this time. Before the connection to the public sewer system in 1996, wastewater containing tetrachloroethylene (PCE) was drained from the Site building into several leaching pools located to the south of the building resulting in impacts to soil, groundwater, indoor air and soil vapor. The information below provides a summary of prior investigation, remedial action and recent activities. Full titles for each of the reports referenced below are provided in Section 8.0 - References

- Nassau County Department of Health Assessment

Investigation at the Site were initiated by the Nassau County Department of Health (NCDOH) in May 1990 at which time liquids present within three leaching structures were found to contain PCE at concentrations ranging from 13,000 to 16,000 parts per billion (ppb). Other VOCs, including 1,1,1-trichloroethane (1,1,1-TCA), dichloroethane (DCE), trichloroethene (TCE), benzene, toluene, ethyl benzene and xylenes were also reported at elevated concentrations.

An investigation was conducted by the owner of the site as requested by the NCDOH between 1990 and 1991 and impacts to groundwater, including PCE at a concentration of 17,000 ppb in onsite monitoring well MW-3. The site was subsequently referred by NCDOH to the NYSDEC and listed as a Class 2 Site.

- Remedial Investigation Activities

A remedial investigation (RI) was conducted between 1996 and 1998 and included the installation of soil borings in three onsite leaching pools, LP-1 through LP-3. The investigation determined that the greatest impact to soil was at LP-1 at a depth of 10 to 12 feet below grade with a concentration of 2,900 parts per million (ppm) of PCE and decreased to 460 ppm at a depth of 18-20 feet below grade. Lesser concentrations of PCE were reported in leaching pools LP-2 -and LP-3 at 64 ppm and 0.61 ppm, respectively. In groundwater, a max PCE concentration of 31,000 ppb was reported during sampling activities conducted in 1996 at temporary ground water monitoring point MP-6, situated onsite just south of MW-1. The greatest impacts observed in offsite groundwater was noted at temporary sampling point which had a DCE concentration of 7,100 ppb. Elevated concentrations of non-chlorinated VOCs, xylenes and benzene were also noted at monitoring point MP-12 at 2,500 ppb and 650 ppb, respectively.

Soil gas sampling and indoor was performed as part of the RI activities. The soil vapor sampling results were reported to contain the same VOC's as identified in site soil and groundwater. The highest concentration noted in soil vapor at the Site was DCE at a concentration of 7 part per million per volume. Indoor air sampling conducted at the Site identified PCE in the basement and first floor at concentrations of 60 micrograms per cubic meter ($\mu g/m^3$) and 35 $\mu g/m^3$, respectively. No exceedance of PCE's New York State Department of Health Air Guidance Value (100 $\mu g/m^3$ at the time of the RI) were reported.

- Record of Decision

In March 1999 a Record of Decision (ROD) was issued for the site based upon the finding of the RI and associated Feasibility Study. The ROD recommended the removal of two-feet of impacted sludge and sediment from LP-1, installation of an air sparge/soil vapor extraction, the installation of mitigation systems in private residences (if necessary) and the implementation of a groundwater monitoring program.

- Remedial System

In March 2002 the air sparge/soil vapor extraction (AS/SVE) system was placed into service to remediate onsite contamination. Based upon available information obtained from NYSDEC records it is not clear if the ROD's other recommendation to remove impacted sludge from LP-1 was performed. The AS/SVE system appears to have been operated from March 2002 through October 2002.

In November 2002, following shutdown of the remedial system, soil borings were installed around the perimeters of LP-1 and LP-2 to evaluate subsurface conditions following remediation. The investigation noted that PCE remained present in soils below the water table at concentrations up to 560 µg/kg in LP-1 and 9,600 µg/kg in LP-2 at a depth of 10 to 12 feet below grade (approximately two to four feet below the water table). No PCE was noted in soils situated at or above the water, with the exception of a low estimated concentration of 2.2 µg/kg at a depth of 5 to 7 feet below grade in the C boring of LP-1.

- Offsite Soil Vapor and SVI Investigations

In February 2012 a soil vapor evaluation, including the collection of two samples from temporary sampling probes, was conducted to the east of the site along Carman Boulevard. The investigation identified several petroleum related VOCs at low concentrations. No chlorinated solvents typically associated with dry cleaning chemicals were noted.

An offsite soil vapor intrusion (SVI) investigation was performed in March 2014 at two residence situated downgradient of the Site and situated above the offsite groundwater plume. PCE was identified in the sub-slab soil vapor and/or indoor air at each residence at levels for which NYSDOH Guidance indicated a response of "No Further Action".

- Groundwater Monitoring

Groundwater monitoring has been conducted at the Site on several occasions since impacts to groundwater were identified at the site in 1990. Since this time the site plume has migrated offsite and is heading to the southwest towards Carman Creek. Groundwater monitoring was most recently performed in 2016 and the following was noted: onsite monitoring well MW-1, situated in proximity to the LP-1 and LP-2 source area, was noted to have several exceedance of their respective NYSDEC Class GA Standards including cis-1,2 dichloroethane (1,2-DCE) at a concentration of 8.4 µg/l , n-butyl benzene (8.3 µg/l ), n-propyl benzene (9.2 µg/l ), 1,2,4-trimethylbenzene (39 µg/l ) and 1,2,4,5-

tetramethylbenzene (13 µg/l ); 1,2-DCE and vinyl chloride were noted at concentrations of 300 µg/l and 9.2 µg/l, respectively in offsite downgradient well MW-4, and a concentration of 21 µg/l of 1,2-DCE was noted in offsite downgradient well MW-6. No exceedances of VOCs of the NYSDEC Class GA Standards were noted in the former onsite well MW-3 or the onsite upgradient well MW-2.

- Emergent Contaminant Sampling

In November 2018 sampling for per-and poly-fluoroalkyl substances (PFASs) and 1,4-dioxane was performed on two onsite monitoring wells (MW-2 and MW-3) and two downgradient monitoring wells (MW-4 and MW-5) by the NYSDEC. The results of the testing identified several PFAS compounds. Two compounds for which the US EPA has provided interim guidance include perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) which have a health advisory level (HAL) of 70 nanograms per liter (ng/l) for each compound or their sum. Based on a review of the data the upgradient monitoring well (MW-2) was noted to have concentrations of 19.5 ng/l and 29.2 ng/l of PFOA and PFOS, respectively and indicates that these compounds are migrating onto the Site from an offsite source(s). Downgradient of the former source area concentrations of 8.07 ng/l and 77.9 ng/l of PFOA and PFOS, respectively were noted in MW-3. Offsite downgradient well MW-4 was noted to have a concentration of 27.5 ng/l for PFOA and 24.3 ng/l for PFOS, and well MW-5 was noted to have a concentration of 27.5 ng/l for PFOA and 54.3 ng/l for PFOS 51.6 ng/l. The results of the 1,4 dioxane sampling identified low estimated concentrations in each sample at concentrations ranging from 0.034 micrograms per liter (µg/l ) in the onsite upgradient well (MW-2) to a maximum of 0.17 µg/l in the onsite well MW-3 situated downgradient of the former source area.

## 2.4 Remedial Action Objectives

The Remedial Goals for the Site as listed in the Record of Decision dated March 1999 and based on remaining contamination at the Site (see section 2.5) are as follows:

**Groundwater**

RAOs for Public Health Protection

- Eliminate, to the extent practicable, ingestion of groundwater affected by the site that does not attain NYSDEC Class GA Ambient Water Quality Criteria.
- Eliminate, to the extent practical, future off-site migration of groundwater that does not attain NYSDEC Class GA Ambient Water Quality Criteria.
- Eliminate, to the extent practicable, exposures to chlorinated solvents from the site.

- Eliminate, to the extent practicable, the migration of chlorinated solvents from the site.

**Soil**

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

## 2.5 Remaining Contamination

### 2.5.1 Soil

Soil sampling was conducted in the remedial areas following the shutdown of the SVE system in 2002 at which time the results of the sampling were compared with the NYSDEC TAGM 4046 recommended soil cleanup objectives. The results, as summarized in Table 2.5.1.1 have been compared with current NYSEC standards and show that PCE and TCE are in excess of its NYSDEC's Part 375 Soil Cleanup Objectives (SCOs) for unrestricted use in deeper (saturated soils) around the perimeter of LP-2B (10-12) and LP-1A(10-12), respectively. None of the sampling results were noted to exceeded residential, restricted residential, commercial or industrial use SCOs, expect for PCE (LP-2B)which was at a concentration of less than two times the residential standard at the time of the sampling in 2002 It is noted that the deeper samples (10-12 feet) which were collected below the water table at LP-1(A) and LP-2(B) exceeded the protection of groundwater SCOs for cis-1,2 dichloroethene and PCE, respectively. It is likely that degradation of these compounds has occurred since sampling was performed in 2002. Based upon generally low concentrations of site contaminates of concern in onsite monitoring wells MW-1 and MW-3 in 2016, it does not appear the former source area soils pose a significant concern.

### 2.5.2 Groundwater

The data from the most recent groundwater sampling event (March 2016) for the wells are summarized in Table 2.5.2.1; the data from prior sampling events are also shown for comparison purposes. The data are evaluated with respect to the NYSDEC Standards, exceedances of which are shown in bold. It should be noted that the groundwater flow

direction at this Site, is southwest towards Carman Creek; the most recent groundwater flow direction contours are shown on Figure 2.2.1, together with the data from the recent samples that exceed the SCGs.

At well MW-1, located in the immediate vicinity of the former source area, VOC concentration of several compound including cis-1,2 dichloroethane (1,2-DCE) at a concentration of 8.4 µg/l , n-butyl benzene (8.3 µg/l ), n-propylbenzene (9.2 µg/l ), 1,2,4-trimethylbenzene (39 µg/l ) and 1,2,4,5-tetramethylbenzene (13µg/l ). Concentrations of 1,2-DCE were noted to be 330 µg/l during the RI

At well MW-3, located somewhat downgradient of the former source area, no exceedances of the NYSDEC Standards were noted in 2016. Previously 1,2-DCE concentrations were up to 360 µg/l in April 2002.

At well MW-4, located downgradient of the site, VOC concentrations continue to remain above the NYSDEC Standards. VOC concentration of several compound including cis-1,2 dichloroethane (1,2-DCE) at a concentration of 300 µg/l, vinyl chloride( 9.2 µg/l) isopropylbenzene (6.1 µg/l ), n-propylbenzene (29 µg/l ) and 1,2,4-trimethylbenzene (86 µg/l ). Concentrations of 1,2-DCE were noted to be 569 µg/l in February 2012.

At well MW-6, located downgradient of the site, concentrations of cis-1,2 dichloroethane (1,2-DCE) were noted to have declined from a high of 383 µg/l in 2012 to 21 µg/l in March 2016. No other VOCs in excess of standards were noted during the most recent 2016 sampling.

At upgradient well MW-2 and offsite downgradient well MW-5 no VOCs in excess of Standards were noted.

2.5.3 Soil Vapor

Several investigations have been conducted to evaluate soil vapor at both onsite and offsite locations including; soil vapor and indoor air sampling conducted onsite in the late 1990's, an offsite vapor evaluation in February 2012 and an SVI at two residences offsite in March 2014. The results of these investigations concluded that SVI was a concerned and did not require further action.

## 3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

### 3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix D) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

### 3.2 Institutional Controls

A series of ICs is required by the ROD and Order on Consent 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 residential, restricted-residential, commercial and/or industrial uses only. Adherence to these ICs on the site is required by the ROD and Consent Order and will be implemented under this SMP. ICs identified may not be discontinued without the approval of the NYSDEC. The IC boundaries are shown on Figure 1.1.2.

These ICs are:

- The property may be used for residential, restricted residential; commercial, industrial use;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Nassau 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 this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this 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 Consent Order; and
- Vegetable gardens and farming on the site are prohibited.

## 3.3 Engineering Controls

There is no EC for this Site established in the ROD, as discussed in the NYSDEC-approved PRRs. However, the existing pavement over the former LP-1and LP-2 location functions as an EC to prevent contact with remaining contaminated soils. The groundwater monitoring well system also functions as an EC to allow ready access to groundwater for the required monitoring. Thus, these two physical features are considered as ECs for the purpose of this SMP, as described below.

### 3.3.1 Cover

Exposure to remaining contamination at the site is prevented by a cover system placed over the Site. This cover system is comprised of an approximate 4-inchs of asphalt pavement. Figure 3.3.1 presents the location of the cover system. The Excavation Work

Plan (EWP) provided in Appendix C 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 and provided in Appendix D.

3.3.2 Monitoring Well System

Groundwater monitoring wells remain in place at the Site and are used to confirm that the levels of VOCs continue to decline following the remediation of the source area. Figure 2.2.3.1 shows the locations of the Site's monitoring wells. Procedures for groundwater monitoring are included in the Monitoring and Sampling Plan in Section 4.0 of this SMP. Any groundwater monitoring and sampling work must also be conducted in accordance with the procedures defined in a HASP prepared for the Site and provided in Appendix D.

3.3.3 Criteria for Completion of Remediation

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.3.1 Cover

The pavement cover will be considered as a permanent EC for this Site unless the soil exceeding the NYSDEC SCOs for protection of groundwater that is present in the former LP-1 and LP-2 locations to the south of the Site building is removed or confirmed to have naturally degraded. The quality and integrity of this pavement cover will be inspected at defined, regular intervals in accordance with this SMP unless the impacted soil is removed. In the event that the impacted soil is removed or demonstrated to be no longer a concern, a proposal to discontinue the pavement cover in this area will be submitted by the remedial party. The pavement cover in this area will be maintained until permission to discontinue the cover is granted in writing by the NYSDEC.

3.3.3.2 Monitoring Wells

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC with consultation with NYSDOH, until residual groundwater concentrations are found to be consistently below ambient water quality standards, the site SCGs, or have become asymptotic at an acceptable level over an extended period. In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the system will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, treatment and/or control measures will be evaluated.

## 4.0 MONITORING AND SAMPLING PLAN

### 4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix E..

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

### 4.2 Site-wide Inspection

Site-wide inspections will be performed at a minimum of once per year, or at frequency determined by the NYSDEC. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be

performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix G – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. Reporting requirements are outlined in Section 7.0 of this plan. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

## 4.3 Post-Remediation Media Monitoring and Sampling

The remediation of impacted unsaturated soils in LP-1 and LP-2 utilizing AS/SVE was completed and approved by NYSDEC with continued groundwater monitoring required. The post-remedial groundwater monitoring requirements and schedule are detailed below.

In the event that the pavement cover over the LP-1 and/or LP-2 area is removed and soil removal below the water table is performed, then soil sampling will be conducted. Information pertinent to cover and soil removal is included in the EWP in Appendix C.

Samples shall be collected from the groundwater on a routine basis. Sampling of soil will be collected as needed. Sampling locations, required analytical parameters and the schedule are provided in Table 4.3.1 – Post Remediation Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

**Table 4.3.1 – Post Remediation Sampling Requirements and Schedule**

| Sample Location | Sample Parameters | | Frequency |
|---|---|---|---|
| | VOCs (EPA Method 8260) | PFAS (EPA Method 537.1) | |
| Monitoring Wells MW-1, MW-3, MW-4 and MW-6 | X | | Once every fifth quarter. |
| Monitoring Wells MW-2 through MW-4 | | X | Once every fifth quarter. |
| Subsurface Soil Location LP-1 and LP-2 | X | | If cover over LP-1 or LP-2 is breached and soil below water table is to be removed. |

Detailed sample collection and analytical procedures and protocols are provided in Appendix E – Field Activities Plan and Appendix G – Quality Assurance Project Plan.

### 4.3.1 Groundwater Sampling

Groundwater monitoring will be performed on a once-per-five-quarters basis under the SMP to continue to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

The network of monitoring wells has been installed to monitor groundwater conditions at the former onsite source area and downgradient. The network of wells has been designed based on the following criteria:

- MW-1 is sampled to assess groundwater quality (VOCs) in the former source area vicinity;
- MW-2 is sampled to asses groundwater quality (PFAS) upgradient of the former source area;
- MW-3 is sampled to assess groundwater quality (VOCs and PFAS) onsite and downgradient of the former source area; and
- MW-4 and MW-6 are sampled to assess groundwater quality (VOCs and/or PFAS) offsite, further downgradient.

Figure 2.1.2 shows the monitoring well locations and Table 4.3.1.1 below summarizes the well identification numbers, as well as the purpose, location, depths, and diameter of all of the Site wells. For groundwater monitoring, 3 onsite wells and 2 offsite downgradient wells are sampled to evaluate the effectiveness of the source removal.

**Table 4.3.1.1 – Monitoring Well Information**

| Monitoring Well ID | Well Location | Coordinates* (longitude/ latitude) | Well Depth* (feet) | Well Diameter (inches) |
|---|---|---|---|---|
| MW-1 | Upgradient | 40.6689 N<br>73.4300 W | 15 | 4 |
| MW-2 | Source Area | 40.6692 N<br>73.4300 W | 15 | 4 |
| MW-3 | Downgradient | 40.6688 N<br>73.4302 W | 15 | 4 |
| MW-4 | Downgradient | 40.6684 N<br>73.4305 W | 10 | 2 |
| MW-5 | Downgradient | 40.6683 N<br>73.4311 W | 10 | 2 |
| MW-6 | Downgradient | 40.6680 N<br>73.4319 W | 10 | 2 |

*- Estimated based upon available monitoring information.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

#### 4.3.2 Soil Sampling

Soil sampling will be performed if the pavement cover in the area of the former LP-1 or LP-2 is removed and soil removal is conducted below the water in this area. Cover and/or soil removal would be performed following the procedures in the EWP (Appendix C). The results of this sampling will be used to assess the quality of the soil following completion of soil removal. Modification to the soil sampling frequency or requirements will require approval from the NYSDEC.

The network of soil sample locations has been designed based on the following criteria:

- Proximity to the former LP-1 and LP-2 structures;
- Depth of remediation at LP-1 and LP-2; and
- Analytical parameters that exceeded the NYSDEC SCOs for groundwater protection (VOCs).

Soil sampling rationale is provided in the EWP (Appendix C). Soil sampling protocols are described in Appendix G – Field Sampling Plan and Appendix E – Quality Assurance Project Plan. The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the soil sampling program are specified in Section 7.0 – Reporting Requirements

#### 4.3.3 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix G - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific Field Sampling Plan provided as Appendix E of this document.

# 5.0 OPERATION AND MAINTENANCE PLAN

## 5.1 General

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.

## 6.0 PERIODIC ASSESSMENTS/EVALUATIONS

### 6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

A vulnerability assessment has not yet been prepared for the Site as the risk to the only physical remedial features (monitoring wells and cover over LP-1/LP-2 area) is low. Although the Site is located in a low-lying area in proximity to Carman Creek, the Site has not experienced any significant flooding. During Superstorm Sandy on October 29, 2012, floodwater were reported to have not reached the Site. Based upon available information the western most offsite wells were likely been covered during the event but were not flooded as they are protected by well boxes equipped with seals. As the Site stratigraphy is conducive to recharge, floodwater that did not recede overland simply recharged into the lawn area. The Site surface is relatively level and erosion does not present a concern. If high winds occur it is unlikely that damage may result as the Site does not include large trees in proximity to the building and there is no above-grade remedial or monitoring equipment. Interruption of electric power by severe weather does not present any concern as the implemented remedy does not include any powered equipment. There is not anticipated to be a reasonable possibility of a spill or other contaminant release associated with severe weather that could affect the completed remedial measures; the Site building is heated by natural gas, petroleum storage does not occur onsite and ongoing operations do not include any outdoor storage of materials that might be considered contaminants.

## 6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the PRR.

### 6.2.1 Green Remediation Assessment

This assessment should include, but not be limited to, a discussion of items listed below, in relation to the implementation and operation and maintenance of the selected remedy. Where appropriate, quantification of these items should be provided:

- Waste Generation (describe the management of waste associated with the site and any waste reduction projects implemented).
- Emissions (fuel usage for transportation to and from the site for inspections and/or sampling);
- Water usage (identify sources of decontamination water);
- Land (describe any disturbances and restoration of land and/or ecosystems as part of implementation/operation of the remedy).

Methods proposed to reduce energy consumption, resource usage, waste generation, water usage, etc. should be included in the PRR.

### 6.2.2 Frequency of Sampling and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

In the case of this site consideration shall be given to:

- Reduced sampling frequencies;
- Reduced site visits; and
- Coordination/consolidation of activities to maximize foreman/labor time;

6.2.3 Metrics and Reporting

Information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits; a set of metrics has been developed.

6.2.4 Timing of Green Remediation Evaluations

Green remediation evaluations and associated modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

## 6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The remedial measures are not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and

information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focuses on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

## 7.0. REPORTING REQUIREMENTS

### 7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix F These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 7.1.1 and summarized in the Periodic Review Report.

**Table 7.1.1: Schedule of Interim Monitoring/Inspection Reports**

| Task/Report | Reporting Frequency* |
|---|---|
| Inspection Report | Annually, or as otherwise determined by the Department |
| Periodic Review Report | Annually, or as otherwise determined by the Department |

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., groundwater, soil, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;

- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

## 7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the SMP is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted fifth quarterly to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in the Consent Order. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS$^{TM}$ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific ROD or SMP;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and
- Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
- The overall performance and effectiveness of the remedy.

### 7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, 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;*
- *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 (if appropriate); and*
- *The information presented in this report is accurate and complete.*

*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, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative for the site."*

## 7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

## 7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3, upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for the RSO report is provided in Appendix H. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

## 8.0 REFERENCES


6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

CA Rich 2012. *Site Investigation Report – Groundwater Sampling and Off-Site Soil Vaper Evaluation. 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065.*

CA Rich 2016. *Offsite Soil Vapor Evaluation 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065.*

CA Rich 2016. *Groundwater Monitoring Report 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065.*

EEA, Inc., 1997. Remedial Feasibility Investigation *5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065.*

EEA, Inc., 2003. *Final Engineering Design Report Soil Gas Vapor and Air Sparging System Installed at 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065.*

EEA, Inc., 2003. *Subsurface Investigation of 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065.*

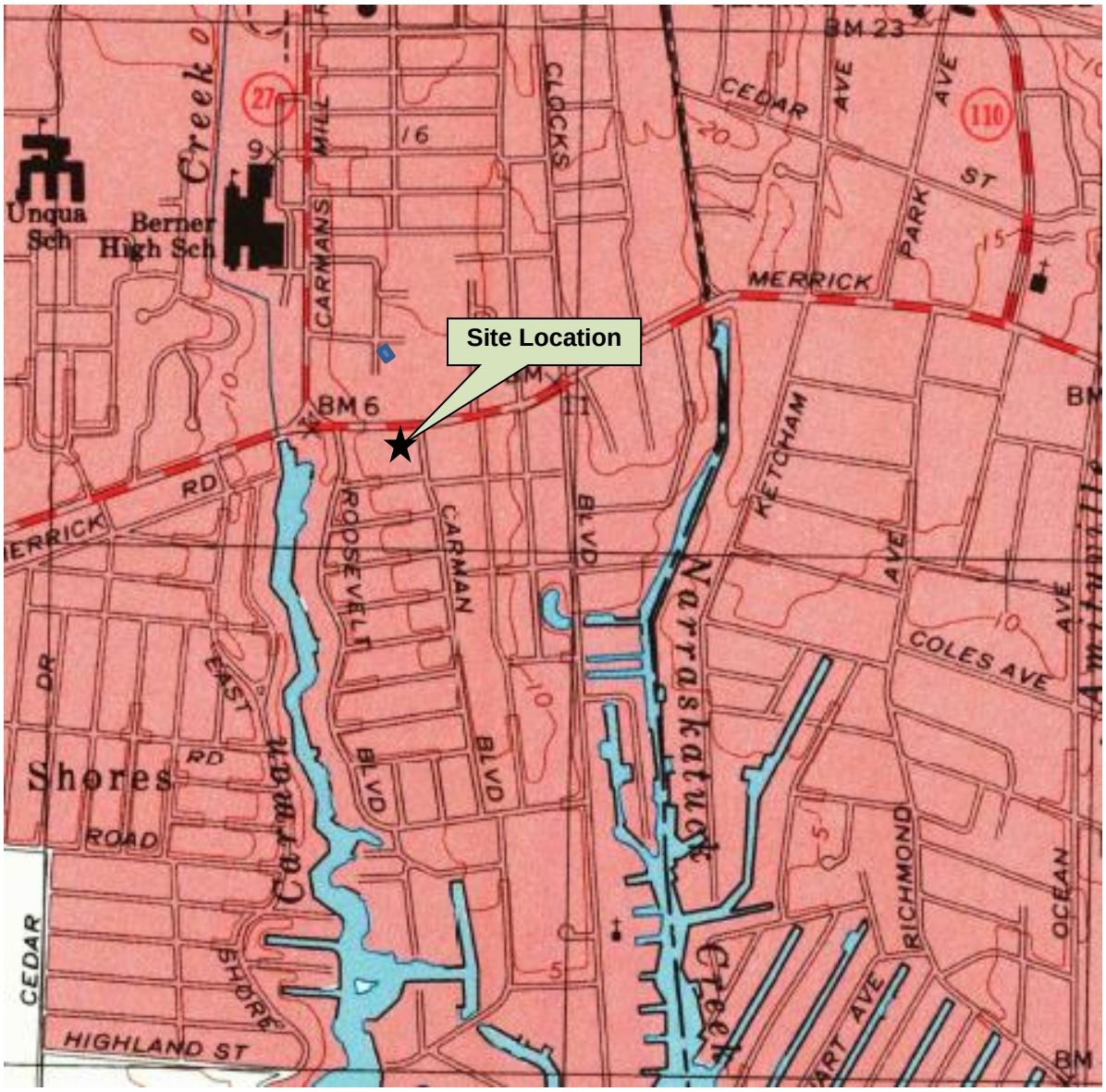
NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

NYSDEC, 1999. Record of Decision *of Merrick Cleaners, Inc. 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065*

NYSDEC, 2003. Correspondence – *Approval to Shutdown AVE System Merrick Cleaners, Inc. 5640 Merrick Road, East Massapequa, NY NYSDEC Site No. 130065*

# FIGURES




1 0.5 0 KILOMETERS 1 2

1000 0 METERS 1000 2000

1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

Source: US Geological Survey 7.5-Minute Amityville Quadrangle (1994)

**FIGURE 1.1.1**

**SITE LOCATION**

MINUTEMAN CLEANERS SITE
5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Drawn by: BC | Checked By: BC | Date: 1/5/18 |
|---|---|---|


Site Boundary

FPM GROUP

**FIGURE 1.1.2**

**SITE LOCATION AND BOUNDARIES**

MINUTEMAN CLEANERS SITE
5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Drawn by: BC | Checked By: BC | Date: 3/11/20 |
|---|---|---|


Site Boundary

Source : Nassau County Land Records Viewer

FPM GROUP

**FIGURE 2.1.1**

**SITE TAX MAP INFORMATION**

MINUTEMAN CLEANERS SITE
5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Drawn by: BC | Checked By: BC | Date: 3/11/20 |
|---|---|---|


Monitoring Well

A — A` Cross-section Location

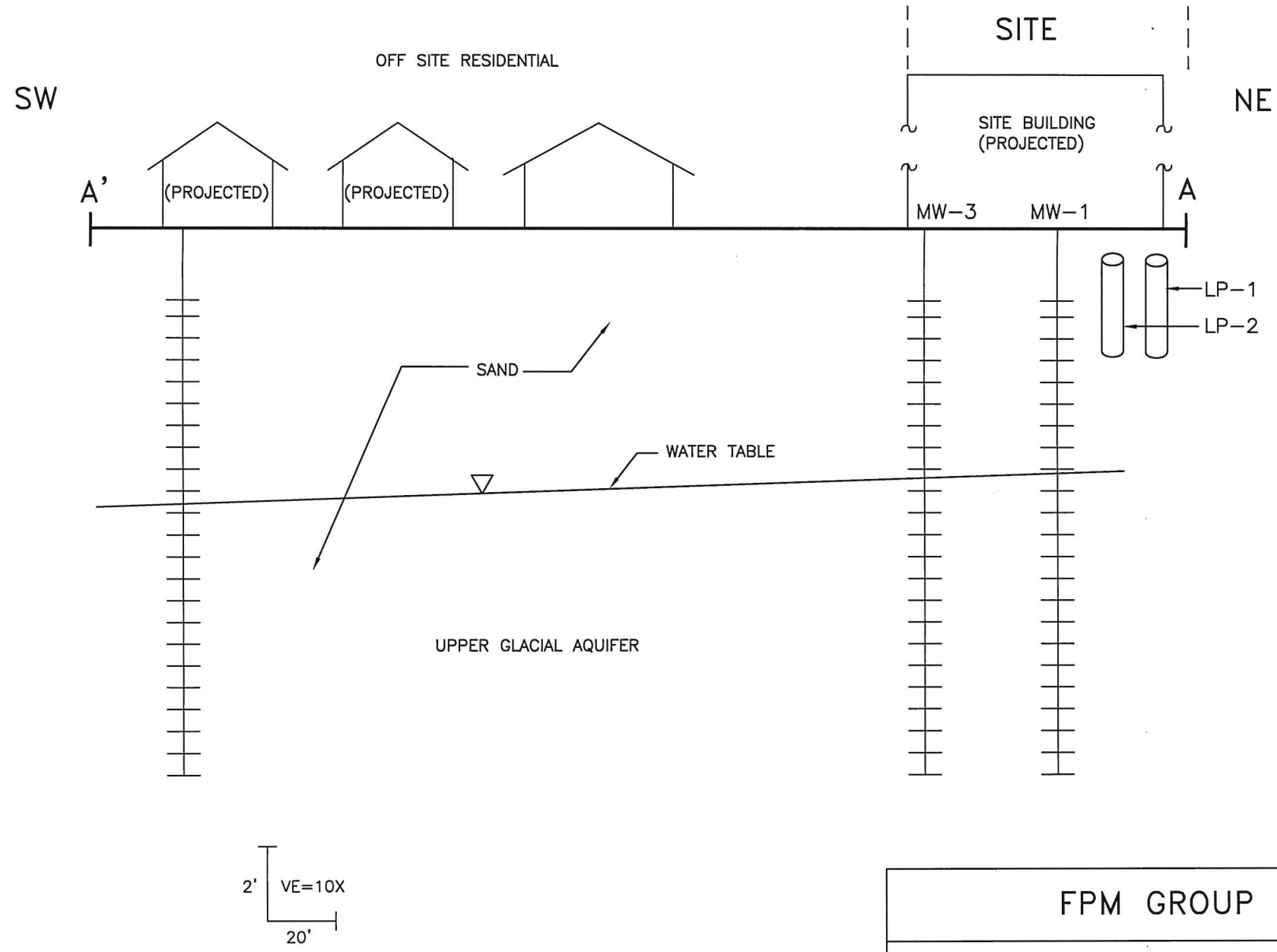
# FPM GROUP

**FIGURE 2.1.2**

**SITE PLAN**

MINUTEMAN CLEANERS SITE
5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Drawn by: BC | Checked By: BC | Date: 3/11/20 |
|---|---|---|




FPM GROUP

FIGURE 2.2.2.1
GEOLOGICAL CROSS-SECTION
MINUTEMEN CLEANERS SITE
EAST MASSAPEQUA, NEW YORK

| Drawn By: H.C. | Checked By: B.C. | Date: 3/12/20 |
|---|---|---|

H:\JKL_MINUTEMEN\SMP\GEO CROSS SECTION.dwg, 3/12/2020 11:54:31 AM, \\LISA19\Copystar BW


Monitoring Well

Groundwater Contour
(Dashed Where inferred)

Source: CA RICH April 1, 2016

# FPM GROUP

**FIGURE 2.2.3.1**

**GROUNDWATER CONTOUR MAP - MARCH 2016**

MINUTEMAN CLEANERS SITE
5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Drawn by: BC | Checked By: BC | Date: 1/5/18 |
|---|---|---|


Site Boundary

Former Leaching Pool

Cover Area

FPM GROUP

**FIGURE 3.3.1.1**

**LP-1 AND LP-2 COVER AREA**

MINUTEMAN CLEANERS SITE
5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Drawn by: BC | Checked By: BC | Date: 3/11/20 |
|---|---|---|

# TABLES

# TABLE 2.5.2.1
# GROUNDWATER ANALYTICAL RESULTS
# MINUTEMAN CLEANERS SITE
# 5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Sample Location | MW-1 | | | MW-2 | | | MW-3 | | | | NYSDEC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | April 1996[A] | February[B] 2012 | March 2016[C] | April 1996[A] | February[B] 2012 | March 2016[C] | April 1996[A] | April 2002[D] | February[B] 2012 | March 2016[C] | Class GA Standards |
| VOCs (ug/L) | | | | | | | | | | | |
| Acetone | NA | 9.9 J | ND | ND | 10.2 | ND | ND | ND | 11.4 | ND | 50 |
| Cyclohexane | NA | 0.68 J | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Ethylbenzene | NA | 0.36 J | ND | ND | ND | ND | ND | ND | ND | ND | 5 |
| Methylcyclohexane | NA | 2.0 J | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Toluene | NA | ND | ND | ND | ND | ND | ND | ND | ND | ND | 5 |
| Tetrachloroethene | NA | 1.0 | 2.5 | ND | ND | ND | ND | **35** | 3.2 | 2 | 5 |
| Vinyl chloride | NA | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2 |
| trans-1,2-Dichloroethene | NA | ND | ND | ND | ND | ND | ND | 4 | | ND | 5 |
| Trichloroethene | NA | 1.7 | 4.6 | ND | ND | 0.48 J | ND | **21** | 2.1 | 1.2 | 5 |
| p/m-Xylene | NA | 0.66 | ND | ND | ND | ND | ND | ND | ND | ND | 5 |
| o-Xylene | NA | ND | ND | ND | ND | ND | ND | ND | ND | ND | 5 |
| cis-1,2-Dichloroethene | **330** | **6.9** | **8.4** | ND | ND | ND | **130** | **360** | **11.9** | 0.84 J | 5 |
| n-Butylbenzene | NA | NA | **8.3** | ND | ND | ND | ND | ND | ND | ND | 5 |
| sec-Butylbenzene | NA | NA | 3.2 | ND | ND | ND | ND | ND | ND | ND | 5 |
| Isopropylbenzene | NA | ND | 1.8 J | ND | ND | ND | ND | ND | ND | ND | 5 |
| p-Isopropyltoluene | NA | NA | 1.2 J | ND | ND | ND | ND | ND | ND | ND | 5 |
| Naphthalene | NA | NA | 1.6 J | ND | ND | ND | ND | ND | ND | ND | 10 |
| n-Propylbenzene | NA | NA | **9.2** | ND | ND | ND | ND | ND | ND | ND | 5 |
| 1,3,5-Trimethylbenzene | NA | NA | 3.8 | ND | ND | ND | ND | ND | ND | ND | 5 |
| 1,2,4-Trimethylbenzene | NA | NA | **39** | ND | ND | ND | ND | ND | ND | ND | 5 |
| p-Diethylbenzene | NA | NA | 24 | ND | ND | ND | ND | ND | ND | ND | - |
| p-Ethyltoluene | NA | NA | 3 | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2,4,5-Tetramethylbenzene | NA | NA | **13** | ND | ND | ND | ND | ND | ND | ND | 5 |

| Sample Location | MW-4 | | | MW-5 | | | MW-6 | | | NYSDEC Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | April 2002[D] | February[B] 2012 | March 2016[C] | April 2002[D] | February[B] 2012 | March 2016[C] | April 2002[D] | February[B] 2012 | March 2016[C] | GA Standards |
| VOCs (ug/L) | | | | | | | | | | |
| Acetone | ND | 13.7 | ND | ND | 12.1 | ND | ND | 9.0 J | ND | 50 |
| Chloroform | ND | ND | ND | ND | 0.43 J | ND | ND | ND | ND | 7 |
| Ethylbenzene | 4 | 1.1 | ND | ND | ND | ND | ND | ND | ND | 5 |
| Cyclohexane | ND | 0.96 J | ND | ND | ND | ND | ND | ND | ND | - |
| Methocyclohexane | ND | 0.92 J | ND | ND | ND | ND | ND | ND | ND | - |
| Tetrachloroethene | 4 | ND | ND | 1 | ND | 0.36 J | ND | ND | ND | 5 |
| Vinyl chloride | ND | **2.6** | **9.2** | ND | ND | ND | **16** | **4.6** | 0.65 J | 2 |
| trans-1,2-Dichloroethene | 2 | 4.3 | 1.4 J | ND | ND | ND | 3 | 2.8 | ND | 5 |
| Trichloroethene | 1 | 0.85 J | 2.1 | ND | ND | ND | 2 | ND | ND | 5 |
| p/m-Xylene | 3 | 2.3 | 2.2 J | ND | ND | ND | ND | ND | ND | 5 |
| o-Xylene | **5** | **6.9** | 2.8 J | ND | ND | ND | ND | ND | ND | 5 |
| cis-1,2-Dichloroethene | **160** | **569** | **300** | ND | ND | ND | **330** | **383** | **21** | 5 |
| n-Butylbenzene | ND | ND | 12 | ND | ND | ND | ND | ND | ND | 5 |
| sec-Butylbenzene | ND | ND | 7.1 | ND | ND | ND | ND | ND | ND | 5 |
| Isopropylbenzene | ND | 0.84 J | **6.1** | ND | ND | ND | ND | ND | ND | 5 |
| p-Isopropyltoluene | ND | ND | 1.9 J | ND | ND | ND | ND | ND | ND | 5 |
| Naphthalene | ND | ND | 4.4 J | ND | ND | ND | ND | ND | ND | 10 |
| n-Propylbenzene | ND | ND | **29** | ND | ND | ND | ND | ND | ND | 5 |
| 1,3,5-Trimethylbenzene | **5** | ND | 1.6 J | ND | ND | ND | ND | ND | ND | 5 |
| 1,2,4-Trimethylbenzene | **7** | ND | **86** | ND | ND | ND | ND | ND | ND | 5 |
| p-Diethylbenzene | ND | ND | 12 | ND | ND | ND | ND | ND | ND | - |
| p-Ethyltoluene | 4 | ND | 12 | ND | ND | ND | ND | ND | ND | - |
| 1,2,4,5-Tetramethylbenzene | 2 | ND | **32** | ND | ND | ND | ND | ND | ND | 5 |

Notes:

A - NYSDEC March 1999 ROD
B - CA RICH "Site Investigation Report for Groundwater Sampling and Off-Site Soil Vapor Evaluation" April 2012
C - CA RICH " Groundwater Monitoring Report"" June 2016
D - EEA, Inc February 2003 correspondance to NYSDEC
ND - Not Detected/No Data
J - Estimated Concentration

FPM

# TABLE 2.5.1.1
# POST-REMEDIATION SOIL CHEMICAL ANALYTICAL DATA
# MINUTEMAN CLEANERS SITE
# 5640 MERRICK ROAD, EAST MASSAPEQUA, NY

| Sample Location | LP-1A | | | LP-1B | | | LP-1C | | | NYSDEC Part 375 Soil Cleanup Objectives | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Depth (feet below grade)** | **0 to 2** | **5 to 7** | **10 to 12** | **0 to 2** | **5 to 7** | **10 to 12** | **0 to 2** | **5 to 7** | **10 to 12** | **Unrestricted** | **Restricted Residential** | **Commercial** | **Protection of Groundwater** |
| **VOCs (ug/kg)** | | | | | | | | | | | | | |
| Tetrachloroethene | ND | ND | 150 | ND | ND | 560 | ND | 2.2 J | 560 | 1,300 | 19,000 | 150,000 | 1,300 |
| cis-1,2-Dichloroethene | ND | ND | **320** | ND | ND | ND | ND | ND | ND | 250 | 100,000 | 500,000 | 250 |

| Sample Location | LP-2A | | | LP-2B | | | LP-2C | | | NYSDEC Part 375 Soil Cleanup Objectives | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Depth (feet below grade)** | **0 to 2** | **5 to 7** | **10 to 12** | **0 to 2** | **5 to 7** | **10 to 12** | **0 to 2** | **5 to 7** | **10 to 12** | **Unrestricted** | **Restricted Residential** | **Commercial** | **Protection of Groundwater** |
| **VOCs (ug/kg)** | | | | | | | | | | | | | |
| Tetrachloroethene | ND | ND | ND | ND | ND | **9600 E** | ND | ND | 150 | 1,300 | 19,000 | 150,000 | 1,300 |
| cis-1,2-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | 13 J | 250 | 100,000 | 500,000 | 250 |
| Trichloroethene | ND | ND | ND | ND | ND | 50 | ND | ND | ND | 470 | 21,000 | 200,000 | 470 |
| Ethylbenzene | ND | ND | ND | ND | ND | 22 | ND | ND | ND | 1,000 | 41,000 | 390,000 | 1,000 |
| Xylenes | ND | ND | 32 | ND | ND | 138 | ND | ND | ND | 260 | 100,000 | 500,000 | 1,600 |

Notes:
Source; EEA, Inc. Subsurface Investigation Report January 2003, Samples collected on November 18, 2002
Concentrtions which are highligted and bold exceeed NYSDEC Part 375 SCO fo Unrestricted Use and Protection of Groundwater
ND - Not Detected/No Data
J - Estimated Concentration E - Concentration exceed calibration range of instrument, sample was diluted and reanalyzed.

FPM

# APPENDIX A



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
STATE SUPERFUND PROGRAM
ECL §27-1301 *et seq.*

| | |
|---|---|
| In the Matter a Remedial Program for | **ORDER ON CONSENT AND ADMINISTRATIVE SETTLEMENT** |
| **DEC Site Name: Minute Man Cleaners**<br>DEC Site No.:130065<br>Site Address: 5460 Merrick Road, East Massapequa, NY 11758 | **Index No.** |
| Hereinafter referred to as "Site" | R1-201810-280 |
| by: JKL Brothers LLC<br>Hereinafter referred to as "Respondent" | |

1. A. The New York State Department of Environmental Conservation ("Department") is responsible for inactive hazardous waste disposal site remedial programs pursuant to Article 27, Title 13 of the Environmental Conservation Law ("ECL") and Part 375 of Title 6 of the Official Compilation of Codes, Rules and Regulations ("6 NYCRR") and may issue orders consistent with the authority granted to the Commissioner by such statute.

B. The Department is responsible for carrying out the policy of the State of New York to conserve, improve and protect its natural resources and environment and control water, land, and air pollution consistent with the authority granted to the Department and the Commissioner by Article 1, Title 3 of the ECL.

C. This Order is issued pursuant to the Department's authority under, *inter alia*, ECL Article 27, Title 13 and ECL 3-0301, and resolves Respondent's liability to the State as provided at 6 NYCRR 375-1.5(b)(5).

2. The Site is currently listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 130065 with a Classification of 02 pursuant to ECL 27-1305.

3. Respondent consents to the issuance of this Order without (i) an admission or finding of liability, fault, wrongdoing, or violation of any law, regulation, permit, order, requirement, or standard of care of any kind whatsoever; (ii) an acknowledgment that there has been a release or threatened release of hazardous waste at or from the Site; and/or (iii) an acknowledgment that a release or threatened release of hazardous waste at or from the Site constitutes a significant threat to the public health or environment.

4. Solely with regard to the matters set forth below, Respondent hereby waives any right to a hearing as may be provided by law, consents to the issuance and entry of this Order, and agrees to be bound by its terms. Respondent consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agrees not to contest the validity of this Order or its terms or the validity of data submitted to the Department by Respondent pursuant to this Order.

**NOW**, having considered this matter and being duly advised, **IT IS ORDERED THAT**:

I. Real Property

The Site subject to this Order has been assigned number 130065, consists of approximately .38 acres, and is as follows:

Subject Property Description (A Map of the Site is attached as Exhibit "A")

Tax Map/Parcel No.: Section 66 Block 102 Lot 66
5640 Merrick Road, Massapequa, NY 11758
Owner: JKL Brothers LLC

II. Site Management Plan/Operation and Maintenance/Periodic Reporting

Respondent shall, within thirty (30) days of the effective date of this Order, submit to the Department for review and approval a Site Management Plan (SMP) which outlines Respondent's operation and maintenance obligations, including operation and maintenance of a groundwater monitoring system and submission of periodic review reports for the Site. Respondent shall operate and maintain the groundwater monitoring system and shall submit periodic review reports to the Department as required in the SMP.

III. Payment of State Costs

Invoices shall be sent to Respondent at the following address(es):

JKL Brothers LLC
5460 Merrick Road
Massapequa, NY 11758

In addition to the requirement to pay future state costs as set forth in Appendix "A", within forty-five (45) Days after the effective date of this Consent Order, Respondent shall pay to the Department the sum set forth on Exhibit "C", which shall represent reimbursement for past State Costs incurred prior to the effective date of this Consent Order. Respondent acknowledges that all past State Costs are not itemized on the cost summary and that additional charges may be billed at a later date for State Costs incurred prior to the effective date of this Consent Order.

IV. Communications

A. All written communications required by this Consent Order shall be transmitted by United States Postal Service, by private courier service, by hand delivery, or by electronic mail.

1. Communication from Respondent shall be sent to:

Richard P. Mustico (1 hard copy (unbound for work plans) & 1 electronic copy)
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, N.Y. 12233
richard.mustico1@dec.ny.gov

Christine Voorhis (electronic copy only)
New York State Department of Health
Bureau of Environmental Exposure Investigation
Empire State Plaza
Corning Tower Room 1787
Albany, N.Y. 12237
christine.vooris@health.ny.gov

Jennifer Andaloro (correspondence only)
New York State Department of Environmental Conservation
Office of General Counsel
625 Broadway
Albany, N.Y. 12233-1500
jennifer.andaloro@dec.ny.gov

2. Communication from the Department to Respondent shall be sent to:

JKL Brothers LLC
5460 Merrick Road
Massapequa, NY 11758

Sungchan Cho. Esq.
35-11 162nd Street
Flushing. NY 11358 (T: 718 321-2577)
Sungchanlaw@gmail.com

B. The Department and Respondent reserve the right to designate additional or different addressees for communication on written notice to the other. Additionally, the Department reserves the right to request that the Respondent provide more than one paper copy of any work plan or report.

C. Each party shall notify the other within ninety (90) days after any change in the addresses listed in this paragraph or in Paragraph I.

V. Miscellaneous

A. Appendix A - "Standard Clauses for All New York State, State Superfund Orders" is attached to and hereby made a part of this Order as if set forth fully herein.

B. In the event of a conflict between the main body of this Order (including any and all attachments thereto and amendments thereof) and the terms of Appendix A, the main body of this Order shall control.

C. The effective date of this Order is the 10th day after it is signed by the Commissioner or the Commissioner's designee.

DATED: October 29, 2019

BASIL SEGGOS
COMMISSIONER
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

By: _____
Michael Ryan, P.E., Director
Division of Environmental Remediation

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Consent Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Consent Order.

[name]

By: _____

Title: Jung Hyun Kang / President

Date: 9/05/2019

STATE OF NEW YORK )
) ss:
COUNTY OF QUEENS )

On the _____ day of _____ in the year 20___, before me, the undersigned, personally appeared _____*(full name)* personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

*Acknowledgment by a corporation, in New York State:*

On the 5th day of September in the year 2019, before me, the undersigned, personally appeared Jung Hyun Kang *(full name)* personally known to me who, being duly sworn, did depose and say that he/she/they reside at 18 Elm Street Roslyn Height. NY 11577 *(full mailing address)* and that he/she/they is (are) the

_____ *(president or other officer or director or attorney in fact duly appointed)* of the

JKL Brothers LLC

*(full legal name of corporation)*, the corporation described in and which executed the above instrument; and that he/she/they signed his/her/their name(s) thereto by the authority of the board of directors of said corporation.

_____
Notary Public, State of New York

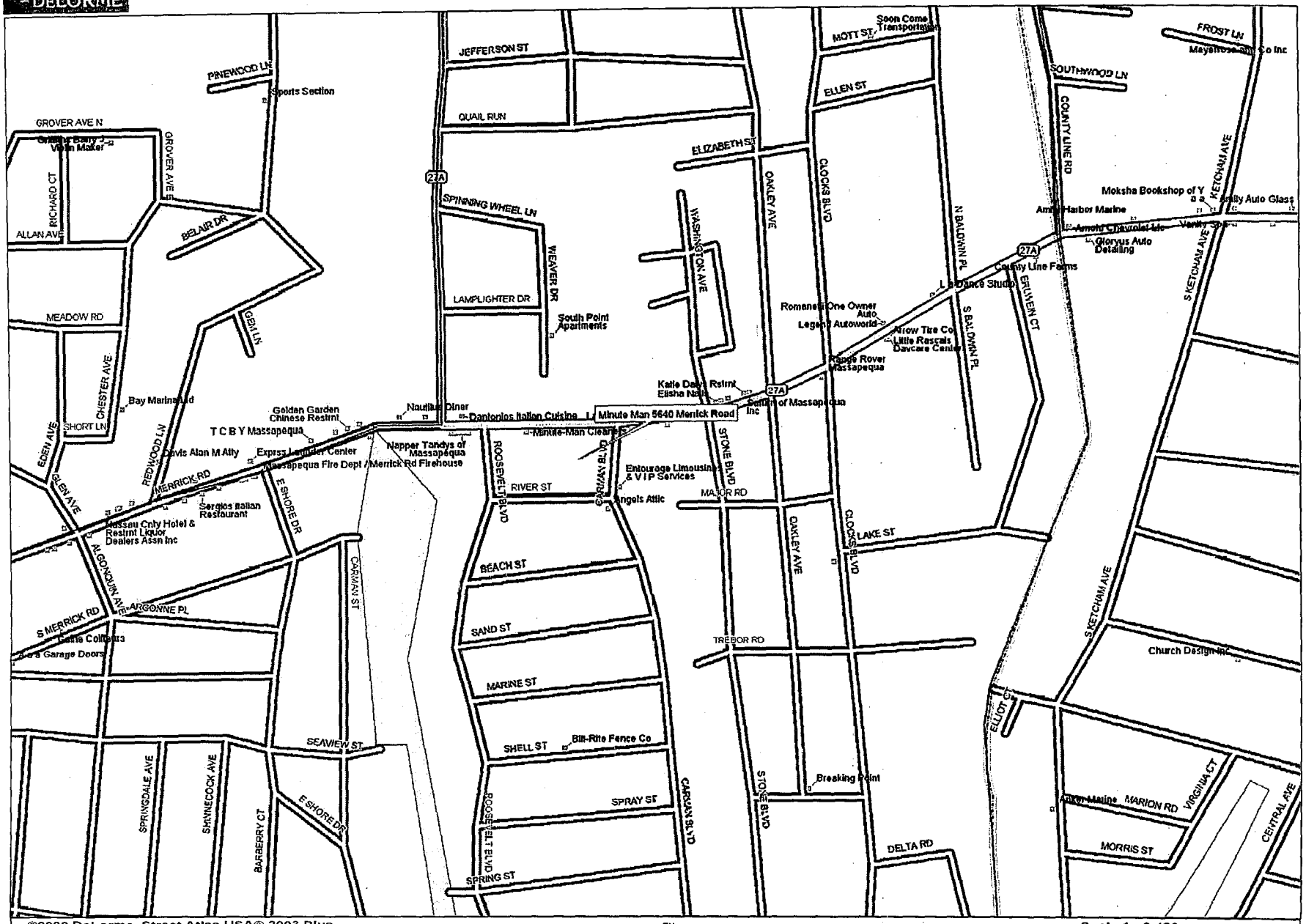
SUNG CHAN CHO
Notary Public, State of New York
No. 02CH6191892
Qualified in Queens County
Commission Expires August 25, 2020

**EXHIBIT "A"**

Map

DeLORME

Street Atlas USA® 2003 Plus






TN
MN (13.7°W)

Scale 1 : 6,400
0 180 360 540 720 900 ft
0 40 80 120 160 200 m
1" = 533 ft

## EXHIBIT "B"

## RECORDS SEARCH REPORT

1. Detail all environmental data and information within Respondent's or Respondent's agents' or consultants' possession or control regarding environmental conditions at or emanating from the Site.

2. A comprehensive list of all existing relevant reports with titles, authors, and subject matter, as well as a description of the results of all previous investigations of the Site and of areas immediately surrounding the Site which are or might be affected by contamination at the Site, including all available topographic and property surveys, engineering studies, and aerial photographs.

3. A concise summary of information held by Respondent and Respondent's attorneys and consultants with respect to:

(i) a history and description of the Site, including the nature of operations;

(ii) the types, quantities, physical state, locations, methods, and dates of disposal or release of hazardous waste at or emanating from the Site; (iii)a description of current Site security (i.e. fencing, posting, etc.); and

(iii) the names and addresses of all persons responsible for disposal of hazardous waste, including the dates of such disposal and any proof linking each such person responsible with the hazardous wastes identified.

**EXHIBIT "C"**

Cost Summary

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Environmental Remediation, Bureau of Program Management**
625 Broadway, 12th Floor, Albany, NY 12233-7012
P: (518) 402-9764 | F: (518) 402-9722
www.dec.ny.gov

Transmitted via E-Mail
**MEMORANDUM**

TO: Jennifer Andaloro, Office of General Counsel

FROM: Karen Diligent, Chief, RMRS, Bureau of Program Management, DER KBD

SUBJECT: Cost Summary – Minuteman Cleaners, Site ID #130065

DATE: APR 2 2 2019

---

This cost recovery summary has been prepared in response to your March 27, 2019, request. The following summarizes costs incurred by the New York State Department of Environmental Conservation (DEC) and the New York State Department of Health (DOH) for the noted time periods. There may be additional future costs associated with this site that are not included in this summary. Please contact the project manager to determine if additional future costs are anticipated.

The total unreimbursed costs incurred by the State in association with the Minuteman Cleaners Site are $45,838.33. This amount includes emergency response costs incurred at the site by a hazardous material spill, if any. Please note that if the site involves a petroleum spill, any costs incurred by the Oil Spill Fund would be recovered separately by the Office of the State Comptroller and are not included in this summary.

DEC costs for this site have been included from April 5, 2007, through March 6, 2019 (the latest available data). DOH costs for this site have been included from April 5, 2007 through September 17, 2008, since they were readily available. Please note that there is one open contract for this site for which we have outstanding obligations in the amount of $700.00.

Please contact Sue Bolesky at (518) 402-9732, if you have any questions on this summary.

Attachments

ec: R. Mustico
E. Obrecht

EXHIBIT I

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
BUREAU OF PROGRAM MANAGEMENT

COST SUMMARY

| | |
|---|---|
| SITE NAME: | Minuteman Cleaners |
| SITE NO.: | 130065 |
| * TIME FRAME: DEC | 04/05/07 - 03/06/19 |
| * TIME FRAME: DOH | 04/05/07 - 09/17/08 |

| COST CATEGORY | AMOUNTS | EXHIBIT NO. |
|---|---|---|
| DIRECT PERSONAL SERVICES | $21,888.07 | |
| FRINGE | $11,900.48 | |
| INDIRECT | $10,228.47 | |
| *PERSONAL SERVICES SUBTOTAL* | *$44,017.02* | II |
| CONTRACTUAL | $2,300.00 | III |
| TRAVEL | $0.00 | |
| OTHER NPS | $0.00 | |
| *NON-PERSONAL SERVICES SUBTOTAL* | *$2,300.00* | |
| DEC TOTAL | $46,317.02 | |
| DOH TOTAL | $0.00 | |
| ** MINUS PREVIOUSLY REIMBURSED AMOUNT (IF APPLICABLE) | -$478.69 | IV |
| *DEC & DOH TOTAL* | *$45,838.33* | |
| COST CAP (IF APPLICABLE) | N/A | |
| **GRAND TOTAL** | **$45,838.33** | |

* Costs incurred prior to 4/5/07 were recovered or settled under the authority of Consent Order No. W1-0866-00-03.

** This amount was recovered under Bill No. 5, dated January 6, 2009, which was the final invoice sent under the authority of Consent Order No. W1-0866-00-03.

**EXHIBIT II**

LATSnet leave & accrual tracking system

PART OF CMA HRnet

## Cost Query - Ad Hoc

Criteria: Timecard Begin Date 4/5/2007 And Timecard End Date 3/6/2019 And Task Code B357
Leave Charges: Included
Cost Indicator: Direct
Rate Type: Non-Federal
Download Excel Report
Print

Jump To Employee: All

| Pay Period | Pay Period Dates | Check Date | Cost Center | Variable | Budget Year | Employee | Title Description | Work Location Code | Work Location Description | Billable Hourly Rate | State Fringe | State Indirect | Hours | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Task: B357 - 130065 MINUTEMAN CLEANERS** | | | | | | | | | | | | | | |
| 2018/14 | 10/04/2018 - 10/17/2018 | 10/31/2018 | 240448 | | 2018 | Andaloro, Jennifer | Assoc Attorney | 615127 | Central Office - 625 Broadway | 64.00 | 224.89 | 217.14 | 5.50 | 352.00 |
| 2018/16 | 11/01/2018 - 11/14/2018 | 11/28/2018 | 240448 | | 2018 | Andaloro, Jennifer | Assoc Attorney | 615127 | Central Office - 625 Broadway | 64.00 | 20.44 | 19.74 | 0.50 | 32.00 |
| 2018/20 | 12/27/2018 - 01/09/2019 | 01/23/2019 | 240448 | | 2018 | Andaloro, Jennifer | Assoc Attorney | 615127 | Central Office - 625 Broadway | 64.00 | 40.89 | 39.48 | 1.00 | 64.00 |
| 2018/21 | 01/10/2019 - 01/23/2019 | 02/06/2019 | 240448 | | 2018 | Andaloro, Jennifer | Assoc Attorney | 615127 | Central Office - 625 Broadway | 64.00 | 40.89 | 39.48 | 1.00 | 64.00 |
| 2011/3 | 04/28/2011 - 05/11/2011 | 05/25/2011 | 230621 | FG | 2010 | Evans, Daniel | ENVIRNL ENGINEER 3 | 615127 | Central Office - 625 Broadway | 66.21 | 31.72 | 25.53 | 1.00 | 66.21 |
| 2011/14 | 09/29/2011 - 10/12/2011 | 10/26/2011 | 230621 | FG | 2010 | Evans, Daniel | ENVIRNL ENGINEER 3 | 615127 | Central Office - 625 Broadway | 66.21 | 31.72 | 25.53 | 1.00 | 66.21 |
| 2015/21 | 12/31/2015 - 01/13/2016 | 01/27/2016 | 230639 | FG | 2015 | Evans, Daniel | ENVIRNL ENGINEER 3 | 615127 | Central Office - 625 Broadway | 66.80 | 37.33 | 23.68 | 1.00 | 66.80 |
| 2017/16 | 11/02/2017 - 11/15/2017 | 11/29/2017 | 230639 | FG | 2017 | Evans, Daniel | PROFESSIONAL ENGINEER 2 (ENVIRONMENTAL) | 615127 | Central Office - 625 Broadway | 71.93 | 44.22 | 36.59 | 1.00 | 71.93 |
| 2017/17 | 11/16/2017 - 11/29/2017 | 12/13/2017 | 230639 | FG | 2017 | Evans, Daniel | PROFESSIONAL ENGINEER 2 (ENVIRONMENTAL) | 615127 | Central Office - 625 Broadway | 71.93 | 44.22 | 36.59 | 1.00 | 71.93 |
| 2017/18 | 11/30/2017 - 12/13/2017 | 12/27/2017 | 230639 | FG | 2017 | Evans, Daniel | PROFESSIONAL ENGINEER 2 (ENVIRONMENTAL) | 615127 | Central Office - 625 Broadway | 71.93 | 22.11 | 18.30 | 0.50 | 35.97 |
| 2009/1 | 04/02/2009 - 04/15/2009 | 04/29/2009 | 430221 | L6 | 2009 | Harrington, James | ENVIRNL ENGINEER 3 | 615127 | Central Office - 625 Broadway | 55.12 | 24.19 | 22.44 | 1.00 | 55.12 |
| 2010/18 | 11/25/2010 - 12/08/2010 | 12/22/2010 | 430221 | L6 | 2010 | Harrington, James | ENVIRNL ENGINEER 3 | 615127 | Central Office - 625 Broadway | 63.60 | 30.80 | 22.16 | 1.00 | 63.60 |
| 2010/19 | 12/09/2010 - 12/22/2010 | 01/05/2011 | 430221 | L6 | 2010 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 63.06 | 30.54 | 21.97 | 1.00 | 63.06 |
| 2010/22 | 01/20/2011 - 02/02/2011 | 02/16/2011 | 430221 | L6 | 2010 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 64.58 | 31.28 | 22.50 | 1.00 | 64.58 |
| 2014/9 | 07/17/2014 - 07/30/2014 | 08/13/2014 | 430221 | L6 | 2012 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 76.34 | 21.70 | 14.31 | 0.50 | 38.17 |
| 2014/14 | 09/25/2014 - 10/08/2014 | 10/22/2014 | 430221 | L6 | 2012 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 75.35 | 128.53 | 84.74 | 3.00 | 226.05 |
| 2014/15 | 10/09/2014 - 10/22/2014 | 11/05/2014 | 430221 | L6 | 2012 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 74.87 | 85.14 | 56.14 | 2.00 | 149.74 |
| 2014/16 | 10/23/2014 - 11/05/2014 | 11/19/2014 | 430221 | L6 | 2012 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 66.69 | 18.96 | 12.50 | 0.50 | 33.35 |
| 2014/19 | 12/04/2014 - 12/17/2014 | 12/31/2014 | 430221 | L6 | 2012 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 66.50 | 37.81 | 24.93 | 1.00 | 66.50 |
| 2014/25 | 02/26/2015 - 03/11/2015 | 03/25/2015 | 430221 | L6 | 2012 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 67.86 | 19.29 | 12.72 | 0.50 | 33.93 |
| 2015/8 | 07/02/2015 - 07/15/2015 | 07/29/2015 | 430221 | L6 | 2015 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 72.04 | 20.13 | 12.77 | 0.50 | 36.02 |
| 2015/16 | 10/22/2015 - 11/04/2015 | 11/18/2015 | 430221 | L6 | 2015 | Harrington, James | ENVIRNL ENGINEER 4 | 615127 | Central Office - 625 Broadway | 70.75 | 39.54 | 25.08 | 1.00 | 70.75 |
| 2011/15 | 10/13/2011 - 10/26/2011 | 11/09/2011 | 430221 | L6 | 2011 | Lebarron, Timothy | ENVIRNL CHEMIST 2 | 615127 | Central Office - 625 Broadway | 46.08 | 44.15 | 35.54 | 2.00 | 92.16 |
| 2011/16 | 10/27/2011 - 11/09/2011 | 11/23/2011 | 430221 | L6 | 2011 | Lebarron, Timothy | ENVIRNL CHEMIST 2 | 615127 | Central Office - 625 Broadway | 46.08 | 44.15 | 35.54 | 2.00 | 92.16 |
| 2013/5 | 05/23/2013 - 06/05/2013 | 06/19/2013 | 430221 | L6 | 2012 | Lebarron, Timothy | ENVIRNL CHEMIST 2 | 615127 | Central Office - 625 Broadway | 47.02 | 104.35 | 86.47 | 4.00 | 188.08 |
| 2013/7 | 06/20/2013 - 07/03/2013 | 07/17/2013 | 430221 | L6 | 2012 | Lebarron, Timothy | ENVIRNL CHEMIST 2 | 615127 | Central Office - 625 Broadway | 47.02 | 104.35 | 86.47 | 4.00 | 188.08 |
| 2018/15 | 10/18/2018 - 10/31/2018 | 11/14/2018 | 430221 | L6 | 2018 | Maloney, Kerry Ann | Engineering Geologist 2 | 615127 | Central Office - 625 Broadway | 58.88 | 300.95 | 290.58 | 8.00 | 471.04 |
| 2018/16 | 11/01/2018 - 11/14/2018 | 11/28/2018 | 430221 | L6 | 2018 | Maloney, Kerry Ann | Professional Geologist 1 | 615127 | Central Office - 625 Broadway | 60.05 | 738.54 | 713.09 | 19.25 | 1,155.96 |
| 2018/17 | 11/15/2018 - 11/28/2018 | 12/12/2018 | 430221 | L6 | 2018 | Maloney, Kerry Ann | Professional Geologist 1 | 615127 | Central Office - 625 Broadway | 60.45 | 38.62 | 37.29 | 1.00 | 60.45 |
| 2018/18 | 11/29/2018 - 12/12/2018 | 12/26/2018 | 430221 | L6 | 2018 | Maloney, Kerry Ann | Professional Geologist 1 | 615127 | Central Office - 625 Broadway | 60.45 | 38.62 | 37.29 | 1.00 | 60.45 |
| 2018/5 | 05/31/2018 - 06/13/2018 | 06/27/2018 | 430221 | L6 | 2018 | Mustico, Richard | ASSISTANT ENGINEER (ENVIRONMENTAL) | 615127 | Central Office - 625 Broadway | 41.26 | 79.08 | 76.36 | 3.00 | 123.78 |
| 2018/6 | | 07/11/2018 | 430221 | L6 | 2018 | | | 615127 | | 41.26 | 92.26 | 89.08 | 3.50 | 144.41 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10/01/2009 - 10/14/2009 | | | | | Whitfield, Cynthia | | | Central Office - 625 Broadway | | | | | | |
| 2009/15 | 10/15/2009 - [illegible] | [illegible] | 430221 | L6 | 2009 | Whitfield, [illegible] | ENVIRNL ENGINEER 2 | 615127 | Central Office - [illegible] | 52.34 | 22.97 | 21.31 | 1.00 | 52.34 |
| 2009/16 | 10/29/2009 - 11/11/2009 | 11/25/2009 | 430221 | L6 | 2009 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 52.34 | 103.35 | 95.90 | 4.50 | 235.53 |
| 2009/17 | 11/12/2009 - 11/25/2009 | 12/09/2009 | 430221 | L6 | 2009 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 52.34 | 68.90 | 63.94 | 3.00 | 157.02 |
| 2009/25 | 03/04/2010 - 03/17/2010 | 03/31/2010 | 430221 | L6 | 2009 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 52.34 | 22.97 | 21.31 | 1.00 | 52.34 |
| 2011/3 | 04/28/2011 - 05/11/2011 | 05/25/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 194.35 | 156.42 | 7.00 | 405.65 |
| 2011/4 | 05/12/2011 - 05/25/2011 | 06/08/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 236.00 | 189.94 | 8.50 | 492.58 |
| 2011/5 | 05/26/2011 - 06/08/2011 | 06/22/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 138.82 | 111.73 | 5.00 | 289.75 |
| 2011/7 | 06/23/2011 - 07/06/2011 | 07/20/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 152.70 | 122.90 | 5.50 | 318.73 |
| 2011/8 | 07/07/2011 - 07/20/2011 | 08/03/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 124.94 | 100.56 | 4.50 | 260.78 |
| 2011/9 | 07/21/2011 - 08/03/2011 | 08/17/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 166.58 | 134.07 | 6.00 | 347.70 |
| 2011/10 | 08/04/2011 - 08/17/2011 | 08/31/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 97.18 | 78.21 | 3.50 | 202.83 |
| 2011/11 | 08/18/2011 - 08/31/2011 | 09/14/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 471.99 | 379.88 | 17.00 | 985.15 |
| 2011/12 | 09/01/2011 - 09/14/2011 | 09/28/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 180.47 | 145.25 | 6.50 | 376.68 |
| 2011/14 | 09/29/2011 - 10/12/2011 | 10/26/2011 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 485.87 | 391.05 | 17.50 | 1,014.13 |
| 2011/20 | 12/22/2011 - 01/04/2012 | 01/18/2012 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 55.53 | 44.69 | 2.00 | 115.90 |
| 2011/21 | 01/05/2012 - 01/18/2012 | 02/01/2012 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 236.00 | 189.94 | 8.50 | 492.58 |
| 2011/22 | 01/19/2012 - 02/01/2012 | 02/15/2012 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.95 | 55.53 | 44.69 | 2.00 | 115.90 |
| 2011/23 | 02/02/2012 - 02/15/2012 | 02/29/2012 | 430221 | L6 | 2011 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.19 | 41.10 | 33.08 | 1.50 | 85.79 |
| 2012/2 | 04/12/2012 - 04/25/2012 | 05/09/2012 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.51 | 75.60 | 66.43 | 2.50 | 146.28 |
| 2012/4 | 05/10/2012 - 05/23/2012 | 06/06/2012 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.51 | 90.71 | 79.71 | 3.00 | 175.53 |
| 2012/6 | 06/07/2012 - 06/20/2012 | 07/03/2012 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.51 | 30.24 | 26.57 | 1.00 | 58.51 |
| 2012/7 | 06/21/2012 - 07/04/2012 | 07/18/2012 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.51 | 90.71 | 79.71 | 3.00 | 175.53 |
| 2013/13 | 09/12/2013 - 09/25/2013 | 10/09/2013 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.54 | 79.81 | 66.14 | 2.50 | 143.85 |
| 2013/14 | 09/26/2013 - 10/09/2013 | 10/23/2013 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.54 | 223.46 | 185.18 | 7.00 | 402.78 |
| 2013/18 | 11/21/2013 - 12/04/2013 | 12/18/2013 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.54 | 15.96 | 13.23 | 0.50 | 28.77 |
| 2013/19 | 12/05/2013 - 12/18/2013 | 12/31/2013 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.16 | 126.85 | 105.12 | 4.00 | 228.64 |
| 2013/20 | 12/19/2013 - 01/01/2014 | 01/15/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 57.54 | 31.92 | 26.45 | 1.00 | 57.54 |
| 2014/3 | 04/24/2014 - 05/07/2014 | 05/21/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.39 | 33.77 | 22.27 | 1.00 | 59.39 |
| 2014/4 | 05/08/2014 - 05/21/2014 | 06/04/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.39 | 33.77 | 22.27 | 1.00 | 59.39 |
| 2014/5 | 05/22/2014 - 06/04/2014 | 06/18/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.00 | 67.09 | 44.24 | 2.00 | 118.00 |
| 2014/9 | 07/17/2014 - 07/30/2014 | 08/13/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.39 | 84.43 | 55.67 | 2.50 | 148.48 |
| 2014/11 | 08/14/2014 - 08/27/2014 | 09/10/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.39 | 168.85 | 111.33 | 5.00 | 296.95 |
| 2014/14 | 09/25/2014 - 10/08/2014 | 10/22/2014 | 430221 | L6 | 2012 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.39 | 135.08 | 89.06 | 4.00 | 237.56 |
| 2015/13 | 09/10/2015 - 09/23/2015 | 10/07/2015 | 430221 | L6 | 2015 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.47 | 163.37 | 103.63 | 5.00 | 292.35 |
| 2015/17 | 11/05/2015 - 11/18/2015 | 12/02/2015 | 430221 | L6 | 2015 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.09 | 243.46 | 154.44 | 7.50 | 435.68 |
| 2015/21 | 12/31/2015 - 01/13/2016 | 01/27/2016 | 430221 | L6 | 2015 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.47 | 163.37 | 103.63 | 5.00 | 292.35 |
| 2015/25 | 02/25/2016 - 03/09/2016 | 03/23/2016 | 430221 | L6 | 2015 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 58.47 | 130.69 | 82.90 | 4.00 | 233.88 |
| 2016/1 | 04/07/2016 - 04/20/2016 | 05/04/2016 | 430221 | L6 | 2016 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.49 | 34.93 | 23.50 | 1.00 | 59.49 |
| 2016/5 | 06/02/2016 - 06/15/2016 | 06/29/2016 | 430221 | L6 | 2016 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.49 | 261.95 | 176.25 | 7.50 | 446.18 |
| 2016/6 | 06/16/2016 - 06/29/2016 | 07/13/2016 | 430221 | L6 | 2016 | Whitfield, Cynthia | ENVIRNL ENGINEER 2 | 615127 | Central Office - 625 Broadway | 59.49 | 331.81 | 223.26 | 9.50 | 565.16 |
| 2017/2 | 04/20/2017 - 05/03/2017 | 05/17/2017 | 430221 | L6 | 2016 | Whitfield, Cynthia | PROFESSIONAL ENGINEER 1 (ENVIRONMENTAL) | 615127 | Central Office - 625 Broadway | 62.97 | 38.71 | 32.03 | 1.00 | 62.97 |
| 2017/24 | 02/22/2018 - 03/07/2018 | 03/21/2018 | 430221 | L6 | 2017 | Whitfield, Cynthia | PROFESSIONAL ENGINEER 1 (ENVIRONMENTAL) | 615127 | Central Office - 625 Broadway | 62.97 | 77.43 | 64.06 | 2.00 | 125.94 |
| | | | | | | | | | **Task B357 Sub Total:** | | 11,900.48 | 10,228.47 | 403.25 | 21,888.07 |
| | | | | | | | | | **Report Total:** | | 11,900.48 | 10,228.47 | 403.25 | 21,888.07 |

**New York State Department of Environmental Conservation**
**Division of Environmental Remediation**
**Payments/Encumbered Amounts - Summary**
***(Based on Sites)***

**EXHIBIT III**

**Date: 4/17/2019**



**Site ID: 130065 - Minuteman Cleaners**

| Project Type | Fund Source | Contract No. | WA No. | Contractor Name | Encumbered Amount | Payment Amount |
|---|---|---|---|---|---|---|
| Lab | HWCA | C100700 | 136291 | TestAmerica Laboratories, Inc. (LAB) | $3,000.00 | $2,300.00 |
| Lab | 86 EQBA | D003696 | 01 | ADVANCED CLEANUP | $808.89 | $808.89 |
| | | | | **Subtotal on Project Type:** | **$3,808.89** | **$3,108.89** |
| | | | | **Total Amounts:** | **$3,808.89** | **$3,108.89** |
| | | | | Recovered costs incurred prior to 4/5/07 : | - $ 808.89 | - $ 808.89 |
| | | | | **Total:** | **$3 ,000.00** | **$ 2,300.00** |

EXHIBIT IV

**New York State Department of Environmental Conservation**
**Division of Environmental Remediation**
**Bureau of Program Management, 12th Floor**
625 Broadway, Albany, New York 12233-7012
Phone: (518) 402-9764 • FAX: (518) 402-9020
**Website:** www.dec.state.ny.us

Alexander B. Grannis
Commissioner

JAN - 6 2009

Mr. Steve Jang
213 Rivendell Ct.
Melville, NY 11747-5353

Re: Minuteman Cleaners
Site No.: 130065
Respondent: Merrick Cleaners, Inc.
Consent Order No.: W1-0866-00-03
Effective Date: March 14, 2001
Bill No.: 5

Dear Mr. Jang:

Enclosed is a summary of costs incurred by New York State for its remedial activities as outlined in the above referenced Consent Order (the "Order"). In accordance with Paragraph IX of the Order, the New York State Department of Environmental Conservation is requesting payment in the amount of $478.69 within 30 days from receipt of this letter. Although the summary shows a total of $3,712.53 the maximum billing amount per the Order is $478.69.

To ensure proper credit, please remit a copy of the cost summary (Exhibit I) with your payment. The check should be made payable to the New York State Department of Environmental Conservation and sent to the address below:

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Program Management
625 Broadway, 12th Floor
Albany, NY 12233-7012
Attn: Donna Weigel, Bureau Director

The summary includes expenditures for the site from April 5, 2007 through September 17, 2008. The costs are documented by the enclosed exhibits. However, if you have any questions on the enclosed information, please contact me at (518) 402-9736.

ebc: M. Lesser
A. Tamuno
C. Whitfield
J. Yavonditte
M. Spath
CR file

EXHIBIT I

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
BUREAU OF PROGRAM MANAGEMENT

INVOICE NUMBER: DER-130065-W1-1/09

SITE NAME: MINUTEMAN CLEANERS
SITE NO.: 130065
ORDER/AGREEMENT NO.: W1-0866-00-03
BILL NO.: 5

| COST CATEGORY | AMOUNTS | EXHIBIT NO. |
|---|---|---|
| DIRECT PERSONAL SERVICES | $1,895.97 | |
| FRINGE | $887.29 | |
| INDIRECT | $929.27 | |
| *PERSONAL SERVICES SUBTOTAL* | *$3,712.53* | II |
| CONTRACTUAL | $0.00 | |
| TRAVEL | $0.00 | |
| OTHER NPS | $0.00 | |
| *NON-PERSONAL SERVICES SUBTOTAL* | *$0.00* | |
| DEC TOTAL | $3,712.53 | |
| DOH PS AND NPS SUBTOTAL | $0.00 | |
| MINUS DOH CREDIT FROM PREVIOUS BILL (IF APPLICABLE) | N/A | |
| DOH TOTAL | $0.00 | |
| MINUS PREVIOUSLY REIMBURSED AMOUNT (IF APPLICABLE) | N/A | |
| *DEC & DOH TOTAL* | *$3,712.53* | |
| COST CAP* | $478.69 | |
| **GRAND TOTAL** | **$478.69** | |

*There is a cost CAP in the amount of $20,000 for recoveries pursuant to Paragraph IX.J. $16,045.26 was recovered in Bill 2; $155.09 was recovered in Bill 3; & $3,320.96 was recovered in Bill 4, leaving a recoverable cost CAP balance of $478.69.

# Cost Query of the Leave and Accrual Tracking System (LATS)

**EXHIBIT II**

| Pay Period | Pay Period Dates | Check Date | Cost Center | Variable | Budget Year | Employee | Title Description | Work Location Code | Work Location Description | Billable Hourly Rate | State Fringe | State Indirect | Hours | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consent Order/Agreement Number: W1-0866-00-03 | | | | | | | | | | | | | | |
| Task Code: B357 Description: 130065 Minuteman Cleaners | | | | | | | | | | | | | | |
| 2007 /4 | 05/17/2007 - 05/30/2007 | 06/13/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 44.66 | 31.46 | 33.06 | 1.50 | 66.99 |
| 2007 /5 | 05/31/2007 - 06/13/2007 | 06/27/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 44.66 | 20.97 | 22.04 | 1.00 | 44.66 |
| 2007 /9 | 07/26/2007 - 08/08/2007 | 08/22/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 33.83 | 15.89 | 16.70 | 1.00 | 33.83 |
| 2007 /10 | 08/09/2007 - 08/22/2007 | 09/05/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 44.66 | 41.94 | 44.08 | 2.00 | 89.32 |
| 2007 /13 | 09/20/2007 - 10/03/2007 | 10/17/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 44.66 | 146.81 | 154.28 | 7.00 | 312.62 |
| 2007 /14 | 10/04/2007 - 10/17/2007 | 10/31/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 39.82 | 37.40 | 39.30 | 2.00 | 79.64 |
| 2007 /18 | 11/29/2007 - 12/12/2007 | 12/26/2007 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 45.93 | 21.57 | 22.67 | 1.00 | 45.93 |
| 2007 /24 | 02/21/2008 - 03/05/2008 | 03/19/2008 | 430221 | L6 | 2007 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 45.03 | 126.88 | 133.33 | 6.00 | 270.18 |
| 2007 /25 | 03/06/2008 - 03/19/2008 | 04/02/2008 | 430221 | L6 | 2008 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 45.93 | 204.91 | 215.33 | 9.50 | 436.34 |
| 2007 /26 | 03/20/2008 - 04/02/2008 | 04/16/2008 | 430221 | L6 | 2008 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 45.93 | 140.20 | 147.33 | 6.50 | 298.55 |
| 2008 /2 | 04/17/2008 - 04/30/2008 | 05/14/2008 | 430221 | L6 | 2008 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 46.53 | 31.79 | 32.40 | 1.50 | 69.80 |
| 2008 /10 | 08/07/2008 - 08/20/2008 | 09/03/2008 | 430221 | L6 | 2008 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 49.37 | 22.49 | 22.92 | 1.00 | 49.37 |
| 2008 /12 | 09/04/2008 - 09/17/2008 | 10/01/2008 | 430221 | L6 | 2008 | Whitfield, Cynthia | Enviml Engineer 2 | 615127 | Central Office - 625 Broadway | 49.37 | 44.98 | 45.83 | 2.00 | 98.74 |
| | | | | | | | | | *Subtotal of Task Charges from: 4/5/2007* | *to: 09/17/2008* | *887.29* | *929.27* | *42.00* | *1,895.97* |
| | | | | | | | | | **Subtotal of Agreement Charges 4/5/2007** | **to: 09/17/2008** | **887.29** | **929.27** | **42.00** | **1,895.97** |
| | | | | | | | | | **Grand Total of Agreement Personal Service Charges:** | | | | | **3,712.53** |

# APPENDIX B
# LIST OF SITE CONTACTS

This Appendix includes a listing of all Site contacts.

**Site Owner**: JKL Brothers

**Remedial Party Attorney**: Sungchan Cho
**Phone:** (718) 321-2577
**Email Address**: sungchanlaw@gmail.com

**Qualified Environmental Professional:** FPM Group
**Contact**: Ben T. Cancemi, PG, (631) 737-6200
**Email Address**: b.cancemi@fpm-group.com

**NYSDEC DER Project Manager**: Robert DeCandia
**Phone**: (518) 402-9693
**Email Address**: Rob.Decandia@dec.ny.gov

NYSDOH Project Manager
**Email Address**: Christine.vooris@health.ny.gov

**NYSDEC Regional HW Engineer**: Walter Parish, PE
**Phone**: (631) 444-0240
**Email Address**: walter.parish@dec.ny.gov

**NYSDEC Site Control**: Kelly Lewandowski
**Phone**: (518) 402-9553
**Email Address**: Kelly.lewandowski@dec.ny.gov

# APPENDIX C
# EXCAVATION WORK PLAN

As noted in the Site Management Plan (SMP) for this Site, the post-remedial sample collected from the excavation in proximity to the former LP-1and LP-2 structures indicated concentrations of volatile organic compounds (VOCs) exceeding the 6 NYCRR Soil Cleanup Objectives (SCOs) for protection of groundwater, but not exceeding any of the 6 NYCRR SCOs for anticipated future uses of the Site. This soil is identified as residual soil and is present below the water table. None of the other post-remedial samples showed exceedances of the 6 NYCRR SCOs for the use of the Site or protection of groundwater.

The residual soil in the former LP-1 and LP-2 area is presently covered by asphalt pavement and below the water table. The SMP includes provisions for maintaining the pavement cover over the former LP-1 and LP-2 areas, and for removal of residual soil if the cover is removed and the former LP-1 and/or LP-2 areas are excavated. This Excavation Work Plan (EWP) will be applicable for removal of residual soil only if such soil is exposed via an excavation in the former LP-1 and LP-2 area. This EWP is not applicable to other soil on the Site.

## C.1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter the residual soil, the Site owner or their representative will notify the NYSDEC. Table C.1.1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B of the SMP.

**Table D.1.1: Notifications***

| **Name** | **Phone/Email Address** |
|---|---|
| NYSDEC DER Project Manager: Robert Decandia | (518) 402-9693<br>rob.decandia @dec.ny.gov |
| NYSDEC Regional HW Engineer: Walter Parish | (631) 444-0240<br>walter.parish@dec.ny.gov |
| NYSDEC Site Control: Kelly Lewandowski | (518) 402-9553<br>kelly.lewandowski@dec.ny.gov |

*Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, estimated volumes of contaminated soil to be excavated and any work that may impact the pavement above the former LP-1 and/or LP-2location;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix E of the SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

## C.2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into residual soil (remaining contamination). Soil screening will be performed when invasive work is done in the area where residual soil is suspected and will include all excavation and invasive work performed in this area until such time as the residual soil has been removed.

Soils will be segregated based on previous environmental data and screening results into material that may require off-site disposal and material that requires testing to determine if the material can be reused on-site. Further discussion of off-site disposal of materials and on-site reuse is provided in Section C-7 of this Appendix.

## C.3 SOIL STAGING METHODS

Soil stockpiles containing residual soil, if created, will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles of residual soil, if created, will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles of residual soil, if created, 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.

## C.4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work involving residual soil and the excavation and load-out of all excavated residual soil.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this EWP.

The presence of utilities and easements on the portion of the Site where residual soil may be present will be investigated prior to intrusive activities. It will be determined whether a risk or impediment to the planned work under this EWP is posed by utilities or easements on the affected portion of the Site.

Loaded vehicles with residual soil leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck cleaning area will be operated onsite, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks loaded with residual soil will be cleaned at the truck wash before leaving the Site until the activities performed under the EWP are complete. Truck wash waters, if generated, will be collected and disposed of offsite in an appropriate manner.

Locations where vehicles containing residual soil enter or exit the Site shall be inspected daily for evidence of offsite soil tracking.

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

## C.5 MATERIALS TRANSPORT OFF-SITE

All transport of residual soil 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.

Residual soil transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are as follows:

- Exit Site onto Montauk Highway, turn left and travel less than ¼ mile to Carman Mill Road.;
- Turn right onto Carman Mill Road and travel about 1 mile north to Rt. 27;
- Turn right onto Route 27 and travel east about 2 miles to Rt. 110 (Broad Hollow Road);
- Turn right onto Broad Hollow Road and travel about 4 miles north to the Long Island Expressway(LIE); and
- Enter LIE either east-bound or west-bound, as appropriate.

All trucks loaded with residual soil will exit the vicinity of the Site using only this approved truck route. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks involved in residual soil transport will be prohibited from stopping and idling in the neighborhood outside the Site.

Egress points for truck and equipment transport involving residual soil from the Site will be kept clean of dirt and other materials during removal of residual soil

Queuing of trucks involving residual soil will be performed onsite in order to minimize offsite disturbance. Offsite queuing will be prohibited.

## C.6 RESIDUAL SOIL DISPOSAL OFFSITE

All residual soil excavated, once confirmed to be contaminated above the 6 NYCRR unrestricted use SCOs, will be removed from the Site as a regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. Unregulated offsite management of residual soil from this Site will not occur without formal NYSDEC approval.

Offsite disposal locations for excavated residual 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. Actual disposal quantities and associated documentation for residual soil will be reported to the NYSDEC 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 residual 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 use SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

## C.7 MATERIALS REUSE ONSITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (excavated residual soil containing VOCs exceeding unrestricted use SCOs) does not remain onsite. Contaminated onsite material, including VOC-contaminated soil, will not be reused onsite.

## C.8 FLUIDS MANAGEMENT

All liquids to be removed from the Site under this EWP, including but not limited to, excavation dewatering fluids, decontamination waters, and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge, and development fluids generated under this EWP will not be recharged back to the land surface or subsurface of the Site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river), if performed, will be performed under a SPDES permit.

## C.9 COVER SYSTEM

This Site presently has a cover system (asphalt pavement) over the area where residual soil is present (former LP-1and LP-2 area). After the completion of soil removal and any other invasive activities in the area subject to the cover system, if residual soil remains present the cover system will be restored in a manner that complies with the SMP. The existing cover system is comprised of asphalt pavement over the former LP-1and LP-2 area. If the cover is replaced, a demarcation layer, consisting of orange snow fencing material, white geotextile, or equivalent material will be placed above the residual soil and below the cover to provide a visual reference to the top of the remaining contamination zone (the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP). If the type of cover system changes from that which exists prior to the excavation (i.e., the asphalt cover is replaced by cover soil), this will constitute a modification of the cover described in the SMP. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

## C.10 BACKFILL FROM OFFSITE SOURCES

All materials proposed for import onto the Site for use as backfill in a remedial excavation will be approved by the qualified environmental professional and will be in compliance with provisions in the SMP prior to receipt at the Site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/ 67386.html, will be prepared and submitted to the NYSDEC project manager, allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

All imported soils for use as backfill in a remedial excavation will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the possible land uses (residential to industrial) and protection of groundwater criteria, the resulting soil quality standards are listed in Table 375-6.8(b). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight-fitting covers. Imported soils will be stockpiled separately from excavated residual soil and covered to prevent dust releases.

## C.11 STORMWATER POLLUTION PREVENTION

It is anticipated that any remedial excavation to remove residual soil under this EWP will be relatively small (not more than 1,00 square feet – the approximate footprint of the existing cover over the former LP-1 and LP-2 area). In the event that the remedial excavation remains open for more than one day, then barriers and hay bale checks will be installed around the remedial excavation 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 the 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 this EWP 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.

## C.12 EXCAVATION CONTINGENCY PLAN

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

Sampling will be performed on product, groundwater, 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 volatile and semivolatile organic compounds, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC 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 NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

# APPENDIX D
# HEALTH AND SAFETY PLAN AND COMMUNITY AIR MONITORING PLAN

This worker Health and Safety Plan (HASP) has been prepared for a New York State Department of Environmental Conservation (NYSDEC) site identified as 5640 Merrick Road, East Massapequa, NY (Site), which is managed under a Order on Consent (Index No. R1-201810-280). This HASP is part of the Site Management Plan (SMP) for this Site and includes measures for the protection of worker health and safety during site management activities. A Community Air Monitoring Plan (CAMP) is also included to address potential issues that may affect the Site community during onsite intrusive activities involving residual soil, groundwater, or soil vapor.

## D.1 Worker Health and Safety Plan

### D.1.1 Introduction

This HASP has been written for compliance with "OSHA Hazardous Waste Operations Standards (29 CFR 1910.120)", the guidance documents, "Standard Operating Safety Guidelines (Office of Solid Waste and Emergency Response, 1992)" and the "Occupational Safety and Health Guidance Manual for Hazardous Waste Activities" (U.S. Department of Health and Human Services, 1985).

### D.1.2 Scope and Applicability of the HASP

This HASP is designed to be applicable to locations where residual soil excavation, soil vapor sampling, monitoring well sampling, and/or indoor/outdoor air sampling, if any, are performed at the Site by all parties that either perform or witness the activities. This HASP may also be modified or amended to meet specific needs of the proposed work.

This HASP details the Site safety procedures, Site background, and safety monitoring. Contractors will be required to adopt this HASP in full or to follow an approved HASP. The Health and Safety Officer (HSO) will be present at the Site to inspect the implementation of the HASP; however, it is the sole responsibility of the contractor(s) to comply with the HASP.

The HASP has been formulated as a guide to complement professional judgment and experience. The appropriateness of the information presented should always be evaluated with respect to unforeseen Site conditions that may arise.

D.1.3 Site Work Zone and Visitors

The Site work zone (a.k.a. exclusion zone) during the performance of any excavation and sampling activities will be a 30-foot radius about the work location. This work zone may be extended if, in the judgment of the HSO, Site conditions warrant a larger work zone.

No visitors will be permitted within the work zone without the consent of the HSO. All visitors will be required to be familiar with, and comply with, the HASP. The HSO will deny access to those whose presence within the work zone is unnecessary or those who are deemed by the HSO to be in non-compliance with the HASP.

All Site workers, including the contractors, with the potential to contact residual materials will be required to have 40-hour hazardous material training (eight-hour refresher courses annually), respirator fit test certification, and current medical surveillance as stated in 29 CFR 1910.120.

The HSO will also give an onsite health and safety discussion to all Site personnel, including the contractors, prior to initiating Site work involving residual materials. Workers not in attendance during the health and safety talk will be required to have the discussion with the HSO prior to entering the work zone involving residual materials.

Emergency telephone numbers and directions to the nearest hospital are shown in Table D.1.3.1 and will be kept at the Site in the possession of the HSO and will be available to all Site workers and visitors.

**TABLE D.1.3.1**
**EMERGENCY TELEPHONE NUMBERS AND**
**DIRECTIONS TO GOOD SAMARITAN HOSPITAL, WEST ISLIP**

Police ..... 911
Ambulance ..... 911
LI Regional Poison Control Center..... 1-800-222-1222
Good Samaritan Hospital.....631-376-3000

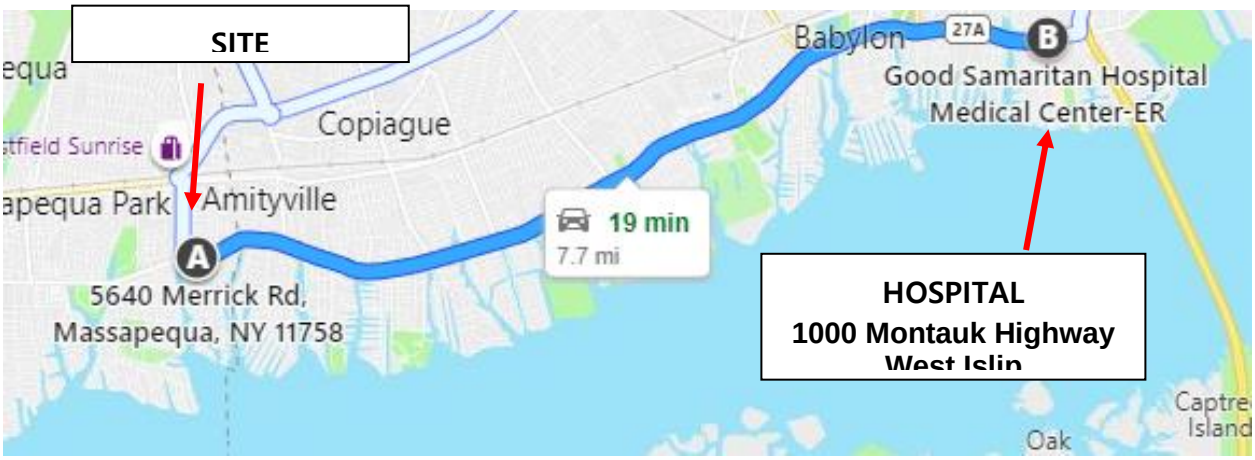
**FPM Contact Personnel (631-737-6200)**

Ben Cancemi, Program Director.....Cell # 516-383-7106
John Bukoski, Project Manager .....Cell # 516-381-3535

**Directions to the Good Samaritan Hospital, West Islip**

**1000 Montauk Highway**
**West Islip, NY 11795**
**Tel: 631-376-3000**

Exit the Site and turn right onto Montauk Highway. Travel east on Montauk Highway for about 8 miles. The Good Samaritan Hospital is immediately on the left at 1000 Montauk Highway in West Islip; follow the signs to the Emergency Room.



D.1.4 Key Personnel/Alternates

The project coordinator and Quality Assurance Officer (QAO) for this project will be identified in advance of field activities and will be a qualified environmental professional (QEP). The project manager will also be a QEP and will also act as the HSO. An assistant project manager and assistant health and safety officer may be designated for the field activities.

D.1.5 Site Background

Based on the Site history and previous analyses of samples, the known chemicals present at the Site include the volatile organic compound (VOC) tetrachloroethylene (PCE). This chemical is present in soil and groundwater at the Site. The breakdown products of PCE are present in groundwater. Site management activities will include collection of groundwater samples, and may also include collection of soil, soil vapor, and indoor/outdoor air samples.

D.1.6 Task/Operation Health and Safety Analysis

This section presents health and safety analyses for the excavation and sampling tasks. In general, one QEP will be onsite during these activities. No excavations or other intrusive Site operations will be conducted by contractors without the presence of a QEP onsite. In the event that the HSO is not present on the Site, the Assistant HSO will implement the HASP. Levels of personal protection mentioned in this section are defined in Section D.1.9.

- Excavation and Intrusive Sampling Safety Analysis

Intrusive activities, including performing excavations, will be performed by an excavation contractor and will be observed by a QEP. The excavations will be performed by using a backhoe, excavator, or other powered equipment to remove pavement above the targeted area and then excavate unconsolidated deposits consisting primarily of sand. The depth to groundwater is approximately 5 feet below grade at the Site and may be contacted during intrusive activities that extend to or beyond that depth. A QEP will be present to coordinate, oversee, and monitor intrusive activities.

To minimize the potential for dust inhalation during intrusive activities involving residual materials, the HSO will assess wind and soil moisture conditions and, if it is deemed necessary by the HSO, the affected area will be wetted with potable water. If this measure is determined to be

ineffective, the HSO may decide to upgrade personal protection to Level C respiratory protection to include respirators with dust cartridges. If extremely dusty conditions exist that cannot be successfully controlled by dust suppression with potable water, then the HSO may choose to postpone intrusive activities until such time as conditions improve.

Organic vapor concentrations will be monitored in the work zone during intrusive activities involving residual materials by utilizing a Photovac MicroTIP PID or equivalent. The PID will be "zeroed" by exposing the PID to ambient (outdoor) air prior to intrusive activities and the upper range of calibration will be established by calibrating at 98 to 100 parts per million (ppm) of isobutylene. Background organic vapor concentrations will then be established in the work zone prior to intrusive activities and recorded in the HSO field book. Upon commencement of intrusive activities, PID readings will be obtained in the workers' breathing zone. Readings will be obtained following the initial advance into the ground and every five feet thereafter. At the discretion of the HSO, PID readings may be obtained more frequently. All readings and observations will be recorded in the HSO field book. PID air monitoring will be conducted by a QEP.

Steady-state PID readings greater than five ppm in the worker's breathing zone will require upgrading to Level C personal protective equipment. Steady-state readings, for this purpose, will be defined as readings exceeding five ppm above background for a minimum of ten seconds at points approximately one foot above and then around the borehole opening. These points will define the worker's breathing zone. Level C personal protection will be implemented including full-face air-purifying respirators with dust and organic vapor cartridges (personal protective equipment will be described in greater detail in Section D.1.9). All onsite personnel with the potential to contact residual materials must be properly trained and fit tested prior to donning respirators.

If PID readings exceed steady-state levels greater than 50 ppm above background or any conditions exist for which the HSO determines require Level B personal protective equipment, all work at the Site will cease immediately and all personnel will evacuate the work zone. Evacuation will occur in the upwind direction if discernible. Specific evacuation routes will be discussed prior to commencement of work at each location based on work location and wind direction and an evacuation meeting place will be determined. Level B conditions are not anticipated to be encountered; however, if level B conditions arise, no Site work will be performed by the QEPs or

contractors and a complete evaluation of the operation will be performed and this HASP will be modified.

All personnel will be required to wear chemical-resistant nitrile gloves when the potential for dermal contact with the soil or groundwater is possible. This will include handling equipment retrieved from excavations or wells. Dermal contact with soil or groundwater and equipment that has been in contact with soil or groundwater will be avoided.

➢ Other Safety Considerations

- Noise

During operations that may generate potentially harmful levels of noise, the HSO will monitor noise levels with a Realistic[tm] hand-held sound level meter. Noise levels will be monitored in decibels (dBs) in the A-weighted, slow-response mode. Noise level readings which exceed the 29 CFR 1910.95 permissible noise exposure limits will require hearing protection (see Table D.1.6.1 for Permissible Noise Exposures).

Hearing protection will be available to all Site workers and will be required for exceedances of noise exposure limits. The hearing protection will consist of foam, expansion-fit earplugs (or other approved hearing protection) with a noise reduction rating of at least 29 dB. Hearing protection must alleviate worker exposure to noise to an eight-hour time-weighted average of 85 dB or below. In the event that the hearing protection is inadequate, work will cease until a higher level of hearing protection can be incorporated.

- Slip/Trip/Fall Preventative Measures

To reduce the potential for slipping, tripping, or falling, the work zone will be kept clear of unnecessary equipment. In addition, all Site workers will be required to wear work boots with adequate tread to reduce the potential for slipping (work boots must be leather or chemical-resistant and contain steel toes and steel shanks).

**TABLE D.1.6.1**
**PERMISSIBLE NOISE EXPOSURES***

| Duration Per Day Hours | Sound Level dBA Slow Response |
|---|---|
| 8 | 90 |
| 6 | 92 |
| 4 | 95 |
| 3 | 97 |
| 2 | 100 |
| 1.5 | 102 |
| 1 | 105 |
| 0.5 | 110 |

Notes:

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: $C_1/T_1+C_2/T_2+.....C_n/T_n$ exceeds unity, then, the mixed exposure should be considered to exceed the limit value. $C_n$ indicates the total time of exposure at a specified noise level, and $T_n$ indicates the total time of exposure permitted at that level.

Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

*Standards derived from 29 CFR 1910.95

---

- Insects

Potential insect problems include, but are not limited to stinging insects such as bees, wasps, and hornets, and ticks. Prior to commencement of work, each work area will be surveyed for nests and hives to reduce the possibility of disturbing stinging insects. In addition, each Site worker will be asked to disclose any allergies related to insect stings or bites. The worker will be requested to keep his or her anti-allergy medicine on Site.

Tick species native to Long Island consist of the pinhead-sized deer tick and the much-larger dog tick. Ticks may exist at the Site. All Site workers will be advised to avoid walking through vegetated areas and will be advised to check for ticks on clothing periodically.

- Potential Electrical and Other Utility Hazards

Potential electric hazards consist mainly of overhead and underground power lines. Other utilities that may present hazards include telephone lines, gas lines, sewer lines, water lines, and other overhead or underground utilities. Prior to commencement of intrusive work at the Site, all locations will be inspected with respect to overhead lines. Intrusive work

involving heavy equipment will not be performed when the horizontal distance between the equipment and overhead wires is less than 30 feet.

Underground potential utility hazards will be minimized by contacting the One-Call service to provide markouts of the utilities beneath adjoining public streets prior to the commencement of intrusive activities.

- Heat/Cold Stress

Heat stress may become a concern especially if protective clothing is donned that will decrease natural ventilation. To assist in reducing heat stress, an adequate supply of water or other liquids will be staged on the Site and personnel will be encouraged to rehydrate at least every two hours even if not thirsty. In addition, a shady rest area will be designated to provide shelter during sunny or warm days and Site workers will break for at least 10 minutes every two hours in the rest area, and, in very hot weather, workers wearing protective clothing may be rotated.

Indications of heat stress range from mild (fatigue, irritability, anxiety, decreased concentration, dexterity or movement) to fatal. Medical help will be obtained for serious conditions. Heat-related problems include:

- Heat rash: caused by continuous exposure to heat and humid air and aggravated by chafing clothes. Decreases ability to tolerate heat.
- Heat cramps: caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasm and pain in the extremities and abdomen.
- Heat exhaustion: caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness and lassitude.
- Heat stroke: the most severe form of heat stress. Can be fatal. Medical help must be obtained immediately. Body must be cooled immediately to prevent severe injury and/or death. Signs: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

Cold exposure is a concern if work is conducted during cold weather, marginally cold weather during precipitation periods, or moderate to high wind periods. To assist in reducing cold exposure the following measures will be taken when cold exposure concerns are present:

- All personnel will be required to wear adequate and appropriate clothing. This will include head gear to prevent the high percentage loss of heat that occurs in this area (thermal liners for hard hats if hard hats are required).
- A readily-available warm shelter will be identified near the work zone.
- Work and rest periods will be scheduled to account for the current temperature and wind velocity conditions.
- Work patterns and the physical condition of workers will be monitored and personnel will be rotated, as necessary.
- Indications of cold exposure include shivering, dizziness, numbness, confusion, weakness, impaired judgment, impaired vision, and drowsiness. Medical help will be obtained for serious conditions if they occur.

Cold exposure-related problems are:

- Frost bite: Ice crystal formation in body tissues. The restricted blood flow to the injured part results in local tissue destruction.
- Hypothermia: Severe exposure to cold temperature resulting in the body losing heat at a rate faster than the body can generate heat. The stages of hypothermia are shivering, apathy, loss of consciousness, decreasing pulse and breathing rate, and death.

➢ **The Buddy System**

All activities in contaminated or potentially contaminated areas will be conducted by pairing off the Site workers in groups of two (or three if necessary). Each person (buddy) will be able to provide his or her partner with assistance, observe his or her partner for signs of chemical, cold, or heat exposure, periodically check the integrity of his or her partner's protective clothing, and notify the HSO or others if emergency help is needed. The buddy system will be instituted at the beginning of each work day. If new workers arrive on Site, a buddy will be chosen prior to the new worker entering the work zone.

- **Site Communications**

Two communication systems will be established at the Site: internal communication among personnel onsite, and external communication between onsite and offsite personnel. Internal communication will be used to alert team members to emergencies, pass along safety information such as heat stress check, protective clothing check, etc., communicate changes in the work to be accomplished, and maintain Site control. Due to ambient noise, verbal communications may be difficult at times. The HSO will carry a whistle (and compressed air horn if respirators are donned) to signal Site workers. A single whistle blast will be the signal to immediately evacuate the work zone through the access control point. This signal will be discussed with all Site workers prior to commencement of work.

An external communication system will be established between onsite and offsite personnel to coordinate emergency response, report to the Project Manager, and maintain contact with essential offsite personnel. A field telephone will be available at all times in the HSO's vehicle. In addition, a backup telephone will be identified prior to the commencement of Site operations and this location will be relayed to all Site workers.

- **General Safe Work Practices**

Standing orders applicable during Site operations are as follows:

- No smoking, eating, drinking, or application of cosmetics in the work zone.
- No matches or lighters in the work zone.
- All Site workers will enter/exit work zone through the Site access point.
- Any signs of contamination, radioactivity, explosivity, or unusual conditions will require evacuating the Site immediately and reporting the information to the HSO.
- Loose-fitting clothing and loose long hair will be prohibited in the work zone during heavy equipment operations.
- A signal person will direct the backing of work vehicles.
- Equipment operators will be instructed to check equipment for abnormalities such as oozing liquids, frayed cables, unusual odors, etc.

D.1.7 Personnel Training Requirements

All onsite personnel with the potential to contact residual materials will receive adequate training prior to entering the Site. These personnel will, at a minimum, have completed OSHA-approved, 40-hour hazardous materials Site safety training and OSHA-approved, eight-hour safety refresher course within one year prior to commencing field work. In addition, each worker must have a minimum of three days field experience under the direct supervision of a trained, experienced supervisor.

Prior to Site field work, the HSO will conduct an in-house review of the project with respect to health and safety with all personnel who will be engaged with field work involving residual materials at the Site. The review will include discussions of signs and symptoms of chemical exposure and heat/cold stress that indicate potential medical emergencies. In addition, review of PPE will be conducted to include the proper use of air-purifying respirators.

D.1.8 Medical Surveillance Program

All workers at the Site with the potential to contact residual materials must participate in a medical surveillance program in accordance with 29 CFR 1910.120. A medical examination and consultation must have been performed within the last twelve months to be eligible for field work. The content of the examination and consultation will include a medical and work history with special emphasis on symptoms related to the handling of hazardous substances, health hazards, and fitness for duty including the ability to wear required personal protective equipment under conditions (i.e., temperature extremes) that may be expected at the work Site.

All medical examinations and procedures will be performed by, or under the supervision of, a licensed physician. The Physician shall furnish a written opinion containing:

- The results of the medical examination and tests;
- The physician’s opinion as to whether the employee has any detected medical conditions which would place the worker at increased risk of material impairment of the employee's health from work in hazardous waste operations;
- The physician's recommended limitations upon the worker assigned to the work; and

- A statement that the worker has been informed by the physician of the results of the medical examination and any further examination or treatment.
- An accurate record of the medical surveillance will be retained. The record will consist of at least the following information:
- The name and social security number of the employee;
- The physician's written opinions, recommended limitations, and results of examinations and tests; and
- Any worker medical complaints related to exposure to hazardous substances.

D.1.9 Personal Protective Equipment

**General Considerations**

The two basic objectives of the personal protective equipment (PPE) are to protect the wearer from safety and health hazards, and to prevent the wearer from incorrect use and/or malfunction of the PPE.

Potential Site hazards have been discussed previously in Section D.1.6. The duration of Site activities is estimated to be periods of several days. All work is expected to be performed during daylight hours and workdays, in general, are expected to be eight to ten hours in duration. Any work performed beyond daylight hours will require the permission of the HSO. This decision will be based on the adequacy of artificial illumination and the type and necessity of the task being performed.

Personal protection levels for the Site activities, based on past investigations at the Site, are anticipated to be Level D with the possibility of upgrading to Level C. The equipment included for each level of protection is provided as follows:

➢ Level C Protection

Level C personnel protective equipment includes:

- Air-purifying respirator, full-face

- Chemical-resistant clothing includes: Tyvek[tm] (spunbonded olefin fibers) for particulate and limited splash protection or Saranex[tm] (plastic film-laminated Tyvek) for permeation resistance to solvents.
- Coveralls*, or
- Long cotton underwear*
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots (outer), leather or chemical-resistant, steel toe and shank
- Boot covers (outer), chemical-resistant (disposable)*
- Hard hat (face shield)*
- Escape mask*
- 2-way radio communications (inherently safe)*

(*) optional

Meeting all of these criteria permits use of Level C protection:

- Oxygen concentrations are not less than 19.5% by volume.
- Measured air concentrations of identified substances will be reduced by the respirator below the substance's threshold limit value (TLV).
- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect any body area left unprotected by chemical-resistant clothing.
- Job functions do not require self-contained breathing apparatus.
- Direct readings are below 50 ppm on the PID.

➢ Level D Protection

Level D personnel protective equipment includes:

- Coveralls

- Gloves*
- Boots/shoes, leather or chemical-resistant, steel toe and shank
- Safety glasses or chemical splash goggles*
- Hard hat (face shield*)
- Escape mask*

(*) optional

Meeting any of these criteria allows use of Level D protection:

- No contaminant levels above 5 ppm organic vapors or dusty conditions are present.
- Work functions preclude splashes, immersion, or the reasonable potential for unexpected inhalation of any chemicals above the TLV.

➢ Additional Considerations for Selecting Levels of Protection

Another factor that will be considered in selecting the appropriate level of protection is heat and physical stress. The use of protective clothing and respirators increases physical stress, in particular, heat stress on the wearer. Chemical protective clothing greatly reduces natural ventilation and diminishes the body's ability to regulate its temperature. Even in moderate ambient temperatures, the diminished capacity of the body to dissipate heat can result in one or more heat-related problems.

All chemical protective garments can be a contributing factor to heat stress. Greater susceptibility to heat stress occurs when protective clothing requires the use of a tightly-fitted hood against the respirator face piece, or when gloves or boots are taped to the suit. As more body area is covered, less cooling takes place, increasing the probability of heat stress.

Wearing protective equipment also increases the risk of accidents. It is heavy, cumbersome, decreases dexterity, agility, interferes with vision, and is fatiguing to wear. These factors all increase physical stress and the potential for accidents. In particular, the necessity of selecting a level of protection will be balanced against the increased probability of heat stress and accidents.

➢ Donning and Doffing Ensembles

- Donning an Ensemble

A routine will be established and practiced periodically for donning a Level C ensemble. Assistance may be provided for donning and doffing since these operations are difficult to perform alone. Table D.1.9.1 lists sample procedures for donning a Level C ensemble. These procedures should be modified depending on the particular type of suit and/or when extra gloves and/or boots are used.

- Doffing an Ensemble

Exact procedures for removing Level C ensembles must be established and followed to prevent contaminant migration from the work area and transfer of contaminants to the wearer's body, the doffing assistant, and others. Doffing procedures are provided in Table D.1.9.2. These procedures should be performed only after decontamination of the suited worker. They require a suitably attired assistant. Throughout the procedures, both worker and assistant should avoid any direct contact with the outside surface of the suit.

➢ Respirator Fit Testing

The fit or integrity of the facepiece-to-face seal of a respirator affects its performance. Most facepieces fit only a certain percentage of the population; thus, each facepiece must be tested on the potential wearer in order to ensure a tight seal. Facial features such as scars, hollow temples, very prominent cheekbones, deep skin creases, dentures or missing teeth, and the chewing of gum and tobacco may interfere with the respirator-to-face seal. A respirator shall not be worn when such conditions prevent a good seal. The worker's diligence in observing these factors shall be evaluated by periodic checks. Fit testing will comply with 29 CFR 1910.1025 regulations.

➢ Inspection

The PPE inspection program will entail five different inspections:

- Inspection and operational testing of equipment received from the factory or distributor;
- Inspection of equipment as it is issued to workers;
- Inspection after use;

**TABLE D.1.9.1**
**SAMPLE LEVEL C DONNING PROCEDURES**

1. Inspect the clothing and respiratory equipment before donning (see Inspection in subsection D.1.7).

2. Adjust hard hat or headpiece if worn, to fit user's head.

3. Standing or sitting, step into the legs of the suit; ensure proper placement of the feet within the suit; then gather the suit around the waist.

4. Put on chemical-resistant safety boots over the feet of the suit. Tape the leg cuff over the tops of the boots.

5. Don the respirator and adjust it to be secure, but comfortable.

6. Perform negative and positive respirator facepiece seal test procedures.

   - To conduct a negative pressure test, close the inlet part with the palm of the hand or squeeze the breathing tube so it does not pass air, and gently inhale for about 10 seconds. Any inward rushing of air indicates a poor fit. Note that a leaking facepiece may be drawn tightly to the face to form a good seal, giving a false indication of adequate fit.

   - To conduct a positive pressure test, gently exhale while covering the exhalation valve to ensure that a positive pressure can be built up. Failure to build a positive pressure indicates a poor fit.

7. Depending on type of suit:

   - Put on inner gloves (surgical gloves).

   - Additional over-gloves, worn over attached suit gloves, may be donned later.

8. Put on hard hat

9. Have assistant observe the wearer for a period of time to ensure that the wearer is comfortable, psychologically stable, and that the equipment is functioning properly.

**TABLE D.1.9.2**
**DOFFING PROCEDURES**

1. Remove any extraneous or disposable clothing, boot covers, outer gloves, and tape.

2. Remove respirator by loosening straps and pulling straps over the top of the head and move mask away from head. Do not pull mask over the top of the head.

3. Remove arms, one at a time, from suit, avoiding any contact between the outside surface of the suit and wearer's body and lay the suit out flat behind the wearer. Leave internal gloves on, if any.

4. Sitting, if possible, remove both legs from the suit.

5. After suit is removed, remove internal gloves by rolling them off the hand, inside out.

- Periodic inspection of stored equipment; and
- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise.

The inspection checklist is provided in Table D.1.9.3. Records will be kept of all inspection procedures. Individual identification numbers will be assigned to all reusable pieces of equipment and records should be maintained by that number. At a minimum, each inspection should record the ID number, date, inspector, and any unusual conditions or findings. Periodic review of these records may indicate an item or type of item with excessive maintenance costs or a particularly high level of down-time.

➢ Storage

Clothing and respirators will be stored properly to prevent damage or malfunction due to exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact.

Potentially-contaminated clothing will be stored in a well-ventilated area separate from street clothing, with good air flow around each item, if possible. Different types and materials of clothing and gloves will be stored separately to prevent issuing the wrong materials by mistake, and protective clothing will be folded or hung in accordance with manufacturer's recommendations.

**TABLE D.1.9.3**
**PPE INSPECTION CHECKLIST**

CLOTHING

- Determine that the clothing material is correct for the specified task at hand.
- Visually inspect for imperfect seams, non-uniform coatings, tears, and/or malfunctioning closures.
- Hold up to light and check for pinholes and flex product and observe for cracks or other signs of deterioration.
- If the product has been used previously, inspect inside and out for signs of chemical attack, including discoloration, swelling, and/or stiffness.

During the work task, periodically inspect for:

- Evidence of chemical attack such as discoloration, swelling, stiffening, and softening. Keep in mind that chemical attack can occur without visible effects.
- Indication of physical damage, including closure failure, tears, punctures, and/or seam discontinuities.

GLOVES

- Before use pressurize glove to check for pinholes. Either blow into glove, then roll gauntlet toward fingers, or inflate glove and hold under water. In either case, no air should escape.

AIR-PURIFYING RESPIRATORS

- Inspect air-purifying respirators before each use to be sure they have been adequately cleaned. Check material conditions for signs of pliability, deterioration, and/or distortion.
- Examine cartridges to ensure that they are the proper type for the intended use, the expiration date has not been passed, and they have not been opened or used previously. Check face shields and lenses for cracks, crazing, and/or fogginess.

Air-purifying respirators will be stored individually in resealable plastic bags. After each use air-purifying respirators will be dismantled, washed, and placed in sealed plastic bags.

➢ PPE Maintenance

- Specialized PPE maintenance will be performed only by the factory or an authorized repair person. Routine maintenance, such as cleaning, will be performed by the personnel to whom the equipment is assigned. Respirators will be cleaned at the end of each day with alcohol pads or, preferably, by washing with warm soapy water.

➢ Decontamination Methods

All personnel, clothing, equipment, and samples leaving the work zone area involving residual materials at the Site must be decontaminated to remove any harmful chemicals that may have adhered to them. Decontamination methods either (1) physically remove contaminants (2) inactivate contaminants by chemical detoxification or disinfection/sterilization, or (3) remove contaminants by a combination of both physical and chemical means. In many cases, gross contamination can be removed by physical means involving dislodging/displacement, rinsing, wiping off, and evaporation. Contaminants that can be removed by physical means include dust, vapors, and volatile liquids. All reusable equipment will be decontaminated by rinsing in a bath of detergent and water (respirators, gloves to be reused). Monitoring equipment will be decontaminated by wiping with paper towels and water. All used PPE to be discarded will be disposed offsite as solid waste.

The effectiveness of the decontamination will be evaluated near the beginning of Site activities and will be modified if determined to be ineffective. Visual observation will be used for this purpose. The HSO will inspect decontaminated materials for discoloration, stains, corrosive effects, visible dirt, or other signs of possible residual contamination.

## D.2 Community Air Monitoring Plan

This Community Air Monitoring Plan (CAMP) will be implemented at the Site by the QEP during intrusive activities involving residual materials, including excavations and sampling. Due to the nature of the contaminants at the Site, there is a potential for organic vapor emissions as these activities occur. In addition, there is the potential for dust to be associated with intrusive excavation activities. To address these concerns, organic vapor monitoring will be performed during intrusive activities involving residual materials and dust monitoring will be performed during excavations involving residual materials.

Any CAMP monitoring results that exceed the action levels described below will be reported (or notice provided by another arrangement acceptable to the NYSDEC) when identified if a NYSDEC representative is present at the Site or within two hours by phone call or email to the NYSDEC Project manager when no NYSDEC representative is onsite. Exceedances of the CAMP action levels will also be summarized in the monthly progress reports, including the duration of the exceedance(s) and any response actions taken.

D.2.1 Organic Vapor Monitoring

Under the CAMP, organic vapor concentrations will be monitored at the boundaries of the work zone involving residual materials. It will be the responsibility of the HSO to implement the plan and to ensure that proper action is taken in the event that any of the established action levels are exceeded.

To monitor organic vapors, a PID capable of calculating 15-minute running average concentrations will be used and maintained in good operating condition. Calibration of the PID will be performed according to manufacturer's instructions. Background levels of organic vapors will be measured at the work zone boundary prior to beginning work and upwind of the work area periodically using a PID. Monitoring may be performed more frequently at the discretion of the HSO. Organic vapors will be monitored continuously at the downwind perimeter of the work area during ground intrusive activities involving residual materials.

PID readings will be recorded in the field logbook for both background and work area perimeter. Logbook recordings will include the time, location, and PID readings observed. Downwind perimeter levels will be recorded in the log whenever the level reaches 5 ppm above the background along with the action(s) taken to mitigate the level. If the level of organic vapors exceeds 5 ppm above the background at the downwind perimeter of the work area, work activities will be halted and monitoring continued. The vapor emission response plan will then be implemented.

D.2.1.1 Vapor Emission Response Plan

The vapor emission response plan includes the following trigger levels and responses:

- Greater than 5 ppm at perimeter: In the event the level of organic vapors exceeds 5 ppm above the background at the downwind perimeter of the residual materials work

area, activities will be halted and monitoring continued. If the organic vapor level then decreases to below 5 ppm above background, work activities can resume but organic vapor readings will be obtained more frequently as directed by the HSO.

- 5 ppm to 25 ppm at perimeter and less than 5 ppm at the work zone boundary: If the level of organic vapors is greater than 5 ppm but less than 25 ppm over background at the downwind perimeter of the residual materials work area, activities will be halted, the source of the vapors will be identified and corrective actions will be taken. Monitoring will be continued and activities will resume if the organic vapor concentration at half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background. More frequent intervals of monitoring will be performed as directed by the HSO.

- Above 25 ppm at perimeter: If the level of organic vapors is above 25 ppm at the perimeter of the residual materials work area, activities will be shut down. Should such a shutdown be necessary, downwind air monitoring will continue as directed by the HSO to confirm that organic vapor concentrations decrease. Actions will be taken to abate the source of vapor emissions and activities will not resume until the source is controlled.

D.2.1.2 Major Vapor Emission Response Plan

The Major Vapor Emission Response Plan will automatically be placed into effect if:

- Efforts to abate the emission source are unsuccessful and levels above 5 ppm persist for more than 30 minutes in the 20-foot zone; or

- The vapor levels are greater than 10 ppm above background in the 20-foot zone.

Upon activation of the Major Vapor Emission Response Plan, the following activities will be undertaken:

- All emergency response contacts as listed in the HASP will be notified;

- Air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring will be halted or modified as directed by the HSO; or

- If air monitoring readings remain above action levels, work will be halted and further measures taken to reduce organic vapors.

If a Major Vapor Emission Response Plan is implemented, the NYSDEC and NYSODH will be contacted within 24 hours.

D.2.2 Dust Monitoring

Dust (particulate) monitoring will be performed during excavations involving residual materials with the potential to create dust by using a Miniram personal monitor calibrated according to the manufacturer's instructions. The Miniram will be capable of calculating 15-minute running average concentrations and operated continuously at the downwind perimeter of the work zone during excavation activities.

To ensure the validity of the fugitive dust measurements, appropriate QA/QC measures will be employed, including periodic instrument calibration, operator training, daily instrument performance (span) checks, and record-keeping on daily log sheets. If measurable dust levels are noted, then readings will also be obtained upwind of the work zone. If the downwind particulate level exceeds the upwind level by more than 100 micrograms per cubic meter ($ug/m^3$), then dust suppression techniques will be employed or work will be halted or controlled such that dust levels are reduced at the downwind perimeter to within 150 $ug/m^3$ of the upwind level.

If dust is generated during boring or other intrusive activities, then dust suppression will be performed, as discussed in Section D.1.6 of this HASP. Corrective measures may include increasing the level of PPE for onsite personnel and implementing additional dust suppression techniques. Should the action level of 150 $\mu g/m^3$ continue to be exceeded, work will stop and the NYSDEC will be notified as described in Section D.2 above. The notification will include a description of the control measures implemented to prevent further exceedances.

Reasonable fugitive dust suppression techniques will be employed during all intrusive Site activities involving residual materials that may generate fugitive dust. Particulate (fugitive dust) monitoring will be employed during the handling of contaminated soil or when onsite activities may generate fugitive dust from exposed contaminated soil.

Fugitive dust from contaminated soil that migrates offsite has the potential to transport contaminants offsite. Although there may be situations when the monitoring equipment does not

measure dust at or above the action level, visual observation may indicate that dust is leaving the Site. If dust is observed leaving the working area, additional dust suppression techniques will be employed.

The following techniques have been shown to be effective for controlling the generation and migration of dust during intrusive activities and will be used as needed during intrusive activities involving residual materials at the Site:

- Wetting equipment and exposed soil;
- Restricting vehicle speeds to 10 mph;
- Covering areas of exposed soil after investigation activity ceases; and
- Reducing the size and/or number of areas of exposed soil.

When techniques involving water application are used, care will be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will be considered to prevent overly wet conditions, conserve water, and provide an effective means of suppressing fugitive dust.

Evaluation of weather conditions is also necessary for proper fugitive dust control. When extreme wind conditions may make dust control ineffective, investigation actions may be suspended until wind speeds are reduced.

D.2.3 Noise Monitoring

Due to the use of heavy equipment, there is a potential for noise to impact the surrounding community. Work will be performed only during normal working hours when ambient noise levels are elevated due to ongoing activities and traffic in the surrounding community. Therefore, the potential for noise impacts on the surrounding community is low.

If pedestrians are present in the Site vicinity, it is possible for noise impacts to occur. To address these concerns and other safety concerns, pedestrians will be barred from entering the work zone. In addition, during activities involving residual contamination the HSO will periodically monitor noise levels at the work zone boundary and the closest property boundary with a Realistic$^{tm}$ hand-held sound level meter. Noise levels will be monitored in dBs in the A-weighted, slow-response mode. If noise level readings exceed an eight-hour time-weighted

average of 85 dB at the work zone boundary or at the closest property boundary, the HSO will take appropriate measures to reduce noise exposure beyond these boundaries. These measures may include extension of the work zone boundary, issuing appropriate hearing protection devices as discussed in Section D.1.6, or other measures, as appropriate. In the event that the noise exposure measures are inadequate, work will cease until noise levels can be reduced to below 85 dB at the work zone boundary and/or at the closest property boundary.

# APPENDIX E
# QUALITY ASSURANCE PROJECT PLAN

This Quality Assurance Project Plan (QAPP) is applicable to all sampling activities at this Site.

## E.1 Data Quality Objectives

The Data Quality Objectives (DQOs) will be applicable to all data-gathering activities at the Site. DQOs will be incorporated into sampling, analysis, and quality assurance tasks.

The data users for this project are the qualified environmental professional (QEP), the Site Owner/Remedial Party, the New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health (NYSDOH). No other data users are anticipated. The collected data are intended to further evaluate the nature and extent of volatile organic compounds (VOCs) in onsite soil and groundwater and PFAS in groundwater.

For this project, field screening will be performed during sampling and excavation activities. Field screening includes monitoring for organic vapors in soil and in the air in the work zone using a Photovac MicroTIP photoionization detector (PID, or equivalent) and visual observations of soil or groundwater characteristics. All readings and observations will be recorded by the QEP in his or her field notebook. All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.

## E.2 Standards, Criteria, and Guidance

The following standards, criteria, and guidance (SCGs) have been identified for the Site:

- NYSDEC DER-10;
- The NYSDEC Class GA Ambient Water Quality Standards, which are used to evaluate the groundwater chemical analytical results;
- The 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives, which are used to evaluate soil sample results;
- The NYSDEC Guidelines for Sampling and Analysis of PFAS; and

- The 6 NYCRR Parts 370, 371, and 372 regulations for hazardous waste management, which are used to guide hazardous waste characterization and disposal.

## E.3 Quality Assurance/Quality Control Procedures

QA/QC procedures will be utilized during the performance of field sampling work to ensure that the resulting chemical analytical data accurately represent Site conditions. The following sections include descriptions of the QA/QC procedures to be utilized. Additional measures will also be utilized when collecting samples for PFAS as described in NYSDEC guidance document, *Guidelines for Sampling and analysis of PFAS (NYSDEC January 2020)*.

➢ Equipment Decontamination Procedures

All non-disposable downhole equipment (i.e., soil sampling equipment, submersible pumps) used during sampling activities will be decontaminated by washing in a potable water and Alconox solution and rinsing in potable water prior to use at each location to reduce the potential for cross-contamination. All sampling equipment will be either dedicated disposable equipment or will be decontaminated prior to use at each location. The decontamination procedures utilized for all non-disposable sampling equipment will be as follows:

1. The equipment will be scrubbed in a bath of potable water and low-phosphate detergent followed by a potable water rinse;
2. The equipment will be rinsed with distilled water; and
3. The equipment will be allowed to air dry, if feasible, and wrapped in aluminum foil (shiny side out) for storage and transportation.

➢ QA/QC Samples

QA/QC samples will be collected and utilized to evaluate the potential for field or laboratory contamination and to evaluate the laboratory's analytical precision and accuracy. The specific types of QA/QC samples to be collected are described below.

The decontamination procedures will be evaluated by the use of equipment blank samples. These samples consist of aliquots of laboratory-supplied water that are poured over or through the dedicated or decontaminated sampling equipment and then submitted to the laboratory for analysis. An equipment blank sample will be prepared for each day that soil or groundwater sampling is

conducted at the Site and will be analyzed for the same analytes as the primary environmental samples collected that day (VOCs). The equipment blanks will be labeled in a manner to prevent identification by the analytical laboratory.

Trip blank samples will be utilized to evaluate the potential for VOC cross-contamination between samples in the same cooler or shipping container. Trip blank samples consist of laboratory-provided containers filled with laboratory water or laboratory air that are sealed in sample containers at the laboratory and that are transported to and in the field with the other sample containers. A trip blank will be shipped with each group of soil, groundwater, and soil vapor/indoor air samples and will be managed in the field and analyzed in the laboratory in the same manner as the primary environmental samples.

Blind duplicate samples will be obtained at a frequency of at least one per every 20 environmental samples and will be used to attest to the precision of the laboratory. A blind duplicate consists of a separate aliquot of sample collected at the same time, in the same manner, and analyzed for the same parameters as the primary environmental sample. The blind duplicate samples are labeled in a manner such that they cannot be identified by the laboratory. The sample results are compared to those of the primary environmental sample to evaluate laboratory analytical precision.

Matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a frequency of one per 20 environmental soil or groundwater samples. The purpose of the MS/MSD samples is to confirm the accuracy and precision of laboratory results based on a particular matrix. The MS/MSD results will be evaluated during the preparation of the DUSRs, as discussed below.

- Chain-of-Custody Procedures

For each day of sampling, chain-of-custody (COC) sheets will be completed and submitted to the laboratory with the samples collected that day. A copy of each COC sheet will be retained by the QEP for sample tracking purposes. Each COC sheet will include the project name, the sampler's signature, the sampling locations and intervals, and the analytical parameters requested.

- Data Usability Summary Reports

All chemical analytical results will be evaluated using the sample data packages, sample data summary packages, and case narratives provided by the analytical laboratory. The data

evaluation will be performed to verify that the analytical results are of sufficient quality to be relied upon to assess the potential presence of contaminants in the groundwater, soil vapor, indoor air, and/or soil samples. A DUSR will be prepared for each data package following the "Guidance for the Development of Data Usability Summary Reports" provided by the NYSDEC (Appendix 2B of DER-10).

## E.4 Sample Analysis

All samples will be submitted to NYSDOH ELAP-certified laboratories. Holding times will be in accordance with NYSDEC ASP requirements. Analytical data will be provided by the laboratories in electronic format, in accordance with DER-10, Section 1.15.

The soil and groundwater samples will be analyzed for TCL VOCs using EPA Method 5035/5035A and 8260B. Select Groundwater samples will also be analyzed for PFAS using EPA Method 537.1. The analytical methods used will be as per NYS ASP with Category B deliverables.

## E.5 Data Evaluation and Reporting

The data collected will be assembled, reviewed, and evaluated following each sampling round. The soil and groundwater samples will be used to assess the nature and extent of the remaining contamination in the soil and groundwater at the Site. The resulting data will be reported to the NYSDEC in the appropriate reports documenting Site-related activities (monitoring report, Periodic Review Report, as appropriate).

Electronic Data Deliverables (EDDs) will be prepared for each data package and uploaded into the NYSDEC's environmental information management system.

# APPENDIX F
# SITE MANAGEMENT FORMS

This Appendix includes all Site-specific site management forms, including the Site-wide Inspection Checklist, the Well Sampling Data Form, the Canister Field Sampling Record, and the Green Remediation Metrics Form for this Site. The forms will be completed during site management activities, as appropriate, and provided to the NYSDEC in electronic format in accordance with the reporting requirements specified in Section 7.0 of the SMP.

# Site-Wide Inspection Checklist
# Minuteman Cleaners Site
# 5640 Merrick Road
# East Massapequa, New York

**Date of Inspection: _____**

Site-wide inspections will be performed fifth quarterly, at a minimum. A site-wide inspection will also be performed after severe events that may affect the pavement cover over the former LP-1 or LP-2 area, or the monitoring wells.

The following inspection checklist will be completed during each site-wide inspection. Supporting documentation will be attached, as necessary. The completed site-wide inspection checklist and supporting documentation will be included in the associated Periodic Review Report.

**Compliance with Institutional Controls**

Institutional Controls (ICs) are required to: (1) implement, maintain and monitor the engineering controls (ECs) described in the Site Management Plan (SMP); (2) prevent future exposure to residual contamination by controlling disturbances of residual materials; and, (3) restrict the use of the Site to industrial, commercial, restricted residential, or residential uses. Adherence to these ICs on the Site (Controlled Property) is required under the Consent Order. These ICs are described in Section 3.2 of the Site Management Plan. Please complete the following checklist to confirm compliance with the Site ICs:

- The Controlled Property may be used for industrial, commercial or restricted residential use. **Confirm the use of the Site**:

- All Engineering Controls (pavement cover over former LP-1 and LP-2 area and groundwater monitoring wells) must be operated and maintained as specified in the SMP for the Controlled Property. **Confirm operation and maintenance of ECs**:

- Annual inspections and certifications must be conducted in accordance with the SMP. **Confirm compliance with annual inspections and certifications**:

- Groundwater and other environmental or public health monitoring, and reporting of information thus obtained, must be performed in a manner specified in the SMP. **Confirm that the required monitoring and reporting are in accordance with the SMP:**

- Onsite environmental monitoring devices, including but not limited to groundwater monitoring wells, will be protected and replaced as necessary to ensure continued functioning in the manner specified in the SMP. **Confirm that monitoring devices have been protected and/or replaced:**

- All soil disturbance activities that will impact residual contaminated material must be conducted in accordance with the NYSDEC-approved SMP and the Excavation Work Plan (EWP). **Confirm that these activities, if they have occurred, are in compliance with the SMP and EWP**:

- Use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for the intended purpose. **Confirm that groundwater use has not occurred**:

**Compliance with Engineering Controls**

Provide a written evaluation of the condition and continued effectiveness of the ECs:

- The pavement cover over the former LP-1 and LP-2 EC:
- The groundwater monitoring well EC:

**General Site Conditions**

**Provide a written description of the Site conditions at the time of the site-wide inspection**. Attach digital photographs or other supporting information as needed.

**Site Management Activities**

**Provide a discussion and assessment of ongoing site management activities** including as applicable, but not limited to, soil/residual materials management, groundwater monitoring, community air monitoring, nuisance control, well replacement/repair, health and safety monitoring, and other applicable and pertinent activities. Attach supporting documentation as necessary.

**Compliance with Schedules**

The Monitoring and Sampling Plan included in Section 4 of the SMP does not include any permit requirements but does include a schedule for groundwater and other monitoring. **Discuss compliance with the groundwater monitoring schedule:**

**Site Records**

The Site records include, but are not limited to, groundwater monitoring reports, EC inspections, site-wide inspection checklists, soil management documents, community air monitoring documents, regulatory agency correspondence, reports, and the PRR. **Confirm that each type of Site record is up to date and provide comments:**

**Inspector Information**

Name and Affiliation of Inspector(s):

Date of Inspection:

Reason for Inspection:

List additional inspections or activities conducted in association with this inspection:

**Attachments**:

Correspondence

Supporting documents

Photolog

**WELL SAMPLING DATA FORM**

Site Name: Minuteman Cleaners Site NYSDEC Site No.130065

Location: 5640 Merrick Road, East Massapequa, NY

Well No.: _____ Well Diameter: _____

Date: _____ Start Time: _____

Weather: _____ Finish Time: _____

Sampled By: _____

Depth to Bottom of Well: _____ Feet.

Depth to Water: _____ Feet.

Height of Water Column: _____ Feet.

Water Volume in Casing: _____ Gallons.

Water Volume to be Purged: _____ Gallons.

Water Volume Actually Purged: _____ Gallons.

Purge Method: _____

Physical Appearance/Comments: _____

FIELD MEASUREMENTS:

| Time | Gallons | pH | Cond. (uS) | Temp. (ºF) | Turbidity (NTU) |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Sampling and Analytical Methods: _____

Laboratory Name and Location: _____

## Summary of Green Remediation Metrics for Site Management

**Site Name**: Minuteman Cleaners Site **Site Code**: #130065
**Address**: 5640 Merrick Road **City**: East Massapequa
**State**: NY **Zip Code**: 11758 **County**: Nassau

**Initial Report Period** (Start Date of period covered by site management)
Start Date: _____

**Current Reporting Period**
Reporting Period From: _____ To: _____

**Contact Information**
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

**I. Solid Waste Generation:** Quantify the management of solid waste generated during site management activities.

| | **Current Reporting Period (tons)** | **Total to Date (tons)** |
|---|---|---|
| **Total waste generated on-site** | | |
| OM&M generated waste | | |
| **Of that total amount, provide quantity:** | | |
| Transported off-site to landfills | | |
| Transported off-site to other disposal facilities | | |
| Transported off-site for recycling/reuse | | |
| Reused on-site | | |

*Provide a description of any implemented waste reduction programs for the site in the space provided on Page 2.*

**II. Transportation/Shipping:** Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and removal of waste.

| | **Current Reporting Period (miles)** | **Total to Date (miles)** |
|---|---|---|
| Consultant and Contractor(s) | | |
| Laboratory Courier/Delivery Service | | |
| Waste Removal/Hauling | | |

*Provide a description of all mileage reduction programs for the Site in the space provided on Page 2. Include specifically any local vendor/services utilized that are within 50 miles of the Site.*

**III. Water Usage:** Quantify the water volumes used for site management from various sources.

| | **Current Reporting Period (gallons)** | **Total to Date (gallons)** |
|---|---|---|
| Total quantity of water used onsite | | |
| **Of that total amount, provide quantity:** | | |
| Public potable water supply usage | | |
| Surface water usage | | |
| Onsite groundwater usage | | |
| Collected or diverted storm water usage | | |

*Provide a description of any implemented water consumption reduction programs for the Site in the space provided below.*

**IV. Land Use and Ecosystems:** Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

| | **Current Reporting Period (acres)** | **Total to Date (acres)** |
|---|---|---|
| Land disturbed | | |
| Land restored | | |

*Provide a description of any implemented land restoration/green infrastructure programs for the Site in the space provided below.*

| **Description of green remediation programs reported above**<br>(Attach additional sheets if needed) |
|---|
| Waste Generation: |
| Transportation/Shipping: |
| Water usage: |
| Land Use and Ecosystems: |
| Other: |

# APPENDIX G
# FIELD SAMPLING PLAN

This Field Sampling Plan is applicable to activities involving sampling of residual soil, groundwater at the Site. The Quality Assurance Project Plan (QAPP) provided in Appendix E to the Site Management Plan provides additional information concerning quality assurance/quality control procedures for sampling activities.

## G.1 Soil Sampling

Soil sampling will be performed in the event that the pavement cover over the former LP-1 area is removed and soil is excavated. The soil that that remains in place following the excavation will be screened by a qualified environmental professional (QEP) for visual and/or photoionization detector (PID) indications of potential volatile organic compound (VOC) contamination. The soil that remains in the excavation will be sampled in a manner designed to characterize the sidewalls and floor of the excavation. The soil sample locations will be identified using a GPS.

Samples will be retained and submitted for laboratory analysis. The samples retained for VOC analysis will be collected using Method 5035A preservation procedures. All samples retained for analysis will be tested for Target Compound List (TCL) VOCs. Select samples will also be analyzed for PFAS Upon completion of sampling, the sample containers will be sealed, labeled, managed, transported, and tracked as described in Section G-3 below.

## G.2 Groundwater Monitoring Well Sampling

Groundwater monitoring well sampling will be performed as specified in the SMP for this Site. During each groundwater monitoring event, the depth to the static water level and depth of the well will be measured at each well using an interface probe. The potential presence of non-aqueous-phase liquid (NAPL) will also be assessed. Then a decontaminated low-flow pump will be used to purge each well until the turbidity of the produced water is less than 50 NTU or until five well volumes of water have been purged. Following the removal of each well volume, field parameters, including pH, turbidity, specific conductivity, and temperature, will be monitored. When all stability parameters vary by less than 10 percent between the removal of successive well

volumes, the well will be sampled. Well sampling forms documenting the well purging and sampling procedures will be completed.

Following purging, sampling will be performed. Samples will be obtained directly from the pump or using dedicated disposable polyethylene bailers suspended from dedicated cotton or polypropylene lines. The retrieved samples will be decanted into laboratory-supplied sample containers. Upon completion of sampling, the sample containers will be sealed, labeled, managed, transported, and tracked as described in Section G-3 below.

## G.3 Sample Management and Analyses

Each sample container will be labeled, and the labeled containers containing soil or groundwater samples will be placed in a cooler with ice to depress the sample temperature. The filled labeled Summa canisters will be secured in shipping containers. A chain of custody form will be completed and kept with each of the coolers and shipping containers to document the sequence of sample possession. At the end of each day, the filled coolers and shipping containers will be transported by overnight courier to the analytical laboratory.

The analytical laboratories for all samples will be NYSDOH ELAP-certified for the proposed analyses. All of the soil and groundwater samples will be analyzed for TCL VOCs using EPA Method 5035/5035A and 8260B. Select groundwater samples will also be analyzed for PFASs using EPA method 537.1 (modified). The analytical methods used will be as per NYS Analytical Services Protocol (ASP) with Category B deliverables. Electronic data deliverables (EDDs) will be prepared and uploaded into the NYSDEC's environmental information management system.

# APPENDIX H
# REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

In the event that a Remedial System Optimization (RSO) Study is performed to evaluate the remedy for this Site, an RSO Report will be prepared to document the results of the Study. The following Table of Contents provides a general outline for an RSO Report and should be modified to fit the needs of the RSO Study.

**REMEDIAL SYSTEM OPTIMIZATION**
**FOR**
**CARDWELL CONDENSER CORPORATION SITE**

TABLE OF CONTENTS

4.1 RECOMMENDATIONS TO ACHIEVE OR ACCELERATE SITE CLOSURE

4.1.1 Source Reduction/Treatment

4.1.2 Sampling

4.1.3 Conceptual Site Model (Risk Assessment)

4.2 RECOMMENDATIONS TO IMPROVE PERFORMANCE

4.2.1 Maintenance Improvements

4.2.2 Monitoring Improvements

4.2.3 Process Modifications

4.3 RECOMMENDATIONS TO REDUCE COSTS

4.3.1 Supply Management

4.3.2 Process Improvements or Changes

4.3.3 Optimize Monitoring Program

4.3.4 Maintenance and Repairs

4.4 RECOMMENDATIONS FOR IMPLEMENTATION