

**RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM**

Release Tracking Number  
3.0 - 13232

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**A. SITE LOCATION:**

1. Site Name/Location Aid: Former Mass Avenue Firestone Store and Gasoline Station

2. Street Address: 2472-2484 Massachusetts Avenue

3. City/Town: Cambridge 4. ZIP Code: 02139-0000

5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.  
 a. Tier IA     b. Tier IB     c. Tier IC     d. Tier II

6. If a Tier I Permit has been issued, provide Permit Number: \_\_\_\_\_

**B. THIS FORM IS BEING USED TO:** (check all that apply)

1. List Submittal Date of Initial RAM Written Plan (if previously submitted): 11/22/2004  
(mm/dd/yyyy)

2. Submit an Initial Release Abatement Measure (RAM) Plan.

a. Check here if this RAM Plan received previous oral approval from DEP as a continuation of a Limited Removal Action (LRA).  
b. List Date of Oral Approval: \_\_\_\_\_  
(mm/dd/yyyy)

3. Submit a Modified RAM Plan of a previously submitted written RAM Plan.

4. Submit a RAM Status Report.

5. Submit a RAM Completion Statement.

6. Submit a Revised RAM Completion Statement.

7. Provide Additional RTNs:

a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.

b. Provide the additional Release Tracking Number(s) covered by this RAM Submittal.     -      -

(All sections of this transmittal form must be filled out unless otherwise noted above)



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**C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:**

1. Identify Media Impacted and Receptors Affected: (check all that apply)

- a. Air    b. Basement    c. Critical Exposure Pathway    d. Groundwater    e. Residence  
 f. Paved Surface    g. Private Well    h. Public Water Supply    i. School    j. Sediments  
 k. Soil    l. Storm Drain    m. Surface Water    n. Unknown    o. Wetland    p. Zone 2  
 q. Others. Specify: \_\_\_\_\_

2. Identify all sources of the Release or Threat of Release, if known: (check all that apply)

- a. Above-ground Storage Tank (AST)    b. Boat/Vessel    c. Drums    d. Fuel Tank  
 e. Pipe/Hose/Line    f. Tanker Truck    g. Transformer    h. Under-ground Storage Tank (UST)  
 i. Vehicle    j. Others. Specify: \_\_\_\_\_

3. Identify Oils and Hazardous Materials Released: (check all that apply)

- a. Oils    b. Chlorinated Solvents    c. Heavy Metals  
 d. Others. Specify: Gasoline residuals

**D. DESCRIPTION OF RESPONSE ACTIONS:** (check all that apply, for volumes list cumulative amounts)

- |  |   |
|--|---|
| <input type="checkbox"/> 1. Assessment and/or Monitoring Only                | <input type="checkbox"/> 2. Temporary Covers or Caps                        |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Temporary Water Supplies                        |
| <input type="checkbox"/> 5. Structure Venting System                         | <input type="checkbox"/> 6. Temporary Evacuation or Relocation of Residents |
| <input type="checkbox"/> 7. Product or NAPL Recovery                         | <input type="checkbox"/> 8. Fencing and Sign Posting                        |
| <input type="checkbox"/> 9. Groundwater Treatment Systems                    | <input type="checkbox"/> 10. Soil Vapor Extraction                          |
| <input type="checkbox"/> 11. Bioremediation                                  | <input type="checkbox"/> 12. Air Sparging                                   |
| <input checked="" type="checkbox"/> 13. Excavation of Contaminated Soils     |   |

- a. Re-use, Recycling or Treatment    i. On Site   Estimated volume in cubic yards \_\_\_\_\_  
 ii. Off Site   Estimated volume in cubic yards 202

ii.a. Receiving Facility: American Reclam. Corp.   Town: Eliot   State: ME

ii.b. Receiving Facility: \_\_\_\_\_   Town: \_\_\_\_\_   State: \_\_\_\_\_

iii. Describe: \_\_\_\_\_



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**D. DESCRIPTION OF RESPONSE ACTIONS (cont.):** (check all that apply, for volumes list cumulative amounts)

- b. Store  i. On Site Estimated volume in cubic yards \_\_\_\_\_  
 ii. Off Site Estimated volume in cubic yards \_\_\_\_\_

    iia. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

    iib. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

- c. Landfill  
 i. Cover Estimated volume in cubic yards \_\_\_\_\_  
    Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

- ii. Disposal Estimated volume in cubic yards \_\_\_\_\_  
    Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

14. Removal of Drums, Tanks or Containers:  
    a. Describe Quantity and Amount: \_\_\_\_\_  
        \_\_\_\_\_

    b. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

    c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

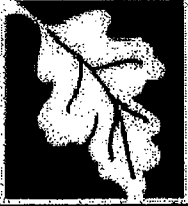
15. Removal of Other Contaminated Media:  
    a. Specify Type and Volume: \_\_\_\_\_  
        \_\_\_\_\_

    b. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

    c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

16. Other Response Actions:  
    Describe: Construction RAM-Movement, placement of on-site soils during construction; off-site disposal of soils due to contamination or excess materials

17. Use of Innovative Technologies:  
    Describe: \_\_\_\_\_



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E. LSP SIGNATURE AND STAMP :

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Status Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 4290

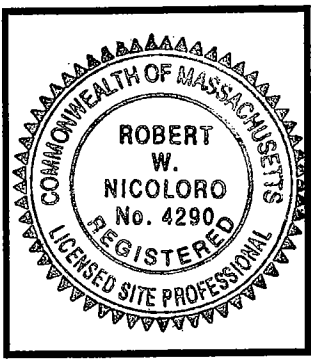
2. First Name: Robert 3. Last Name: Nicoloro

4. Telephone: (603) 431-4899 5. Ext.: 323 6. FAX: (603) 431-5982

7. Signature: 

8. Date: 03/22/05  
(mm/dd/yyyy)

9. LSP Stamp:





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F. PERSON UNDERTAKING RAM:

1. Check all that apply:  a. change in contact name  b. change of address  c. change in the person undertaking response actions

2. Name of Organization: VLW Realty Trust

3. Contact First Name: Brandon 4. Last Name: Woolkalis

5. Street: 10 Chatham Street 6. Title: Manager

7. City/Town: Cambridge 8. State: MA 9. ZIP Code: 02139-1605

10. Telephone: (617) 216-2000 11. Ext.: \_\_\_\_\_ 12. FAX: (617) 497-1285

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:

1. RP or PRP  a. Owner  b. Operator  c. Generator  d. Transporter

e. Other RP or PRP Specify: \_\_\_\_\_

2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

4. Any Other Person Undertaking RAM Specify Relationship: \_\_\_\_\_

H. REQUIRED ATTACHMENT AND SUBMITTALS:

1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC108).

2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.

4. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to the DEP Regional Office.

5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



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**I. CERTIFICATION OF PERSON UNDERTAKING RAM:**

1. I, Brandon Woolkalis, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: *Brandon Woolkalis* 3. Title: Manager  
Signature

4. For: VLW Realty Trust 5. Date: 3/16/05  
(Name of person or entity recorded in Section F) (mm/dd/yyyy)

6. Check here if the address of the person providing certification is different from address recorded in Section F.

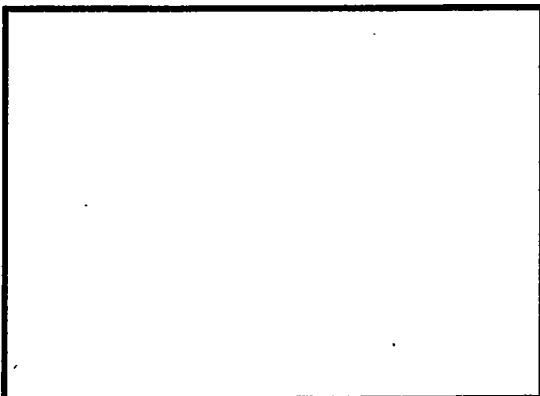
7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. ZIP Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext.: \_\_\_\_\_ 13. FAX: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (DEP USE ONLY:)



**RELEASE ABATEMENT MEASURE STATUS REPORT**

**FORMER BEST GAS SERVICE STATION  
2480 MASSACHUSETTS AVENUE  
CAMBRIDGE, MASSACHUSETTS**

**DEP RELEASE TRACKING NUMBER: 3-0013232**

Prepared for:

VLW Realty Trust, LLC  
12 Chatham Street  
Cambridge, Massachusetts 02139

Prepared by:

Jacques Whitford Company, Inc.  
27 Congress Street  
Portsmouth, New Hampshire 03801

Jacques Whitford Reference: Cambridge Best Gas/NHP05028

March 22, 2005

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Release Abatement Measure (RAM) Transmittal Form BWSC-106

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### APPENDICES

Appendix A Laboratory Analytical Data Reports  
Appendix B Waste Disposal Documentation



## **1.0 INTRODUCTION**

This document presents a Release Abatement Measure (RAM) Status Report in response to a release of oil and hazardous materials (OHM) related to past operations of a former gasoline service station, which was located on the subject property from the 1930s. The subject Disposal Site is located at 2480 Massachusetts Avenue in Cambridge, Massachusetts. This RAM Status Report was prepared to provide the status of the Construction RAM being conducted at the subject property in accordance with the Construction RAM Plan submitted to the Massachusetts Department of Environmental Protection (DEP) on November 22, 2004. The location of the site is shown on Figure 1, Site Location Map.

Jacques Whitford Company, Inc. (Jacques Whitford) prepared this RAM Status Report on behalf of VLW Realty Trust, LLC, 12 Chatham Street, Cambridge, Massachusetts 02139, (617-216-2000). The RAM Status Report was prepared in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0445. A RAM Transmittal Form BWSC-106 is attached.

The Licensed Site Professional (LSP) of Record for the Disposal Site is:

Mr. Robert Nicoloro (License No. 4290)  
Jacques Whitford Company, Inc.  
27 Congress Street  
Portsmouth, New Hampshire 03801  
Phone: (603) 431-4899  
Fax: (603) 431-5982

### **1.1 Description of Release**

The source of the OHM appears to be past operations of the former gas station, which was located on the subject property from the 1930s until recently, with possible contribution from a near-boundary past release from off-site. OHM are predominantly present in soils within the saturated zone at an average depth of 10 to 13 feet below ground surface. OHM is also in the groundwater both on and off of the property. The groundwater flow direction is assumed to be toward the southwest. The Disposal Site is classified as a Tier II site.

## **2.0 STATUS OF RESPONSE OPERATIONS**

Activities completed since submittal of the Construction RAM Plan on November 22, 2004 are described below. This RAM Status Report contains information regarding:

- current status of response operations;
- new site information and data;
- details of remediation waste generation and disposal;
- monitoring data, where applicable;
- other information; and
- an opinion from the LSP of Record regarding conformance with the RAM Plan.

## **2.1 Construction Activities**

Construction activities involving excavation or grading of soil were completed under the direction of the LSP of record for the Disposal Site, which are discussed below. Response operations from late November 2004 to March 2005 have been directed toward support of construction activities, construction area inspection and screening, vapor barrier installation, management of remediation waste, and inspection. The current status of the site is active construction for the new building. Features of the former gasoline station are no longer present on site.

Excavation for Building Footings – Excavation for the building footings commenced in late November 2004 and was completed by Jason Anthony Corporation (JAC). The new building footprint is located in the northern corner of the property bounded to the northwest by Edmunds Street and the northeast by Massachusetts Avenue. The resulting excavation for the building footings was approximately 4 feet in depth and covered in area of approximately 2,275 square feet (the approximate area of the footprint of the new building).

Excavation of soil was observed by the LSP or his designee. Soil samples were periodically collected during the excavation at the direction of the LSP or his designee. Soil samples were screened for volatile organic compounds (VOCs) in sample head-space using a photoionization detector (PID) in accordance with the DEP “jar headspace” method. Based on the PID head-space screening results and field observations, removal of soil for off property disposal did not appear warranted. The soil was re-used as fill around the footings or stockpiled on property for later use. Following completion of the excavation, the concrete footings were poured.

Vapor Barrier Installation and Floor Construction – Prior to pouring the concrete floor of the building, a vapor barrier was installed to mitigate migration of petroleum-related VOCs from underlying soil and groundwater into the new building, once constructed. Installation was completed in December 2004. The vapor barrier consisted of two layers of six millimeter (mm) polyethylene. The polyethylene was fitted around plumbing and other structures to provide a seal between the barrier and the structures. The vapor barrier installation was completed under the direction of the LSP. Following installation, Mr. Ken Woods, Professional Engineer, inspected the vapor barrier to evaluate the installation, assess any damage to the barrier during installation (if any), and confirm that a proper seal was in place between the barrier and plumbing/ other structures. Based on his inspection, Mr.

Woods approved the vapor barrier installation. Following installation and inspection of the vapor barrier, the concrete floor of the building was completed by Brian Long Builders, Inc. in early January 2005.

Building Construction – After completion of the floor, building construction commenced in early January 2005, by Brian Long Builders, Inc. Building construction is currently ongoing.

Grading / Surface Excavation – Portions of the surface of the property were graded by JAC at the commencement of building construction activities. Grading including removing approximately two to three feet of material from the surface, which was stockpiled on the southeast corner of the subject property for intended re-use. Based on the findings of previous assessment activities for the subject property and observations of the stockpiled material, it appears that the stockpiled soil consists primarily of materials used as fill on the subject property. Soil from additional excavations that was not segregated for off-property disposal based on PID screening results was periodically added to this pile. These additional excavations, which are discussed below in Section 2.2, were conducted as part of the RAM. On March 7, 2005 a composite soil sample was collected from the subject soil stockpile for laboratory analysis. Pending analytical results, the stockpiled soil, which is estimated at approximately 200 cubic yards (cy), will be removed for disposal. Analytical methods, results, and proposed disposal of the soil are discussed in subsequent sections.

Utility Excavations – Excavations for installation of stormwater system components were completed by JAC on February 24, March 3, March 7, and March 11, 2005. Three excavations were completed for installation of stormwater system components, two of which were approximately 10 to 12 feet in diameter by 13.5 feet in depth, while the third excavation was approximately 7 feet by 10 feet by 8.5 feet in depth. Soil from each of the above-referenced excavations was screened for VOCs using the PID in accordance with the DEP “jar headspace” method. Based on the PID screening results and field observations, soil from each excavation was segregated for re-use or off-property disposal and was stockpiled on the property. Further description of soil segregation, waste characterization sample collection, and off-property disposal is provided below in Section 2.2. The approximate locations of these utility excavations are shown on Figure 2. As mentioned above, excavation to 13.5 feet below grade in two locations to install stormwater system components constituted a deviation from the Construction RAM Plan, which is discussed further in subsequent sections.

## **2.2 New Site Information**

RAM activities conducted to date include excavation oversight, screening of soil samples for VOCs using a PID by the DEP “jar headspace” method, and collection of soil samples for laboratory analysis. Collection of soil samples included “confirmatory” samples from the excavations and soil samples collected from stockpiled soil for waste characterization

purposes. In addition, RAM activities included excavation and removal of the former oil/water separator for the former service station garage. A description of RAM activities conducted to date is provided below. PID screening results are summarized in Table 1, confirmatory sample results are summarized in Table 2, and waste characterization sample results are summarized in Table 3. Locations of the excavations are depicted on Figure 2 and laboratory analytical data reports are included in Appendix A.

Excavation/Removal of Former Oil/Water Separator – JAC removed the former oil/water separator located in the east-central portion of the property in February 2005 and stockpiled potentially-impacted soils from the excavation. The contents of the oil/water separator were removed using a vacuum truck and the oil/water separator was demolished in place. The remnant materials were removed from the excavation and stockpiled for off-property disposal with the petroleum-impacted soil removed from this excavation. The bill of lading and disposal documentation are included in Appendix B. On February 15, 2005, Jacques Whitford assessed the excavation to remove the former oil/water separator. The spherical-shaped excavation was approximately 10 feet in diameter by 8 feet deep. Soil from the excavation was stockpiled on polyethylene sheeting as potentially-impacted soil based on visual and olfactory indications. Nine soil samples were collected by Jacques Whitford from the excavation base and walls for screening with the PID. PID screening results indicated levels ranging from non-detect to approximately 3 parts per million by volume (ppmv). Based on the PID results and field observations, additional excavation of soil did not appear warranted.

Observation of soil excavated from this area indicated that the soil consists of sandy silt with gravel and debris (including bricks and concrete) to approximately three to five feet below grade, underlain by fine to medium grained sand with silt. Five confirmatory soil samples were collected (designated SW-1 through SW-4 and Bottom), one each from the four walls and the base of the resulting excavation, for laboratory analysis. The sampling locations were determined based on field observations indicating these areas had a higher likelihood of containing impacted soil. The samples were submitted to Spectrum Analytical, Inc. (Spectrum) for analysis of volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) by DEP methods and total lead. The analyses were performed in accordance with presumptive quality objectives established by DEP. In addition, a composite soil sample was collected from the stockpile, which was composited from 11 discrete locations. The soil pile was covered by polyethylene sheeting following collection of the waste characterization sample. The composite sample was analyzed for VPH with target analytes, EPH with target polynuclear aromatic hydrocarbon (PAH) analytes, total Resource Conservation and Recovery (RCRA)-8 metals, total organic halides, ignitability, pH, reactivity, reactive cyanide, and reactive sulfide. The portion of the sample analyzed for VPH was collected as a grab sample from a discrete location. In addition, due to an elevated concentration of lead detection during the total metals analysis, the composite sample was also analyzed for Toxicity Characteristic Leaching Procedure (TCLP) lead. The results of the TCLP lead analysis concluded that the soil

should not be classified as a hazardous waste. Based on the results of the waste characterization samples, the soil was approved for asphalt-batch recycling at American Reclamation Corporation (ARC) in Eliot, Maine.

Results of the five confirmatory samples indicated VPH, EPH, VOCs, PAHs, and metals were detected above laboratory detection limits in one or more samples. A screening comparison was conducted of these results. Benzo [a] pyrene and benzo [b] fluoranthene were detected in soil samples SW-3 and SW-4, which were collected from the southern end of the excavation approximately 6.5 feet below grade, above applicable MCP Method 1 standards. In addition, benzo [a] pyrene was detected in the sample collected from the base of the excavation (approximately 8 feet below grade) above applicable MCP Method 1 standards and lead was detected in sample SW-3 above applicable MCP Method 1 standards. The above-referenced detected parameters exceed Reportable Concentrations as well.

Following receipt of the composite soil sample results and completion of the Bill of Lading (BWSC-12) for the soil, approximately 60.3 tons of soil was transported by Global Remediation and Contracting Services, Inc. (Global) to the ARC facility in Eliot, Maine for asphalt batch recycling. Jacques Whitford observed and documented the loading of the soil for transportation to ARC on March 7, 2005. Disposal documentation, including a copy of the Bill of Lading (BWSC-12), is included in Appendix B.

February 25, 2005 Utility Excavation – An excavation to install a cylindrical-shaped dry well (designated dry well #2) for the property stormwater system was initiated by JAC on February 24, 2005. The dry well excavation is located on the south side of the new building on the northwestern portion of the property. Soil from the excavation was stockpiled adjacent to the excavation. At approximately three feet below grade, JAC encountered an approximate 290-gallon riveted steel tank. On February 25, 2005, Jacques Whitford assessed the riveted tank, which had been opened by JAC. Based on the tank construction, it did not appear that the tank was designed to store OHM and the appearance resembled a tank that would be used to store condensate or water for a former steam heating system. In general, the riveted tank appeared to be in fair condition and areas of apparent corrosion were observed. The damage to the top seam of the tank was related to removal of the tank using the excavator. The resulting excavation following the removal of the tank was approximately 6.5 feet in depth. Jacques Whitford collected a fluid sample from the tank using a polyethylene bailer. Based on field observations, the fluid in the tank appeared to be water and assessment of the fluid sample did not indicate a visible sheen, separate phase product, or a discernable odor. Five soil samples were collected from the excavation, one each from the four walls and the base for field screening of VOCs using a PID. One sample was collected from the water in the tank. PID screening results did not indicate the presence of VOCs. Based on the absence of PID screening results and visual/olfactory information indicating the presence of OHM, collection of soil samples for laboratory analysis did not appear warranted. The tank is stored on the property near

the construction trailer. The tank will be removed from the property as scrap metal.

Based on discussion with JAC and information regarding the design of the dry well, the excavation was not anticipated to extend deeper than the base of the riveted tank (approximately 6.5 feet below grade). However, due to construction issues and the necessary stormwater capacity requirements, JAC extended the excavation to approximately 13.5 feet below grade to accommodate the dimensions of the dry well. During excavation, JAC encountered soil exhibiting visual and olfactory indication of petroleum impacts and stockpiled the soil adjacent to the excavation. On March 4, 2005, Jacques Whitford visited the property to assess the soils and segregate impacted soils for off-property disposal. JAC removed soil from the excavation stockpile in approximate five yard increments for screening by Jacques Whitford. Jacques Whitford collected soil samples for field screening using the PID from the opened face of the stockpile. Based on PID field screening results, which ranged from non-detect to 210 ppmv, soil was segregated onto polyethylene sheeting. Soil not segregated for off-property disposal was placed with the soil removed during the grading process discussed above. Following completion of soil segregation, a composite soil sample was collected from the resulting stockpile for analysis of total lead and TCLP lead as required by the disposal facility, ARC. The results of TCLP lead analysis concluded that the soil should not be classified as a hazardous waste. Based on the results of the waste characterization samples, the soil was approved for asphalt-batch recycling at ARC. The construction of the dry well #2 location remains incomplete pending further evaluation of environmental conditions.

Following receipt of the composite soil sample results and completion of the Bill of Lading (BWSC-12) for the soil, approximately 74.43 tons of soil was transported by Global to ARC for recycling. Jacques Whitford observed and documented the loading of the soil for transportation to ARC on March 10, 2005. Disposal documentation, including a copy of the Bill of Lading (BWSC-12), is included in Appendix B.

March 7, 2005 Particle Separator Excavation – On March 7, 2005, JAC completed an excavation with approximate dimensions of 7 feet by 10 feet by 8.5 feet in depth to install a concrete particle separator for the stormwater system. Excavation activities were observed by Jacques Whitford and soil samples were collected periodically for field screening using a PID. PID screening results did not indicate the presence of VOCs. Based on the PID screening results and the absence of visual/olfactory indicators of contamination, the soil from this excavation was not segregated for off-property disposal and confirmatory samples were not collected. The soil was stockpiled with soil removed during the grading process discussed above.

In addition, on March 7, 2005, Jacques Whitford collected a composite soil sample for waste characterization from an approximate 300 ton (200 cy) soil stockpile on the property. This soil pile includes material from the December 2004 grading discussed above and soil removed from excavations as part of this RAM that, based on PID screening results and

field observations, was not segregated for off-property recycling. Due to space limitations at the property that impeded additional construction work, it was requested that this stockpile also be characterized to remove from the property. Jacques Whitford collected a composite soil sample from five discrete locations and submitted the sample to Spectrum for analysis. The sample was analyzed for VOCs, SVOCs, TPH, total RCRA-8 metals, flash point, pH, reactivity, reactive cyanide, and reactive sulfide. The portion of the sample analyzed for VOCs was collected as a grab sample from each discrete location in five separate containers with methanol preservative and was composited by Spectrum. Analytical results were pending at the time of this report and the soil is scheduled to be transported off-property for recycling or disposal in late March 2005, which is discussed further in Section 4.0.

March 11, 2005 Dry Well Excavation – JAC completed an excavation for a second dry well (designated dry well #1) in the southern portion of the property, southwest of the southern wall of the building. The resulting cylindrical-shaped excavation was approximately 10 to 12 feet in diameter by 13.5 feet in depth. Jacques Whitford observed the excavation and collected soil samples periodically for field screening using a PID. Eleven samples were collected with PID screening results ranging from non-detect to approximately 104 ppmv. PID screening results above non-detect, dark gray staining, and petroleum odors were observed in soils starting at approximately 10 feet below grade. Soils excavated below approximately 10 feet were segregated for off property disposal. Soil excavated from grade to approximately 10 feet was stockpiled in a separate pile for re-use on the property or later off-property disposal.

After completion of the excavation required for the dry well installation, five confirmatory soil samples were collected from the excavation, one from each wall and the base. Soil sample locations were determined based on the highest PID screening results. The five samples, designated W-1 through W-4 and Bottom, were submitted to Spectrum for analysis of VPH and EPH with target analytes by DEP methods and total lead. The analyses were performed in accordance with presumptive quality objectives established by DEP. In addition, a composite soil sample, which was composited from five discrete locations, was collected from the stockpile for waste characterization purposes. The soil pile was covered by polyethylene sheeting following collection of the waste characterization sample. The composite sample was analyzed for VOCs, semi-VOCs (SVOCs), total petroleum hydrocarbons (TPH), total RCRA-8 metals, total organic halides, flash point, pH, reactivity, reactive cyanide, and reactive sulfide. The portion of the sample analyzed for VOCs was collected as a grab sample from each discrete location in five separate containers with methanol preservative and was composited by Spectrum. Analytical results were pending at the time of this report and the soil is scheduled to be transported off-property for recycling or disposal in late March 2005, which is discussed further in Section 4.0.

Sample results for the five confirmatory samples indicate VPH, EPH, PAHs, and lead were detected above laboratory detection limits in one or more of the samples. Sample results did not indicate detection of the above-referenced parameters at concentrations exceeding applicable MCP Method 1 S-2/GW-2 standards or MCP Reportable Concentrations.

### **3.0 REMEDIATION WASTE**

As discussed above, remediation waste generated to date at the subject property includes petroleum-impacted soil, soil comprised of urban fill (soil in the 200 cy stockpile sampled on March 7, 2005), demolition debris and contents of the former oil/water separator, and an approximate 290-gallon riveted tank and its contents. To date, approximately 134.73 tons (approximately 205 cy) of petroleum-impacted soil has been transported to ARC for asphalt-batch recycling. In addition, this material included the former oil/water separator demolition debris (primarily concrete). The contents of the former oil/water separator were transported off-site for disposal. Disposal documentation is included in Appendix B.

Future remediation waste is anticipated to include the two soil stockpiles currently on the property (discussed above), which are anticipated to be disposed at the City of Brockton, Thatcher Street Landfill and the 290-gallon riveted tank and its contents. Additional soil generated at the subject property will be characterized and disposed off-property at an appropriate facility, as necessary.

### **4.0 MONITORING DATA**

Monitoring data was not collected during this reporting period.

### **5.0 REVIEW OF SITE CONDITIONS**

#### **5.1 Changes in Site Conditions**

As discussed above, changes in conditions of the subject Disposal Site have not been observed to date. Although detection of parameters above method 1 standards, including benzo [a] pyrene, benzo [b] fluoranthene, and lead, was observed in three samples collected from the oil/water separator excavation, the concentrations were well below the maximum concentrations of these compounds observed during previous investigations except for lead. In the case of the elevated lead detection, the sample was analyzed for TCLP lead and the results did not indicate the soil would be classified as hazardous waste.

Based on the analytical results of RAM samples, observed impacts during RAM activities were consistent with measures presented in the Soil Management Plan and do not warrant a modification to the RAM Plan. Also, based on the above discussion, a condition of no significant risk still exists at the property.



As discussed above and in Section 7.0 below, excavation in two locations to depths greater than 6 feet below grade to install stormwater system components occurred. Although petroleum-impacted soil was encountered during excavation in these two locations, concentrations above Method 1 standards were not observed in samples submitted for analysis. Therefore, this change in construction activities did not result in an addition or change of exposure pathways or result in significant risk to potential receptors (i.e., construction works, residents living in abutting properties, or future occupants of the commercial building under construction). Soil stockpiled on the property was covered with polyethylene sheeting when not in use. Also, since the construction work was conducted in observed wet conditions due to the work being completed during winter months, dust was not an issue. Since protocols outlined in the Soil Management Plan (as presented in the November 2004 RAM Plan) adequately address the handling of the impacted soil and excavation to depths below those planned in the RAM Plan, modification of the RAM Plan does not appear warranted at this time.. The soil removed from these excavations has been characterized and either has or will be transported off-site for disposal or recycling at an appropriate facility in accordance with state and federal regulations.

In addition, during RAM activities, as discussed above, a 290-gallon riveted steel tank was encountered approximately 3 feet below grade during excavation for the installation of dry well #2. There was no indication that OHM is associated with the tank or the soils within the excavation from which the tank was removed. Due to the absence of evidence indicating OHM related to the riveted tank, discovery of the tank does not change the environmental conditions of the subject Disposal Site.

## **5.2 Other Site Information**

The above-referenced changes in construction activities did not result in an addition or change of exposure pathways or result in significant risk to potential receptors (i.e., construction works, residents living in abutting properties, or future occupants of the commercial building under construction). Since protocols outlined in the Soil Management Plan (as presented in the November 2004 RAM Plan) adequately address the handling of the impacted soil and excavation to depths below those planned in the RAM Plan, modification of the RAM Plan does not appear warranted at this time. If conditions change such that the Soil Management Plan does not adequately address handling of the excavation tasks being conducted in the RAM, conditions will be re-evaluated and modifications to the RAM Plan will be completed.

## **6.0 FUTURE ACTIVITIES**

### **6.1 Planned Future Construction Activities**

As mentioned above, construction at the subject property is currently on-going. Future construction activities currently planned include completing the building, completing installation of the stormwater system, and re-grading, landscaping, and paving the property. These activities will be periodically monitored by the LSP or his designee.

### **6.2 Planned Future RAM Activities**

Additional RAM activities planned for the subject property are related to the remaining construction activities to be completed. In addition, as stated above, stockpiled soil that has been characterized will be transported to an appropriate disposal or recycling facility. Future RAM activities will include the following, which are listed below.

- Oversight and documentation of removal of stockpiled soil from the dry well #1 excavation (completed on March 11, 2005) and from the approximate 200 cy soil pile sampled on March 7, 2005, which resulted from various areas of the subject property as described above. It is anticipated that these two soil stockpiles will be disposed as cover material at the City of Brockton, Thatcher Street Landfill (Division of Solid Waste Permit # ACO-SE-01-4005).
- Removal of the 290-gallon riveted tank off the property as scrap metal.
- Periodic oversight of the above-referenced remaining construction tasks.
- Oversight of remaining excavation work including screening of soil for VOCs in sample head-space using a PID in accordance with the DEP "jar headspace" method. Confirmatory samples may be collected for laboratory analysis, if PID screening results or field observations indicate that sampling is warranted. Soil will be segregated, as necessary, based on PID screening results and field observations.
- Collection of waste characterization soil samples for stockpiled soil generated as part of remaining construction activities to determine the appropriate disposal alternative. Removal of remaining soil will be observed and documented.

RAM activities are expected to be completed in May 2005.

## **7.0 LICENSED SITE PROFESSIONAL OPINION**

The Construction RAM activities conducted to date were conducted in general conformance with the Construction RAM Plan submitted to DEP on November 22, 2004. However, excavation in two locations for installation of stormwater system components

were extended below six feet to a depth of approximately 13.5 feet. In addition, during RAM activities, a riveted steel tank was encountered during excavation for the stormwater system. As discussed in previous sections, the Soil Management Plan adequately addresses handling of soil associated with the above excavation and modification of the RAM Plan does not appear warranted

