

**IMMEDIATE RESPONSE ACTION COMPLETION REPORT**

**CONSTRUCTION OF A COMMERCIAL BUILDING AT  
2472-2484 MASSACHUSETTS AVENUE  
CAMBRIDGE, MASSACHUSETTS  
RTN 3-24298**

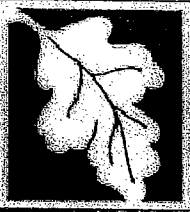
**DECEMBER 2004**





TRANSMITTAL LETTER						
TO: MR. KYLE MACAFEE			DATE: DECEMBER 3, 2004			
BUREAU OF WASTE SITE CLEANUP			CLIENT: VLW REALTY TRUST			
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION			PROJECT: 2480 MASSACHUSETTS AVENUE			
ONE WINTER STREET			MACTEC PROJECT No.: 3650040007			
BOSTON, MA 02108						
PHONE:			DELIVERY: BY INDIVIDUAL			
			PLEASE FIND ENCLOSED AN IRA COMPLETION REPORT FOR THE PROPERTY AT 2472-2484 MASSACHUSETTS AVENUE, CAMBRIDGE, MA, RTN 3-24298			
			IF YOU HAVE ANY QUESTIONS, PLEASE DO NOT HESITATE TO CALL BOB NICOLORO AT 781-245-6606.			
			THANK YOU.			
<input checked="" type="checkbox"/> INFORMATION <input type="checkbox"/> ESTIMATING <input type="checkbox"/> COMMENTS AND/OR APPROVAL			<input type="checkbox"/> PURCHASING <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SEE REMARKS			
			PREPARED BY: MIKE APFELBAUM			
NUMBER	REVISION No.	No. OF COPIES	TITLE OR DESCRIPTION			
1		1	IMMEDIATE RESPONSE ACTION (IRA) COMPLETION REPORT FOR THE CONSTRUCTION OF A COMMERCIAL BUILDING AT 2472-2484 MASSACHUSETTS AVENUE, CAMBRIDGE, MA, RTN 3-0013232			
1		1	MADEP BWSC-105 TRANSMITTAL FORM			
DISTRIBUTION: T = TRANSMITTAL LETTER; C = COPY OF DOCUMENT						
		T	C		T	C

MACTEC Engineering and Consulting  
 107 Audubon Road, Suite 301  
 Wakefield, MA 01880  
 Phone No.: (781) 245-6606 Fax No.: (781) 246-5060



RELEASE NOTIFICATION & NOTIFICATION  
RETRACTION FORM

Release Tracking Number

3 - 24298

Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

A. RELEASE OR THREAT OF RELEASE LOCATION:

1. Release 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

B. THIS FORM IS BEING USED TO: (check one)

- 1. Submit a Release Notification
- 2. Submit a Retraction of a Previously Reported Notification of a release or threat of release including supporting documentation required pursuant to 310 CMR 40.0335 (Section C is not required)

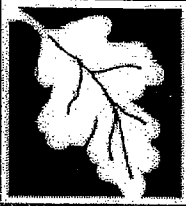
(All sections of this transmittal form must be filled out unless otherwise noted above)

C. INFORMATION DESCRIBING THE RELEASE OR THREAT OF RELEASE (TOR):

1. Date and time of Oral Notification, if applicable: 10/05/2004 Time: 02:10  AM  PM  
mm/dd/yyyy hh:mm  
2. Date and time you obtained knowledge of the Release or TOR: 10/04/2004 Time: 03:00  AM  PM  
mm/dd/yyyy hh:mm  
3. Date and time release or TOR occurred, if known: \_\_\_\_\_ Time: \_\_\_\_\_  AM  PM  
mm/dd/yyyy hh:mm

Check all Notification Thresholds that apply to the Release or Threat of Release:  
(for more information see 310 CMR 40.0310 - 40.0315)

- |   |  |   |
|---|--|---|
| 4. 2 HOUR REPORTING CONDITIONS  | 5. 72 HOUR REPORTING CONDITIONS  | 6. 120 DAY REPORTING CONDITIONS   |
| <input type="checkbox"/> a. Sudden Release                                | <input type="checkbox"/> a. Subsurface Non-Aqueous Phase Liquid (NAPL) Equal to or Greater than 1/2 Inch | <input type="checkbox"/> a. Release of Hazardous Material(s) to Soil or Groundwater Exceeding Reportable Concentration(s)       |
| <input type="checkbox"/> b. Threat of Sudden Release                      | <input checked="" type="checkbox"/> b. Underground Storage Tank (UST) Release                            | <input type="checkbox"/> b. Release of Oil to Soil Exceeding Reportable Concentration(s) and Affecting More than 2 Cubic Yards  |
| <input type="checkbox"/> c. Oil Sheen on Surface Water                    | <input type="checkbox"/> c. Threat of UST Release  | <input type="checkbox"/> c. Release of Oil to Groundwater Exceeding Reportable Concentration(s)                                 |
| <input type="checkbox"/> d. Poses Imminent Hazard                         | <input type="checkbox"/> d. Release to Groundwater near Water Supply                                     | <input type="checkbox"/> d. Subsurface Non-Aqueous Phase Liquid (NAPL) Equal to or Greater than 1/8 Inch and Less than 1/2 Inch |
| <input type="checkbox"/> e. Could Pose Imminent Hazard                    | <input type="checkbox"/> e. Release to Groundwater near School or Residence                              |   |
| <input type="checkbox"/> f. Release Detected in Private Well              | <input type="checkbox"/> f. Substantial Release Migration  |   |
| <input type="checkbox"/> g. Release to Storm Drain                        |  |   |
| <input type="checkbox"/> h. Sanitary Sewer Release (Imminent Hazard Only) |  |   |



**RELEASE NOTIFICATION & NOTIFICATION  
RETRACTION FORM**

Release Tracking Number

3 - 24298

Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

**C. INFORMATION DESCRIBING THE RELEASE OR THREAT OF RELEASE (TOR): (cont.)**

7. List below the Oils (O) or Hazardous Materials (HM) that exceed their Reportable Concentration (RC) or Reportable Quantity (RQ) by the greatest amount.

O or HM Released	CAS Number, if known	O or HM	Amount or Concentration	Units	RCs Exceeded, if Applicable (RCS-1, RCS-2, RCGW-1, RCGW-2)
Total Organic Vapors	-	O	>100	PPMV	N/A

8. Check here if a list of additional Oil and Hazardous Materials subject to reporting is attached.

**D. PERSON REQUIRED TO NOTIFY:**

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

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

13. Check here if attaching names and addresses of owners of properties affected by the Release or Threat of Release, other than an owner who is submitting this Release Notification (required).

**E. RELATIONSHIP OF PERSON TO RELEASE OR THREAT OF RELEASE:**

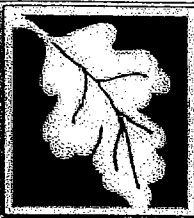
1. RP or PRP  a. Owner  b. Operator  c. Generator  d. Transporter

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 Otherwise Required to Notify Specify Relationship: \_\_\_\_\_



RELEASE NOTIFICATION & NOTIFICATION  
RETRACTION FORM

Release Tracking Number

3 - 24298

Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

F. CERTIFICATION OF PERSON REQUIRED TO NOTIFY:

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 Signature 3. Title: Manager

4. For: ULW Realty (Name of person or entity recorded in Section D) 5. Date: 12/03/04 mm/dd/yyyy

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

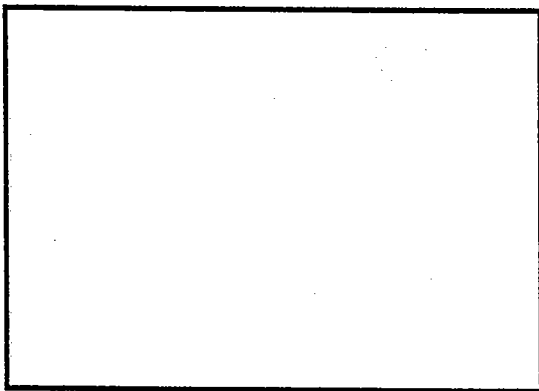
7. Street: \_\_\_\_\_

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:)





**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL  
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 24298

**A. RELEASE OR THREAT OF RELEASE LOCATION:**

1. Release 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. Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114. Specify Program (check one):

a. CERCLA  b. HSWA Corrective Action  c. Solid Waste Management  
 d. RCRA State Program (21C Facilities)

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

1. List Submittal Date of Initial IRA Written Plan (if previously submitted): \_\_\_\_\_  
(mm/dd/yyyy)

2. Submit an **Initial IRA Plan**.

3. Submit a **Modified IRA Plan** of a previously submitted written IRA Plan.

4. Submit an **Imminent Hazard Evaluation**. (check one)

- a. An Imminent Hazard exists in connection with this Release or Threat of Release.
- b. An Imminent Hazard does not exist in connection with this Release or Threat of Release.
- c. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.
- d. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.

5. Submit a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard**.

6. Submit an **IRA Status Report**.

7. Submit an **IRA Completion Statement**.

a. Check here if future response actions addressing this Release or Threat of Release notification condition will be conducted as part of the Response Actions planned or ongoing at a Site that has already been Tier Classified under a different Release Tracking Number (RTN). When linking RTNs, rescoring via the NRS is required if there is a reasonable likelihood that the addition of the new RTN(s) would change the classification of the site.

b. Provide Release Tracking Number of Tier Classified Site (Primary RTN): 3 - 13232

These additional response actions must occur according to the deadlines applicable to the Primary RTN. Use the Primary RTN when making all future submittals for the site unless specifically relating to this Immediate Response Action.

8. Submit a **Revised IRA Completion Statement**.

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



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM**  
Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number  
**3** - **24298**

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

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 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)

- 1. Assessment and/or Monitoring Only
- 2. Temporary Covers or Caps
- 3. Deployment of Absorbent or Containment Materials
- 4. Temporary Water Supplies
- 5. Structure Venting System
- 6. Temporary Evacuation or Relocation of Residents
- 7. Product or NAPL Recovery
- 8. Fencing and Sign Posting
- 9. Groundwater Treatment Systems
- 10. Soil Vapor Extraction
- 11. Bioremediation
- 12. Air Sparging
- 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 60

ii.a. Receiving Facility: American Reclamation    Town: Charlton    State: MA

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

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

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

ii. Off Site    Estimated volume in cubic yards \_\_\_\_\_

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

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





**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL  
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 24298

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

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: (3) 6,000 gallon tanks

b. Receiving Facility: Grants Town: Readville State: MA

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

15. Removal of Other Contaminated Media:

a. Specify Type and Volume: 870 gallons water with gasoline residuals from tank cleaning

b. Receiving Facility: Zecco Town: Northborough State: MA

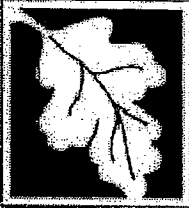
c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

16. Other Response Actions:

Describe: \_\_\_\_\_

17. Use of Innovative Technologies:

Describe: \_\_\_\_\_



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL  
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 24298

**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 an **Immediate Response Action 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) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an **Imminent Hazard Evaluation** is being submitted, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation comply(ies) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that an **Immediate Response 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;

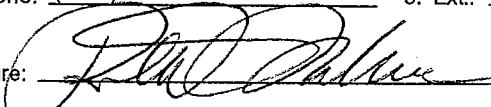
> if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard** is being submitted, the response action(s) that is (are) the subject of this submittal (i) 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

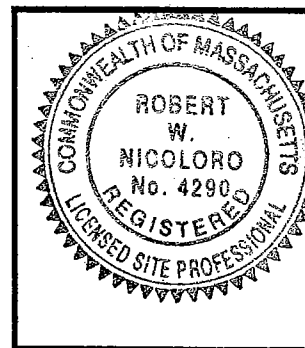
2. First Name: Robert 3. Last Name: Nicoloro

4. Telephone: (781) 245-6606 5. Ext.: 5632 6. FAX: (781) 246-5060

7. Signature: 

8. Date: 12-3-04  
(mm/dd/yyyy)

9. LSP Stamp:





**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 24298

**F. PERSON UNDERTAKING IRA:**

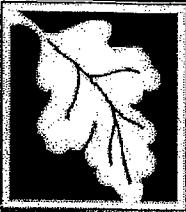
1. Check all that apply:  a. change in contact name  b. change of address  c. change in the person undertaking response actions
2. Name of Organization: VLW Realty Trust
3. Contact First Name: Brandon 4. Last Name: Woolkalis
5. Street: 10 Chatham Street 6. Title: Manager
7. City/Town: Cambridge 8. State: 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 IRA:**

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 IRA Specify Relationship: \_\_\_\_\_

**H. REQUIRED ATTACHMENT AND SUBMITTALS:**

1. Check here if any Remediation Waste, generated as a result of this IRA, will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement. If this box is checked, you must submit one of the following plans, along with the appropriate transmittal form.  
 a. A Release Abatement Measure (RAM) Plan (BWSC106)  b. Phase IV Remedy Implementation Plan (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 an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Completion Statement for an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
5. 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.
6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL  
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 24298

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

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: 12/3/04  
(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.

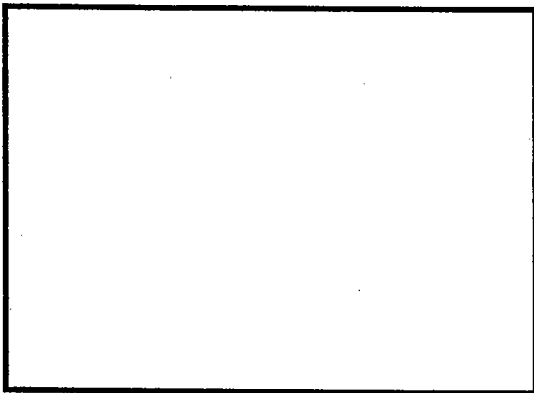
7. Street: \_\_\_\_\_

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

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

**YOU 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:)



**IMMEDIATE RESPONSE ACTION COMPLETION REPORT**

**CONSTRUCTION OF A COMMERCIAL BUILDING AT  
2472-2484 MASSACHUSETTS AVENUE  
CAMBRIDGE, MASSACHUSETTS  
RTN 3-24298**

***Prepared for:***

VLW Realty Trust  
2480 Massachusetts Avenue  
Cambridge, Massachusetts

***Prepared by:***

MACTEC Engineering and Consulting, Inc.  
107 Audubon Road  
Wakefield, Massachusetts

**Project Number: 3650040007.13**

**December 2004**

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- Figure 2 Site Plan



## 1.0 GENERAL INFORMATION

On behalf of VLW Realty Trust (VLW), MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this Immediate Response Action (IRA) Completion Report in accordance with the MCP (310 CMR 40.0427) following the release of oil and/or hazardous materials and implementation of response actions related to the removal of underground gasoline storage tanks at property located at 2472-2484 Massachusetts Avenue in Cambridge, Massachusetts, otherwise referenced at 2480 Massachusetts Avenue and the Site. This IRA Completion Report summarizes findings and conclusions regarding the stabilization and mitigation of conditions at the Site relative to this release. This release event is also identified by the Release Tracking Number of RTN 3-24298. The Licensed Site Professional (LSP) of Record is:

Mr. Robert Nicoloro (License Number 4290)  
MACTEC Engineering and Consulting, Inc.  
107 Audubon Road, Suite 301  
Wakefield, Massachusetts 01880  
Phone: (781) 245-6606  
Fax: (781) 246-5060

## 1.1 PARTY CONDUCTING IRA COMPLETION REPORT

The party responsible for the submission of the IRA Completion Report and the current owner of the Site is:

VLW Realty Trust  
10 Chatham Street  
Cambridge, Massachusetts 02142  
Contact: Mr. Brandon Woolkalis  
617-216-2000  
Alternate Contact: Nicholas Leo  
617-962-2080

VLW has requested that MACTEC conduct LSP services to complete Response Actions at the Disposal Site related to this IRA, and to continue Comprehensive Response Actions involving the entire property as it is defined as a Disposal Site under the Massachusetts Contingency Plan (MCP) due to the presence of oil and hazardous materials in the form of residual and weathered petroleum related constituents discovered in soil and groundwater. The Disposal Site has been assigned the RTN of 3-13232, which is independent of this IRA. With the completion of the IRA, the IRA RTN 3-24298 will be linked to RTN 3-13232.

## 1.2 DISPOSAL SITE HISTORY

The property was used as a gasoline service station from the 1930s until August 2004 when the property was sold to VLW Realty Trust. There were three cathodically protected, 6,000-gallon, single wall steel USTs present on site that were formerly used to store gasoline (GES, 1995). The subject property is Tier Classified as Tier II, and currently undergoing environmental assessment Phase II Supplemental Comprehensive Site Assessment (Phase II) and Phase III Identification and Selection of Comprehensive Remedial Action Alternatives (Phase III). The Phase III is in its

initial conception following on-going supplemental Phase II actions. The Supplemental Phase II is being conducted to evaluate temporal and spatial variation groundwater contamination, and confirmation of the extent of the contaminate migration at the Disposal Site.

Oil and hazardous materials (OHM) present in environmental media were discovered during a site assessment conducted by Groundwater & Environmental Services, Inc., in 1995. This 1995 assessment triggered notification to, and designation of the impacted area as a Disposal Site (RTN # 3-0013232) by the Massachusetts Department of Environmental Protection (MADEP). In 1997 Eklund Associates classified the site as a Tier II under the MCP (Eklund, 1997). The site assessment has identified OHM in groundwater at concentrations that have decreased over time but exceed appropriate MCP standards (risk-based Method 1 standards for GW-2/GW-3 groundwater category). Comprehensive actions are on-going and on an independent schedule from this IRA.

## **2.0 IRA BACKGROUND INFORMATION**

### **2.1 DESCRIPTION OF RELEASE**

During excavation activities performed between September 29 and October 5, 2004, and associated with the removal of USTs at the property being conducted as a Release Abatement Measure (RAM – RAM Plan, MACTEC, September 27, 2004), a change in site conditions occurred based upon detection of total organic vapors above the MCP default criteria of 100 parts per million (ppm) as detected using a headspace screening method (310 CMR 40.0313 (2)). This detection represents the presence of volatile organic vapors at two-end tanks of the three-tank UST series in place at the property. The presence of elevated volatile organic vapor headspace results triggered Release Notification to the MADEP. MACTEC contacted the MADEP (Mr. Paul Giddings) on October 5, 2004 within the 72-hour notification time period in accordance with the MCP and notification to the Cambridge Fire Department (Capt. Francis) also on October 5, 2004 as required by the State Fire Marshall Fire Protection Regulations. At the time of notification, a verbal IRA plan was provided to the MADEP and verbally approved by DEP to address the release.

### **2.2 SITE DESCRIPTION**

The Site is located at 2480 Massachusetts Avenue in Cambridge Massachusetts and is situated on an 11,507 square foot parcel of land in a commercial and residential zoned urban neighborhood (Figure 1). Until recently, the property was used as a gasoline service station. Former use of the property included a Firestone Tire store in addition to the gasoline station operations. Currently, the majority of the site is bare ground as recent decommissioning and demolition activities razed the existing building, removed three underground gasoline storage tanks, a gasoline pump island, concrete pads, and an over head canopy that until recently occupied a portion of the Site (Figure 2). New construction has been initiated at the Site since the removal of the USTs and remediation waste from the subject release. These continued activities are being conducted under a RAM.

### **2.3 SURROUNDING RECEPTORS**

#### **2.3.1 Human Receptors**

Soils in the area of the subject USTs were identified as fine to medium sand overlain by approximately three feet of coarse sand and medium gravel. The terrain is mostly flat with a slight grade to the south and south west. The property is bound to the east by a mixed-use commercial and residential building, which was formerly a cold storage warehouse. Massachusetts Avenue forms the boundary of the property to the north, Edmunds Street forms the boundary of the property to the west and southwest, commercial property is at the boundary of the subject property to the south. Residential homes are located approximately 35 feet from the property to the south west across Edmunds Street. The surrounding area is urban and densely populated with residential and commercial/light industrial land use. A temporary chain-link fence currently restricts access to the property. No exposures to site soils are anticipated for pedestrians passing by the property. However, there is a potential for trespassers to access the Site.

### 2.3.2 Ecological Receptors

The property is located in an urban area with congested buildings and asphalt pavement. The property is also located within the Mystic River Basin. The closest surface water body is Alewife Brook, located approximately 1,300 feet to the north, northwest. According to the Massachusetts Surface Water Quality Standards (314 CMR 4.00), this water is classified as Class B surface water. Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated, they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value. Based on the distance of the Site from the Alewife Brook and the fact that detected concentrations of OHM are below the GW-3 Method 1 standards at the boundary of the Disposal Site, the Alewife Brook is not considered to be a potential point of ecological exposure.

According to the Massachusetts Natural Heritage Atlas, 2003 Edition there are no Priority Habitats of Rare Species, Estimated Habitats of Rare Wildlife, or Certified Vernal Pools on the Disposal Site within the City of Cambridge or within the nearby Cities of Somerville and Arlington.

An evaluation of Imminent Hazard was conducted relative to this IRA. In accordance with 310 CMR 40.0953, the focus of an Imminent Hazard Evaluation shall be on the actual or likely exposures to Human and Environmental Receptors under current site conditions, considering the current use(s) of the disposal site and surrounding environment. The subject release does not pose an Imminent Hazard because under the actual current use of the property, there is no potentially complete exposure pathways to residual contamination associated with the release. Specifically:

- The area of the property that is the subject of this IRA is within an unpaved lot that is undergoing construction.
- The area of the IRA is limited to soil adjacent to the UST and pump island area where soil screening using headspace analysis has triggered notification, and where soil removal actions have removed impacted soil from the subject release.
- OHM associated with the release were confined to soils deeper than one foot below ground surface. In accordance with 310 CMR 40.0953(2), soil-related exposure consideration in an Imminent Hazard Evaluation is limited to evaluated for OHM within the top 12 inches of ground surface.
- There are no buildings within 15 feet of the IRA area; therefore, potential migration of vapors to indoor air is not a complete exposure pathway.
- There are no Critical Exposure Pathways.

### 3.0 DESCRIPTION OF WORK COMPLETED

The following presents a summary of actions related to the removal of three USTs and the former pump service islands from the Site identified as 2480 Massachusetts Avenue that initially were being conducted in accordance with a RAM Plan (MACTEC September 2004). These removal activities however were then converted to response actions conducted under IRA conditions based upon elevated PID readings (>100 ppm) from soil samples collected following UST removal at depths of greater than two feet below the ground surface. The work was completed under the regulatory vehicle of the IRA. The RAM actions ceased to apply at the point the IRA was initiated.

#### 3.1 EXCAVATION ACTIVITIES

On September 29, 2004, work began to excavate the concrete slabs associated with the former gasoline service station. These concrete slabs covered the USTs and provided the traffic surface and foundation features of the pump islands. The concrete was removed for off-site disposal as clean construction debris. The slabs were approximately six-inches thick. The slab covering the USTs was the first concrete slab to be removed. Following the removal of the concrete slab, overburden soil at the fill pipes of the three USTs was screened using the jar-headspace technique as specified in Appendix A of the Commonwealth of Massachusetts Storage Tank Closure Assessment Manual. Please refer to Figure 2 for the location of these USTs at the site.

On October 1, 2004, overburden soil was excavated from the area of UST No. 3 fill pipe and stockpiled on site separate from other soil based upon elevated headspace readings (275-375 ppm) from a sample taken around the fill pipe of UST No. 3. Approximately six cubic yards of excavated material from the fill pipe region of UST No. 3 were stockpiled on Site pending disposal characterization sampling and analysis for off-site disposal.

The physical removal actions all three USTs began on October 1, 2004. Each tank had been emptied of fuel by the previous owner of the property. All three empty USTs were uncovered and product lines were evacuated using a vacuum truck. Product piping and other appurtenances were then disconnected and removed. The first UST to be removed was attached by cable to the bucket of the excavator at the lift hook at one top end of the UST and tipped up to allow residual product and sludge to accumulate at the lower end of the tank. The top-end manway to the tank was accessed, vapors were safely evacuated and the residuals in the tank were pumped out using the vacuum truck. Following the rinsing of the tanks on October 4, 2004, all vapors were evacuated and dry ice was introduced to each UST to ensure that all volatiles were transformed into an inert state. A total of 868 gallons of water and residual tank contents were pumped out and removed from the site for proper disposal (Attachment A).

During the excavation of the soil overlying UST No. 1, the bucket of the excavator accidentally jarred the feed line valve of UST No. 1 causing a small amount of gasoline (<1 gallon) from the valve and piping to be released alongside the eastern wall of this UST. The release was immediately observed since the soil around the tank had been removed. Absorbent pads were used to contain the spill.

Visual assessment of each UST revealed that the tanks were in solid structural condition with no evidence of corrosion, deterioration or pitting. Each tank was situated above the water table. All tanks were transported by the James G. Grant Company, Inc. of Hyde Park, MA to their disposal facility.

Once the USTs were removed and the UST graves were exposed, 17 samples were collected from the excavation area (Figure 2). Three samples were collected from the bottom and below each tank grave at a depth of 11.5 feet bgs, two samples were collected from each of the ends of the tank grave for each tank at a depth of 9.5 feet bgs, and a sample was collected at 9.5 feet bgs from the east wall (adjacent to UST No. 1) and from the west wall (adjacent to UST No. 3) of the entire excavation area. All samples were screened using the referenced jar headspace technique. The results of these headspace readings can be found in Table 1. The headspace screened value from sample UST1-BC collected at a depth 11.5 bgs was 1,053 ppm, thus prompting notification to MADEP and actions to remove the underlying soil in the vicinity of this sample location. Excavation was terminated at a depth of 13.5 feet bgs to avoid breaching the water table. A confirmatory sample was screened from this new depth of 13.5 feet bgs (UST1-BC2), which identified a headspace value of 207 ppm. One sample from each tank grave was selected for submission to the analytical laboratory based upon the highest PID concentration for each tank grave. These samples are indicated on Table 1, and the analytical data from EPH, VPH with target analytes, and lead analysis are presented in Table 3.

In addition to the elevated headspace value from the grave of UST No. 1, a similar exceedance of greater than the 100 ppm, the release notification trigger established by the MCP, occurred for a sample collected at the grave bottom of UST No. 3. This sample, UST3-B3, had a headspace value of 132 ppm at a depth of 11.5 feet bgs. Based on this elevated reading, an additional two feet of soil were excavated from the floor of the UST 3 grave on October 5, 2004. A post excavation sample (UST3-BC2) was collected and screened using the jar headspace method. This headspace reading for this sample was 1.7 ppm. This sample was also selected for laboratory analysis (refer to Table 3 for the corresponding analytical data).

The grave of UST No. 3 was backfilled on October 5, 2004 using clean soil from the Site and imported clean structural fill, which was used along the western edge of the grave where the future building would be located. Once the backfill of the tank graves was complete, the pumps were scheduled for removal on October 5, 2004.

Soil samples were collected from beneath each of the pump islands (samples identified as PUMP 1-6) and from the two pipes (PIPE 1 and 2) which connect the service islands (refer to Figure 1). Samples from each pump area were collected from soil immediately underlying the pumps, while samples collected along the two pipes were collected from directly beneath joints in the piping which were located approximately two feet bgs. These samples were screened using the jar headspace technique, the resulting values associated with this procedure are found in Table 2. Values greater than 100 ppm were encountered beneath PUMP 3 (944 ppm), beneath PUMP 4 (648 ppm), and from two feet below PIPE 2 (1804 ppm). As a result of these detections, additional overburden soil was removed to a depth of six feet bgs and stockpiled. Post excavation confirmatory samples from each of the four excavation walls as well as the floor of the excavation were screened using the headspace method. All samples yielded results of that were less than below background; i.e., 0.0 ppm or less than 0.5 ppm. While sample PUMP 3 (2) was submitted for analysis of EPH, VPH with target analytes and lead. This excavation and screening

procedure was repeated at PUMP 4 and PIPE 2, whereby 16 cubic yards of material were removed to a depth of four feet bgs. Eight post excavation soil samples were collected and screened using the headspace method. All samples were less than or at background; i.e., 0.0 ppm or less than 0.5 ppm. Samples PIPE 2 (2) and PUMP 4 (2) were submitted to the laboratory for EPH, VPH with target analytes analyses. The area excavated in the vicinity of PUMP 3 and PUMP 4/PIPE 2 was backfilled with clean structural fill (Figure 2).

### 3.2 ANALYTICAL RESULTS

The analytical data for soil samples submitted as part of the Response Actions associated with the removal of the USTs and the associated piping is provided in Table 3. Four samples were collected from each of the former tank graves and submitted for the following analyses: EPH, VPH, and Lead. Composite soil samples collected from Stockpiles 1 and 2 and analyzed for VOCs and VPH. S-2/GW-2, S-2/GW-3, S-3/GW-3, and the SOIL-UCLs are provided in Table 3 for comparison purposes. The Laboratory Certificates of Analysis are provided as Attachment B.

- Lead was detected in all samples for which the compound was analyzed within the range of 2.6 to 300 mg/Kg.
- Methyl tert butyl ether was detected in one sample, UST 1 BS and had a value of 3.18 mg/Kg.
- C5-C8 Aliphatic compounds were detected in the sample from UST 1 BS, with a value of 3.27 mg/Kg.
- C9-C10 Aromatic compounds were detected in two samples, UST 2 BS and from Stockpile 1, with values of 4.9 mg/Kg and 3.58 mg/Kg, respectively.
- C9-C12 Aliphatic compounds were detected in three samples, UST 2 BS, UST 3 BC(2), and Stockpile 1. Unadjusted values were between 4.61 mg/Kg (UST 3 BC(2)) and 8.08 mg/Kg for UST 2 BS. Adjusted values were 3.18 mg/Kg for UST 2 BS, 4.09 mg/Kg for Stockpile 1, and 4.61 mg/Kg for UST 3 BC(2).
- C9-C18 Aliphatics were detected in only one sample, UST 1 EW, with a value of 13.2 mg/Kg.

Based upon the analytical results, no compounds indicated detected values above the S-2/GW-2, S-2/GW-3, S-3/GW-3, and the SOIL-UCLs standards.

### 3.3 SOIL MANAGEMENT

All contaminated soil encountered during excavation activities was segregated from soil that was not contaminated by volatile organic compounds, based on headspace results, and was staged on 6-mil polyethylene sheeting within a constructed bermed area on site. Waste characterization samples were collected from the temporary stockpiled soil to determine waste disposal requirements. The laboratory results are provided in Table 3. The stockpile was covered with 6-mil polyethylene sheeting and secured with tires and hay bales at the end of each workday. The stockpiled soil was removed from the Site on November 9-10, 2004, transported to the American Reclamation Corporation of Charlton, Massachusetts for recycling in a hot asphalt batch process. Transportation occurred using a licensed transporter and Bill of Ladings. Four triaxle dump trailer loads were required to transport 118.41 tons of stockpiled soil from the Site. The Bills of Lading are provided as Attachment C.

#### **4.0 ADDITIONAL MONITORING AND ASSESSMENT**

The results of soil screening, laboratory analysis, excavation of impacted soil and removal of the UST, and associated piping have resulted in elimination of a potential continuing source, and have reduced concentrations of OHM in the area of the IRA. As discussed above, other Comprehensive Response Actions are on-going to address other OHM issues not associated with the IRA actions and RTN 3-24298. Therefore, there are no additional monitoring activities warranted associated with this IRA.

The building that will be constructed at the property will involve the area of the former pump islands, much of which has been excavated and filled to achieve the removal of impacted soil as described above, and the area of the former UST graves, which have also been excavated to remove impacted soil and backfilled with clean soil. A Focused Risk Assessment and Focused Site Characterization have been completed to support the construction of the building.



## 5.0 LSP OPINION FOR IMMEDIATE RESPONSE ACTION COMPLETION

This opinion represents the facts and data regarding the environmental conditions at the Site and the surrounding vicinity, necessary to render an opinion regarding: (1) the elimination of continuing source of contamination; and (2) completion of immediate response actions in accordance with the MCP (310 CMR 40.0410), including elimination or control of any Imminent Hazards to health, safety, public welfare, and the environment and the elimination, prevention, or mitigation of Critical Exposure Pathway(s) without the continued operation and maintenance of active remedial systems. This LSP Opinion has been prepared by Robert M. Nicoloro (LSP #4290), the LSP of Record for the Site known as 2480 Massachusetts Avenue.

### 5.1 ELIMINATION OF CONTINUING SOURCE CONTAMINATION

The three USTs and associated piping were removed from the Site in addition to the removal of impacted soil, thus successfully eliminating the source of contamination. In addition, the pump islands and the corresponding pipes were removed, further eliminating the source of contamination in the area of the pump islands. Approximately 118 tons of contaminated soil was removed from the Site and shipped to an appropriate recycling/disposal facility (refer to Attachment B). Soil contaminated from the accidental release of gasoline from the valve piping of one UST, and a small area of soil at the bottom of another UST were excavated to remove the impacted soil. Since the USTs were inspected during removal and found to be in sound condition, the release of gasoline to the bottom soils beneath the UST was likely caused by a past or cumulative release during tank filling when the USTs were operational. Soil excavation successfully occurred to remove impacted soil from beneath the area of the pump islands where headspace results indicated a release likely due to cumulative releases during the years of pump island operations. All excavation areas were backfilled with screened clean fill material. In addition to the rescreening of soils following impacted soil excavation, laboratory analytical results collected from these sampled areas do not indicate any detection above the applicable regulatory standards. The presence of or potential for a continuing source at the site associated with this IRA release event (RTN 3-24298) has been eliminated through the IRA actions.

### 5.2 COMPLETION OF IMMEDIATE RESPONSE ACTIONS

An IRA is considered complete when the release, threat of release and/or site conditions which gave rise to the need for the IRA have been assessed and, where necessary, remediated in a manner and to a degree that will ensure, at a minimum:

- (a) *The accomplishment of any necessary stabilization of site conditions.* Site conditions were stabilized following the measurement of PID readings greater than 100 ppm in former UST graves through direct removal of the USTs once they emptied, cleaned, cleared of explosive vapors in a manner consistent with industry practices, and fire protection regulations to ensure an unstable condition does not exist. Furthermore, the extent of the release of gasoline from this area to soils was limited and not a migration threat to off-site or to groundwater. Therefore the necessary stabilization conditions have been met.
- (b) *The elimination or control of any Imminent Hazardous conditions to health, safety, public welfare and the environment, without the continued operation and maintenance of*

*active remedial systems, pending the completion of any necessary Comprehensive Response Actions.*

As set forth in 310 CMR 40.0321(1), the following conditions shall be deemed to pose an imminent hazard:

- i. *a release to the environment which results in the presence of OHM vapors within buildings, structures, or underground utility conduits at a concentration equal to or greater than 10% of the Lower Explosive Limit;*
- ii. *a release to the environment of reactive or explosive materials which threatens human health or safety;*
- iii. *a release to a roadway that endangers public safety; a release to the environment of OHM which poses a significant risk to human health when present for even a short period of time;*
- iv. *a release to the environment of OHM which produces immediate or acute adverse impact to freshwater or saltwater fish populations;*
- v. *a release to the environment indicated by the measurement of OHM in a private drinking water supply well at a concentration equal to or greater than ten times the RCGW-1 Reportable Concentration; or*
- vi. *a release to the environment indicated by the measurement of OHM at a concentration equal to or greater than specified concentrations of certain metals and PCBs at any location within 500 feet of a residential dwelling, school, playground, recreation area or park, unless access by children is controlled or prevented by means of bituminous pavement, concrete, fence or other physical barriers.*

Given the depth of samples collected for headspace screening following the excavation of additionally impacted areas, the significantly lower results from this screening within the former UST grave area, and the fact that the Site is currently devoid of buildings and underground conduits, there is no evidence to support that explosive conditions had or will in the future exist at the Site. No short-term exposures consistent with criteria contained in 310 CMR 40.0950 have been identified. There is no evidence at this time that the contamination from the release will contact or produce immediate or acute adverse impacts to freshwater or saltwater populations.

Based upon UST removal activities, oversight conclusions, field screening and analytical data the sources of contamination associated with this release event have been adequately removed and these sources will not exist in the future.

The Site is not used for residential purposes, and there are no known private or public drinking water supply wells on or in the vicinity of the 2480 Massachusetts Avenue property. The material released includes neither the metals nor PCBs specified in 310 CMR 40.0321(2)(b), nor are schools, playgrounds, recreation areas or parks located in the immediate vicinity of the Site. After evaluating each of the criteria listed in 310 CMR 40.0321, an Imminent Hazard does not exist. The oil and/or hazardous material associated with the release were confined to soils deeper than one foot below the ground surface. No buildings exist within 15 feet of the IRA area and the subject release did not migrate beyond the IRA area of the soils around the USTs and at discrete locations at the pump islands, thus the potential migration of vapors into indoor air is not anticipated.

Based on the Site features and release conditions, as described in preceding paragraphs, it is concluded that the necessary Response Actions have been taken in order to excavate and remove former gasoline USTs and impacted soils. The results from field-screening procedures and analytical data indicate that the source of contamination was known, limited, and successfully removed. It is concluded that site conditions have been stabilized in response to the 72-Hour Release Notification placed to the MADEP on October 5, 2004, and both an Imminent Hazard and Critical Exposure Pathway do not exist at the Site associated with this IRA.

## **TABLES**

TABLE 1  
HEADSPACE SCREENING RESULTS FROM UST REMOVAL ON 10/04/2004

IRA COMPLETION REPORT  
2480 Massachusetts Avenue  
Cambridge, MA

Sample ID	PID Reading	Lithology
<b>UST1 BC</b>	<b>1053</b>	Lt. Brown Coarse Sand, 5-10% Fine Gravel, Gas Odor
UST1 BN	15.9	Lt. Brown Coarse Sand, Faint Gas Odor
<b>UST1 BS</b>	<b>236</b>	Brown Coarse Sand, 15% Fine Gravel, Peculiar Odor
UST1 SW	9	Lt. Brown Coarse Sand
<b>UST1 EW</b>	<b>17.8</b>	Lt. Brown Coarse Sand
UST1 NW	ND	Lt. Brown Coarse Sand
UST2 BC	4.2	Lt. Brown Coarse Sand
<b>UST2 BS</b>	<b>6.4</b>	Lt. Brown Fine Gravel, 30% v. Coarse Sand
UST2 SW	2.7	Lt. Brown Coarse Sand
UST2 BN	1.3	Lt. Brown Coarse Sand
UST2 NW	ND	Lt. Brown Coarse Sand
<b>UST3 BC</b>	<b>132</b>	Lt. Brown Coarse Sand, Faint Gas Odor
UST3 BS	62.8	Lt. Brown Fine Gravel, 30% v. Coarse Sand, Faint Gas Odor
UST3 SW	ND	Lt. Brown Coarse Sand
UST3 BN	9.3	Lt. Brown Coarse Sand
UST3 NW	1.8	Lt. Brown Coarse Sand
UST3 WW	ND	Lt. Brown Coarse Sand
<b>UST1 BC(2)</b>	<b>207</b>	Black Coarse Sand, Old Gas Odor
<b>Notes</b>		
Samples with BC, BN, BS designations were collected at a depth of 11.5' bgs, except UST1 BC(2) which was collected from 13.5' bgs.		
Samples with SW, EW, WW, NW designations were collected at a depth of 9.5' bgs.		
Collected samples were screened using the jar headspace screening method with a Thermo 580B PID.		
PID Reading represents the parts-per-million (ppm) by volume of total organic vapors "as benzene".		
Shaded identifiers denote samples that have been submitted for laboratory analysis.		
Bold Sample IDs and PID readings correspond with samples having PID readings greater than 100 ppm greater than two feet below the ground surface.		

**TABLE 2**  
**HEADSPACE SCREENING RESULTS FROM UST REMOVAL ON 10/05/2004**

**IRA COMPLETION REPORT**  
**2480 Massachusetts Avenue**  
**Cambridge, MA**

<b>Sample ID</b>	<b>PID Reading</b>	<b>Lithology</b>
UST3 BC(2)	1.7	Lt. Brown Coarse Sand
PUMP 1	ND	Lt. Brown Medium Sand, <5% Fine Gravel
PUMP 2	ND	Brown Medium Sand, <5% Fine Gravel
<b>PUMP 3</b>	<b>944</b>	Brown Medium Sand, <5% Fine Gravel, Gas Odor
PIPE 1	ND	Brown Medium to Coarse Sand
<b>PUMP 4</b>	<b>648</b>	Brown Medium Sand and Fine Gravel
<b>PIPE 2</b>	<b>1804</b>	Brown Medium Sand and Fine Gravel
PUMP 5	19.4	Brown Medium Sand and Fine Gravel
PUMP 6	ND	Brown Medium Sand and Fine Gravel
<b>PUMP 3(2)</b>	ND	Brown Medium Sand
PIPE 2SW	ND	Brown Medium Sand and Fine Gravel
PIPE 2EW	ND	Brown Medium Sand and Fine Gravel
PIPE 2NW	ND	Brown Medium Sand and Fine Gravel
PIPE 2WW	ND	Brown Medium Sand and Fine Gravel
PUMP 4SW	ND	Brown Medium Sand and Fine Gravel
PUMP 4WW	ND	Brown Medium Sand and Fine Gravel
<b>PUMP 4(2)</b>	ND	Brown Medium Sand and Fine Gravel
<b>PIPE 2(2)</b>	ND	Brown Medium Sand and Fine Gravel
<b>Notes</b>		
Samples with PUMP designations were collected directly beneath the former service pumps.		
Samples with PIPE designations were collected two feet bgs.		
Collected samples were screened using the jar headspace screening method with a Thermo 580B PID.		
PID Reading represents the parts-per-million (ppm) by volume of total organic vapors "as benzene".		
Shaded identifiers denote samples that have been submitted for laboratory analysis.		
Bold Sample IDs and PID readings correspond with samples having PID readings greater than 100 ppm greater than two feet below the ground surface.		
All samples with a bold identifier were subjected to additional excavation of material and additional confirmatory samples were selected and screened using the headspace method.		

**TABLE 3**  
**SUMMARY OF ANALYTICAL DATA (detects only)**

**IRA COMPLETION REPORT**  
 2480 Massachusetts Avenue  
 Cambridge, MA

Sample ID Depth Date Sampled	S-2/GW-2 MCP	S-2/GW-3 MCP	S-3/GW-2 MCP	S-3/GW-3 MCP	SOIL-UCL MCP	UST 1 BS 11.5' bgs 10/4/2004	UST 1 EW 9.5' bgs 10/4/2004	UST 2 BS 11.5' bgs 10/4/2004	UST 3 BC(2) 13.0' bgs 10/5/2004	PIPE 2(2) 4.0' bgs 10/50/2004	PUMP 3(2) 6.0' bgs 10/5/2004	PUMP 4(2) 4.0' bgs 10/5/2004	STOCKPILE-1 Composite 11/19/2004	STOCKPILE-2 Composite 11/19/2004
<b>Analysis</b>														
<b>Inorganics (mg/Kg)</b>														
Lead, Total	600	600	600	600	6000	14	2.9	8.9	7.8	2.6	200	3		
Solids, Total						94	94	96	94	94	89	92	90	87
<b>VPH (mg/Kg)</b>														
Methyl tert butyl ether	200	200	200	200	5000	3.18	0.17 U	0.206	0.153 U	0.134 U	0.183 U	0.14 U	0.067 U	0.082 U
C5-C8 Aliphatics	500	500	500	500	5000	3.27	2.84 U	2.36 U	2.55 U	2.24 U	3.05 U	2.33 U	1.95 U	2.43 U
C9-C10 Aromatics	500	500	500	500	5000	2.41 U	2.84 U	4.9	2.55 U	2.24 U	3.05 U	2.33 U	3.58	2.43 U
C9-C12 Aliphatics	2500	2500	2500	2500	20000	2.41 U	2.84 U	8.08	4.61	2.24 U	3.05 U	2.33 U	7.68	2.43 U
C9-C12 Aliphatics, Adjusted	2500	2500	2500	2500	20000	2.41 U	2.84 U	3.18	4.61	2.24 U	3.05 U	2.33 U	4.09	2.43 U
EPH (mg/Kg)														
C9-C18 Aliphatics	2500	2500	2500	2500	20000	7.09 U	13.2	6.94 U	7.09 U	7.09 U	7.49 U	7.25 U		

**Notes**

Only compounds that were detected in sampled media are provided.

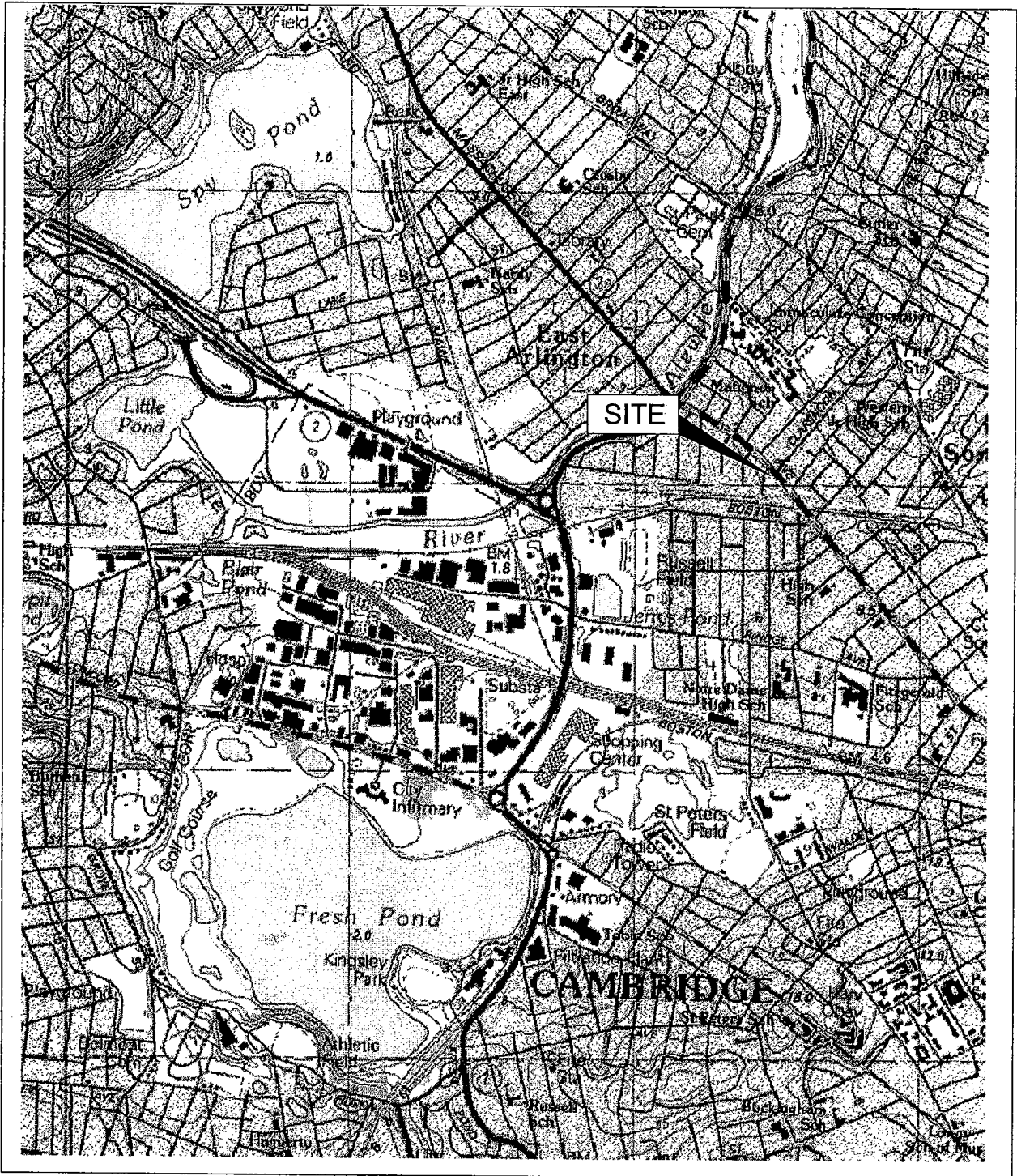
bgs - Below ground surface

VPH - Volatile Petroleum Hydrocarbons

EPH - Extractable Petroleum Hydrocarbons

## **FIGURES**





SOURCE: TOPOZONE, MAPS A LA CARTE, INC.

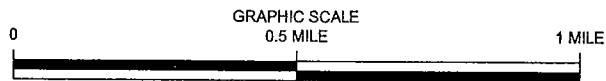


FIGURE 1  
 SITE LOCATION MAP  
 2480 MASSACHUSETTS AVENUE  
 CAMBRIDGE, MASSACHUSETTS



## **ATTACHMENT A**

**Uniform Hazardous Waste Manifest,  
Bills of Lading, and  
Land Disposal Restriction Forms**

**ATTACHMENT B**  
**Laboratory Certificates of Analysis**

## **ATTACHMENT C**

**MADEP Bill of Lading Forms BWSC-012B and BWSC-012C for the  
Transportation of 118.41 Tons of Contaminated Soil to the  
American Reclamation Corp. of Charlton, MA**