

# PSAI REALTY PARTNERS

COMMERCIAL REAL ESTATE

**RECEIVED**

By Alameda County Environmental Health 3:42 pm, Mar 10, 2017

March 10, 2017

Mr. Keith Nowell, P.G., C.H.G.  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Subject: *Residual Risk Management Plan*, 1708 Wood Street, Oakland, California  
(Case No.: RO0003206).

Dear Mr. Nowell:

Please find attached the *Residual Risk Management Plan* prepared by West Environmental Services & Technology, Inc. (WEST) for the 1708 Wood Street property in Oakland, California (the "Site"). I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Please call me at 415/362-3743 if you have any questions or wish to discuss this further.

Sincerely,



Martin Ward  
Asset Manager

**RESIDUAL RISK MANAGEMENT PLAN**  
**1708 Wood Street**  
**Oakland, California**  
**Case No.: RO3206**

**March 2017**

*Prepared for*

PSAI IV Partners, LLC  
155 Montgomery Street, Suite 1600  
San Francisco, CA 94104

*Prepared by*

**WEST**

Environmental Services & Technology

711 Grand Avenue, Suite 220  
San Rafael, California 94901  
415/460-6770 Fax 415/460-6771  
main@westenvironmental.com

## TABLE OF CONTENTS

SECTION	PAGE
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
1.1 RRMP OBJECTIVE .....	1
1.2 CHEMICALS OF CONCERN .....	2
1.3 POTENTIAL RECEPTORS .....	2
1.4 RISK MANAGEMENT MEASURES .....	2
<b>2.0 SITE DESCRIPTION.....</b>	<b>4</b>
2.1 SITE DEVELOPMENT.....	4
2.2 GEOLOGIC AND HYDROGEOLOGIC SETTING .....	5
2.3 SUMMARY OF INVESTIGATIONS.....	6
2.3.1 Area 1 – Northwest UST Area .....	6
2.3.2 Area 2-Central Eastern UST and Oil-Water Separator Area.....	8
2.3.3 Loading Dock Building.....	9
2.3.4 Eastern Side of Subject Property.....	10
2.4 DATA EVALUATION.....	11
2.4.1 Area 1-Northwest UST Area.....	11
2.4.2 Area 2-Central Eastern UST and Oil-Water Separator Area.....	12
2.4.3 Loading Dock Building.....	13
2.4.4 Eastern Side of Subject Property.....	14
<b>3.0 RISK MANAGEMENT.....</b>	<b>16</b>
3.1 SOIL RISK MANAGEMENT .....	16
3.1.1 Soil Management .....	16
3.1.2 Worker Health and Safety.....	17
3.1.3 Dust Control .....	17
3.1.4 Soil Stockpile Management .....	18
3.1.5 Import Soil.....	18
3.1.6 Waste Management.....	19
3.2 GROUNDWATER RISK MANAGEMENT .....	20
3.2.1 Dewatering .....	20
<b>4.0 NOTIFICATION PROCEDURES.....</b>	<b>22</b>
4.1 NON-CONFORMANCE NOTIFICATION.....	22
4.2 SUBSEQUENT OWNER NOTIFICATION .....	22
4.3 DISCOVERY .....	23
4.3.1 Notification Requirements .....	23
4.3.2 Conditions Posing an Immediate Threat .....	24
4.3.3 Releases to Water .....	24
4.3.4 Releases to Soil.....	25
4.3.5 Underground Storage Tank (UST) Notification .....	25
4.4 INITIAL SITE-MANAGEMENT PROCEDURES .....	25
4.4.1 Segregating Contaminated Material .....	26
<b>5.0 MONITORING AND MAINTENANCE PROGRAM.....</b>	<b>28</b>
5.1 INSTITUTIONAL CONTROLS.....	28
5.2 ENGINEERING CONTROLS.....	28

## TABLE OF CONTENTS

<b>SECTION</b>	<b>PAGE</b>
5.2.1 <i>Landscaping and Hardscape Maintenance</i> .....	29
5.2.2 <i>Methane Mitigation Systems Maintenance</i> .....	29
5.2.3 <i>Methane Mitigation Systems Monitoring</i> .....	29
5.2.4 <i>Reporting</i> .....	30
5.3 RECORDKEEPING .....	30
<b>6.0 REFERENCES</b> .....	<b>32</b>
<b>7.0 DISTRIBUTION LIST</b> .....	<b>33</b>
<b>TABLES</b>	
<b>FIGURES</b>	
<b>APPENDICES</b>	

### **LIST OF TABLES**

Table 2-1	Summary of Soil Analytical Results-TPH and VOCs
Table 2-2	Summary of Soil Analytical Results-PAHs
Table 2-3	Summary of Soil Analytical Results-Metals
Table 2-4	Summary of Soil Gas Analytical Results
Table 2-5	Summary of Shallow Groundwater Analytical Results-TPH, VOCs, Chloride and PCBs
Table 2-6	Summary of Shallow Groundwater Analytical Results-PAHs
Table 2-7	Summary of Shallow Groundwater Analytical Results-Metals
Table 2-8	Summary of Deep Groundwater Analytical Results-TPH and VOCs

### **LIST OF FIGURES**

Figure 1-1	Site Location Map
Figure 1-2	Site Plan
Figure 2-1	Geologic Cross-Section A-A'
Figure 2-2	Geologic Cross-Section B-B'
Figure 2-3	Geologic Cross-Section C-C'
Figure 2-4	Sample Location Map over Proposed Site Development
Figure 2-5	Area 1-Northwest UST Basin-Proposed Site Development
Figure 2-6	Area 2-Central UST Basin
Figure 5-1	Conceptual Vapor System Design Details

### **LIST OF APPENDICES**

Appendix A	Site Inspection Form
------------	----------------------

**SIGNATURE PAGE**

All information, conclusions and recommendations contained in this report have been prepared under the supervision of the undersigned professional(s).

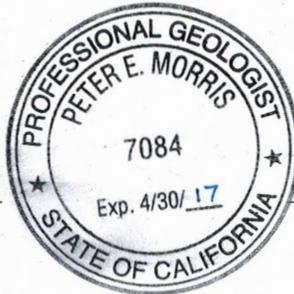
Peter M. Krasnoff  
California Registered Civil Engineer (44031)



3/9/17

Date

Peter E. Morris  
California Professional Geologist (7084)



3/9/17

Date

## 1.0 INTRODUCTION

This *Residual Risk Management Plan* (“*RRMP*”) has been prepared by West Environmental Services & Technology, Inc. (WEST), on behalf of PSAI IV Partners, LLC, for the property located at 1708 Wood Street in Oakland, California (“*Site*,” Figure 1-1). This *RRMP* was prepared to address residual risk during post-development maintenance activities subsequent to remedial actions implemented in accordance with the February 2017 *Remedial Action Plan* (*RAP*; WEST, 2017). The regulatory agency overseeing the *RAP* and *RRMP* is the Alameda County Environmental Health (“*ACEH*”). Implementation of this *RRMP* will be the responsibility of: future Site owner including its homeowner’s association manager, construction manager, contractors, subcontractors and future maintenance workers.

Pursuant to the *RAP*, soil containing total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs) and lead above applicable screening levels will be excavated from the landscape areas and either reused on-Site as engineered fill beneath buildings and hardscapes or transported off-Site for disposal (Figure 1-2). In addition, a methane mitigation system will be installed beneath identified buildings located within the eastern portion of the Site, as required by the *RAP* (Figure 1-2). Groundwater beneath the Site is present between approximately 2-feet and 5-feet below ground surface and contains residual TPH from historical underground storage tank (UST) releases. The UST releases were closed by the ACEH in 2015; however, future maintenance activities might encounter groundwater. This *RRMP* specifies soil and groundwater management measures to be implemented following Site development, if post-development maintenance activities are required in the landscape areas or beneath the buildings and hardscapes.

### 1.1 RRMP OBJECTIVE

The objective of this *RRMP* is to provide protocols for the management of residual chemicals in soil and groundwater that will be present following Site development in a manner that is

protective of human health and the environment and consistent with applicable waste handling regulations.

## **1.2 CHEMICALS OF CONCERN**

Residual chemicals of concern in soil at the Site include: TPH as gasoline (TPHg), diesel (TPHd), motor oil (TPHmo), PAHs and lead. Residual chemicals of concern in soil gas at the Site include methane. Residual chemicals of concern in groundwater include: TPH as gasoline (TPHg) and diesel (TPHd).

## **1.3 POTENTIAL RECEPTORS**

Following Site development, potential receptors to chemicals of concern at the Site are identified as future maintenance and construction workers through contact with subsurface soil and groundwater via dermal contact and inhalation. A methane mitigation system will also be installed beneath identified buildings located within the eastern portion of the Site to control migration of methane for future Site occupants. Direct contact to residual chemicals in soil and groundwater by future Site occupants was not identified as a complete exposure pathway due to: engineering controls including hardscapes and marker fabric beneath landscape areas; presence of clean imported fill within landscape areas; and land use covenants (LUCs) that restrict the uses of the Site including but not limited to: a prohibition on the installation of wells and use of groundwater as a drinking water source; and preservation of installed engineering controls and remedial systems, i.g. methane mitigation system.

## **1.4 RISK MANAGEMENT MEASURES**

Risk management measures to control residual chemicals of concern at the Site are summarized below and described in the following sections of this *RRMP*:

- Management of soil removed during future maintenance activities from beneath landscape areas, buildings and hardscapes;

- Management of groundwater, if encountered during future maintenance activities, in excavations advanced beneath landscape areas, buildings and hardscapes;
- Notification of regulatory agencies upon the discovery of previously uncharacterized, contaminated material that could pose a threat to public health or the environment; and
- Maintenance of engineering controls and remedial systems, including hardscapes and the methane mitigation system to be installed beneath identified structures.

## **2.0 SITE DESCRIPTION**

The approximately 4.3-acre Site is located at 1708 Wood Street in Oakland, Alameda County, California and located within a mixed residential, commercial and industrial area (Figure 2-1). The Site is comprised of two adjoining parcels with Assessors' Parcel Numbers 7-562-1 and 7-563-1. Previously, the two parcels were separated by former Willow Street, which now terminates at 17<sup>th</sup> Street just south of the Site. Adjacent properties include Raimondi Park to the north, existing industrial businesses to the south, residences to the east, and the historical 16<sup>th</sup> Street Train Station (currently vacant) to the west.

The Site has been used for commercial and industrial purposes including automotive uses (California Motor Express/California Motor Transport Company, Circle Freight Lines, Stockton Motor Express General OFC, California Motor Express, Calko Transport Company, Inc., and Roadway Express) and industrial uses (roofing, furniture warehousing, and sheet metal and iron works). Currently, the Site is occupied by Three Rivers Trucking and is utilized as a trucking/shipping terminal and for surface parking. One trucking terminal building is currently located on the southwestern side of the Site. The surrounding area was historically and currently is used for railroad, industrial and residential housing.

### **2.1 SITE DEVELOPMENT**

The Site will be developed with 128 multi-family residential and live/work townhome-style condominiums. The townhomes are three-story, attached condominiums with private, at-grade garages. Some townhomes will also feature flexible workspaces at the ground level. The Site will feature a publicly accessible, midblock pedestrian connection joining Raimondi Park to Willow Street and the greater Prescott neighborhood beyond, and two vehicular access points (oriented to the Frontage Road and West Grand Avenue).

Soil containing TPH, PAHs and lead will be removed from the landscaped areas to approximately 3-feet below finished grade and reused onsite as engineered fill or transported off-

Site for disposal at an appropriate disposal facility. Prior to backfill, a fabric marker will be placed at the base of the excavated landscape areas. The landscape areas will then be backfilled with clean imported fill. Shallow groundwater beneath the Site (between approximately 2-feet and 5-feet below ground surface) contains residual TPH from historical UST releases. Shallow groundwater might be encountered during future maintenance activities following Site development.

A methane mitigation system will be used to control potential migration of methane to indoor air, as needed. The final methane mitigation system record drawings will be submitted to the ACEH for review and approval and will be included in an *Operations and Maintenance Plan (O&M Plan)* to document maintenance, monitoring and reporting procedures following construction. The *O&M Plan* will be prepared following installation of the methane mitigation system and appended to the *RRMP*. A Land Use Covenant (LUC) for the Site will be recorded to reflect appropriate Site use limitations to protect human health and the environment.

## **2.2 GEOLOGIC AND HYDROGEOLOGIC SETTING**

The Site lies within the East Bay Plain Groundwater Basin Oakland sub-area. San Francisco Bay is located approximately one-mile to the west of the Site. Site geology is underlain by fill material and unconsolidated sediments comprised of Bay Mud, silts, clays and sands. The fill material was encountered in borings advanced at the Site with a thickness ranging to approximately 3-feet below ground surface on the eastern portion of the Site to approximately 6-feet below ground surface on the western portion of the Site (Figure 2-1). The fill material is comprised of clays and/or gravels containing debris. Bay Mud was encountered in the borings underlying the fill material within the eastern half of the Site. The Bay Mud is an approximately 5-foot to 10-foot thick peat layer with high organics content. On the western half of the Site, the fill material is underlain by unconsolidated silty and clayey sands that overlie Bay Mud (Figures 2-1 and 2-2). Underlying the Bay Mud are approximately 5-foot to 10-foot thick saturated silty sands to clayey sands that extend to a depth of approximately 15-feet to 30-feet below ground surface.

The Site hydrogeology is described as two distinct groundwater zones, identified as shallow and deep. The shallow zone is present to depth of approximately 10-feet below ground surface and has been observed as low yielding. The depth to groundwater measured within former monitoring wells constructed within the shallow zone has ranged between approximately 1-foot to 5-feet below ground surface. The groundwater flow direction in the shallow zone was calculated between the east and northeast with a predominantly downward vertical gradient (Grafcon, 2016).

The deep groundwater-bearing zone is confined with a calculated groundwater flow direction that varies from north-northwest to west-southwest. The upper and lower groundwater zones are separated by an approximately 5-foot to 10-foot-thick layer of Bay Mud.

## **2.3 SUMMARY OF INVESTIGATIONS**

Site investigations have been conducted since the 1980s in four main areas: Area 1-Northwest UST Area; Area 2-Central and Eastern UST and Oil-Water Separator Area; Loading Dock Area; and Eastern Side of Subject Property. Details of the investigations were presented in Grafcon's November 21, 2016 *Environmental Site Summary*. A summary of the Site investigations is presented below, in Tables 2-1 to 2-8 and on Figures 2-1 to 2-6.

### **2.3.1 Area 1 – Northwest UST Area**

Area 1 is located in the northwestern portion of the Site (Figure 2-1). Two historical underground storage tanks (USTs) (one with a capacity that apparently ranged between approximately 2,000 gallons and 8,000 gallons and another with a 10,000 gallon capacity, respectively) with unknown contents were identified in this area in May 1987. Due to structural concerns, the two USTs were emptied of contents and abandoned in place. In October 2011, the two USTs, product piping and vent piping were removed from a shored excavation with oversight from the ACEH and the City of Oakland Fire Department (Grafcon, 2016). The

cleanup for this Northwestern UST Area was conducted under existing ACEH Case No.: RO0000039, previously assigned to Area 2 below.

Laboratory analysis of soil samples collected within Area 1 revealed total petroleum hydrocarbons as diesel (TPHd), polycyclic aromatic hydrocarbons (PAHs) and lead. TPHd was detected up to 5,930 milligrams per kilogram (mg/kg) (SW4-W at 3.5-feet below ground surface). PAHs were detected in the soil samples including: benzo(a)anthracene up to 0.300 mg/kg, benzo(a)pyrene (BaP) up to 0.270 mg/kg, benzo(b)fluoranthene up to 0.270 mg/kg and dibenz(a,h)anthracene up to 0.037 mg/kg (SB-1 at 2.5-3 feet below ground surface).

Groundwater samples collected from Area 1 detected petroleum constituents, including total petroleum hydrocarbons as gasoline (TPHg) up to 54,000 micrograms per liter ( $\mu\text{g/l}$ ), TPHd up to 61,000  $\mu\text{g/l}$ , TPH as motor oil (TPHmo) up to 2,600  $\mu\text{g/l}$  and total oil and grease up to 430,000  $\mu\text{g/l}$ . Volatile organic compounds (VOCs) were not detected in the groundwater samples; except for benzene up to 5  $\mu\text{g/l}$ , toluene up to 111  $\mu\text{g/l}$ ; ethyl benzene up to 11  $\mu\text{g/l}$ ; and xylenes up to 62  $\mu\text{g/l}$ .

Polychlorinated biphenyls were not detected in the groundwater samples collected from Area 1 above the laboratory-reporting limits. Chloride was also detected in groundwater up to 380,000  $\mu\text{g/l}$ . The detected TPH concentrations appear associated with a surface sheen observed during UST removals and not dissolved concentrations, as the concentrations exceeded expected solubility for these chemicals. Metals were also detected in groundwater; however, they appear to be associated with suspended sediments within the collected samples.

In December 2016, a soil gas sample (SG-2) was collected from within Area 1 near the former USTs (Figure 2-1). The soil gas sample was collected at approximately 1-foot below ground surface due to the shallow groundwater observed in the borehole at approximately 2-feet below ground surface. Laboratory analysis of the soil gas sample revealed: chloroethane at 68.8 micrograms per cubic meter ( $\mu\text{g/m}^3$ ); trichlorofluoromethane at 14.9  $\mu\text{g/m}^3$ ; chloroform at 10.2  $\mu\text{g/m}^3$ ; benzene at 14.2  $\mu\text{g/m}^3$ ; toluene at 13.9  $\mu\text{g/m}^3$ ; and 1,2,4-trimethylbenzene at 22.5  $\mu\text{g/m}^3$ .

Methane was also detected in the soil gas sample SG-2 at 30.1 parts per million by volume (ppmv).

### **2.3.2 Area 2-Central Eastern UST and Oil-Water Separator Area**

Area 2 is located in the central eastern portion of the Site along 18<sup>th</sup> Street and historically contained three USTs, including one 10,000-gallon gasoline UST, one 10,000-gallon diesel UST and one 6,000-gallon motor oil UST. The gasoline and motor oil USTs and associated piping were removed in 1987 (Grafcon, 2016). In April of 1996, the remaining 10,000-gallon diesel UST and all associated piping were removed. In addition to these three USTs, an oil-water separator was also located in Area 2. Multiple soil and groundwater investigations were conducted between 1998 and 2011, which indicated the presence of petroleum constituents in soil and groundwater (predominately TPHd and total oil and grease). Soil and groundwater impacted with elevated concentrations of petroleum hydrocarbons were removed during tank removals conducted in 2011.

Laboratory analysis of the soil samples collected from Area 2 revealed petroleum hydrocarbons including: TPHg up to 0.3 mg/kg (SB-22 at 1-1.5 feet below ground surface); TPHd up to 370 mg/kg (SB-22 at 1-1.5 feet below ground surface); TPHmo up to 2,100 mg/kg (SB-22 at 1-1.5 feet below ground surface); and total oil & grease up to 940 mg/kg (SB-12 at 2-2.5 feet below ground surface). VOCs were not detected in the soil samples above their respective laboratory-reporting limits. Lead was detected in the soil samples collected from within Area 2 up to 14,000 mg/kg (SB-21 at 1-1.5 feet below ground surface).

Laboratory analysis of groundwater samples collected from borings and monitoring wells within Area 2 revealed petroleum hydrocarbons including: TPHg up to 840 µg/l (B-7); TPHd up to 120,000 µg/l (B-7); and TPHmo up to 9,900 (BM-4). Based on review of results (as discussed in Area 1 above), it appears that elevated TPH concentrations were due to surface sheen or suspended sediment, and not dissolved concentrations (Grafcon, 2016). PAHs and metals were

also detected in the groundwater samples; however, the collected samples may have contained suspended sediment.

In December 2016, a soil gas sample (SG-3) was collected from within Area 2 near the former USTs and oil-water separator (Figure 2-1). The soil gas sample was collected at approximately 1-foot below ground surface due to the shallow groundwater observed in the borehole at approximately 2-feet below ground surface. Laboratory analysis of the soil gas sample revealed: chloroform at  $13.7 \mu\text{g}/\text{m}^3$ ; benzene at  $15.1 \mu\text{g}/\text{m}^3$ ; and toluene at  $5.88 \mu\text{g}/\text{m}^3$ . Methane was also detected in the soil gas sample SG-3 at 32.6 ppmv.

### **2.3.3 Loading Dock Building**

Investigations conducted near the loading dock were related to releases reported in the Hazardous Material Incident Reporting System (HMIRS) and the California Hazardous Material Incident Reporting System (CHMIRS) databases (Grafcon, 2016). Laboratory analysis of soil samples collected near the loading dock building revealed petroleum hydrocarbons including: TPHd up to 2,700 mg/kg (SB-6 at 2-2.5 feet below ground surface) and TPHmo up to 9,200 mg/kg (SB-6 at 2-2.5 feet below ground surface). PAHs were also detected in the soil samples including: benz(a)anthracene up to 0.450 mg/kg (SB-8 at 1.5-2 feet below ground surface); BaP up to 0.35 mg/kg (SB-8 at 1.5-2 feet below ground surface); benzo(b)fluoranthene up to 0.450 mg/kg (SB-8 at 1.5-2 feet below ground surface); and dibenz(a,h)anthracene up to 0.017 mg/kg (SB-4 and SB-5 at 2-2.5 feet below ground surface). Metals were detected in the soil samples including lead up to 19 mg/kg.

Groundwater samples collected from the borings advanced near the loading dock building revealed petroleum hydrocarbons including TPHd up to  $940 \mu\text{g}/\text{l}$  (SB-6) and TPHmo up to  $690 \mu\text{g}/\text{l}$  (SB-6). VOCs were not detected in the groundwater samples collected near the loading dock building.

In December 2016, a soil gas sample (SG-4) was collected near the loading dock building (Figure 2-1). The soil gas sample was collected at approximately 1-foot below ground surface due to the shallow groundwater observed in the borehole at approximately 2-feet below ground surface. Laboratory analysis of the soil gas sample revealed VOCs including 1,3,5-trimethylbenzene at 202  $\mu\text{g}/\text{m}^3$  and 1,2,4-trimethylbenzene at 201  $\mu\text{g}/\text{m}^3$ . Methane was also detected in the soil gas sample SG-4 at 212 ppmv.

### **2.3.4 Eastern Side of Subject Property**

The borings conducted on the eastern side of the Subject Property were related to the historical industrial uses of the Site including: roofing; furniture warehousing; sheet metal and iron works; and automotive uses (McKinley Perkins and California Motor Express). Laboratory analysis of soil samples collected within the eastern area revealed petroleum hydrocarbons including TPHd up to 290 mg/kg (SB-16 at 2-2.5 feet below ground surface) and TPHmo up to 2,200 mg/kg (SB-16 at 2-2.5 feet below ground surface). VOCs were not detected in the soil samples above their respective laboratory-reporting limits.

PAHs were detected in the soil samples including: benzo(a)anthracene up to 0.750 mg/kg; BaP up to 1.0 mg/kg; benzo(b)fluoranthene up to 1.1 mg/kg; and dibenz(a,h)anthracene up to 0.100 mg/kg, in the sample collected from boring SB-15 at 2-2.5 feet below ground surface. Metals were detected in the soil samples including lead up to 2,100 mg/kg (SB-24 at 1-1.5 feet below ground surface).

Groundwater samples collected from the borings advanced within the eastern area revealed petroleum hydrocarbons including TPHd up to 3,100  $\mu\text{g}/\text{l}$  (SB-18) and TPHmo up to 2,200  $\mu\text{g}/\text{l}$  (SB-18). VOCs were not detected in the groundwater samples collected within the eastern area above their respective laboratory-reporting limits except for benzene up to 2.8  $\mu\text{g}/\text{l}$  (SB-16) and tetrachloroethene up to 1.9  $\mu\text{g}/\text{l}$  (SB-17).

In December 2016, a soil gas sample (SG-1) was collected from the eastern side of the Site (Figure 2-1). The soil gas sample was collected at approximately 1-foot below ground surface due to the shallow groundwater observed in the borehole at approximately 2-feet below ground surface. Laboratory analysis of the soil gas sample did not reveal VOCs above their respective laboratory-reporting limits. Methane was detected in the soil gas sample SG-1 at 134,000 ppmv.

## **2.4 DATA EVALUATION**

An evaluation between the identified screening levels and the soil laboratory analytical results was performed to characterize the Site conditions. The areas containing soil above screening levels are depicted on Figures 2-4 to 2-6.

### **2.4.1 Area 1-Northwest UST Area**

#### **2.4.1.1 TPH AND VOCs IN SOIL**

TPH as gasoline was detected in soil up to 104 mg/kg (at 3.5-feet below ground surface), below the Regional Water Board residential screening level of 740 mg/kg. TPHd was detected up to 5,930 mg/kg (SW4-W at 3.5-feet below ground surface), above Regional Water Board residential screening level of 230 mg/kg. TPHmo was detected up to 1,140 mg/kg (at 3.5-feet below ground surface), below its Regional Water Board residential screening level of 11,000 mg/kg. VOCs were not detected in soil samples above their respective laboratory-reporting limits.

#### **2.4.1.2 PAHs IN SOIL**

Benzo(a)anthracene was detected in soil up to 0.300 mg/kg (SB-1 at 2.5-3 feet below ground surface), above the Regional Water Board residential screening level of 0.160 mg/kg. BaP was detected in soil up to 0.270 mg/kg (SB-1 at 2.5-3 feet below ground surface), above the Regional Water Board residential screening level of 0.016 mg/kg. Benzo(b)fluoranthene was detected in soil up to 0.270 mg/kg (SB-1 at 2.5-3 feet below ground surface), above the Regional Water

Board residential screening level of 0.160 mg/kg. Dibenz(a,h)anthracene was detected in soil up to 0.037 mg/kg (SB-1 at 2.5-3 feet below ground surface), above the Regional Water Board residential screening level of 0.016 mg/kg. Other PAHs were detected in soil, but at concentrations below their respective Regional Water Board residential screening levels.

#### 2.4.1.3 METALS IN SOIL

Arsenic was detected in soil up to 11 mg/kg (SB-1 at 2.5-3 feet below ground surface), which is consistent with background arsenic concentrations of up to 11 mg/kg for the San Francisco Bay Area (Duverge, 2011). Lead was detected up to 780 mg/kg, above Regional Water Board residential screening level of 80 mg/kg. Other metals were detected in the soil samples but at levels below their respective Regional Water Board ESLs.

#### 2.4.1.4 VOCS IN SOIL GAS

VOCs were not detected in soil gas at concentrations above their respective Regional Water Board residential screening levels. Methane was detected in soil gas at 30.1 ppmv, below its CalEPA action level of 5,000 ppmv.

### 2.4.2 **Area 2-Central Eastern UST and Oil-Water Separator Area**

#### 2.4.2.1 TPH AND VOCS IN SOIL

TPH as gasoline was detected in soil up to 0.3 mg/kg (SB-22 at 1-1.5 feet below ground surface), below the Regional Water Board residential screening level of 740 mg/kg. TPHd was detected up to 370 mg/kg (SB-22 at 1-1.5 feet below ground surface), above Regional Water Board residential screening level of 230 mg/kg. TPHmo was detected up to 2,100 mg/kg (SB-22 at 1-1.5 feet below ground surface), below its Regional Water Board residential screening level of 11,000 mg/kg. VOCs were not detected in soil samples above their respective laboratory-reporting limits.

#### 2.4.2.2 METALS IN SOIL

Arsenic was detected in soil up to 5.9 mg/kg (SB-12 at 2-2.5 feet below ground surface), which is consistent with background arsenic concentrations of up to 11 mg/kg for the San Francisco Bay Area (Duverge, 2011). Lead was detected up to 14,000 mg/kg (SB-21 at 1-1.5 feet below ground surface), above Regional Water Board residential screening level of 80 mg/kg. Other metals were detected in the soil samples but at levels below their respective Regional Water Board ESLs.

#### 2.4.2.3 VOCs IN SOIL GAS

VOCs were not detected in soil gas at concentrations above their respective Regional Water Board residential screening levels. Methane was detected in soil gas at 32.6 ppmv, below its CalEPA action level of 5,000 ppmv.

### **2.4.3 Loading Dock Building**

#### 2.4.3.1 TPH AND VOCs IN SOIL

TPHd was detected up to 2,700 mg/kg (SB-6 at 2-2.5 feet below ground surface), above Regional Water Board residential screening level of 230 mg/kg. TPHmo was detected up to 9,200 mg/kg (SB-6 at 2-2.5 feet below ground surface), below its Regional Water Board residential screening level of 11,000 mg/kg. VOCs were not detected in soil samples above their respective laboratory-reporting limits.

#### 2.4.3.2 PAHS IN SOIL

Benzo(a)anthracene was detected in soil up to 0.450 mg/kg (SB-8 at 1.5-2 feet below ground surface), above the Regional Water Board residential screening level of 0.160 mg/kg. BaP was detected in soil up to 0.350 mg/kg (SB-8 at 1.5-2 feet below ground surface), above the Regional Water Board residential screening level of 0.016 mg/kg. Benzo(b)fluoranthene was detected in

soil up to 0.450 mg/kg (SB-8 at 1.5-2 feet below ground surface), above the Regional Water Board residential screening level of 0.160 mg/kg. Dibenz(a,h)anthracene was detected in soil up to 0.017 mg/kg (SB-4 and SB-5 at 2-2.5 feet below ground surface), above the Regional Water Board residential screening level of 0.016 mg/kg. Other PAHs were detected in soil, but at concentrations below their respective Regional Water Board residential screening levels.

#### 2.4.3.3 METALS IN SOIL

Arsenic was detected in soil up to 8.6 mg/kg (SB-1 at 2.5-3 feet below ground surface), which is consistent with background arsenic concentrations of up to 11 mg/kg for the San Francisco Bay Area (Duverge, 2011). Lead was detected up to 19 mg/kg, below the Regional Water Board residential screening level of 80 mg/kg. Other metals were detected in the soil samples but at levels below their respective Regional Water Board ESLs.

#### 2.4.3.4 VOCs IN SOIL GAS

VOCs were not detected in soil gas at concentrations above their respective Regional Water Board residential screening levels. Methane was detected in soil gas at 212 ppmv, below its CalEPA action level of 5,000 ppmv.

### **2.4.4 Eastern Side of Subject Property**

#### 2.4.4.1 TPH AND VOCs IN SOIL

TPHd was detected up to 290 mg/kg (SB-16 at 2-2.5 feet below ground surface), above Regional Water Board residential screening level of 230 mg/kg. TPHmo was detected up to 2,200 mg/kg (SB-16 at 2-2.5 feet below ground surface), below its Regional Water Board residential screening level of 11,000 mg/kg. VOCs were not detected in soil samples above their respective laboratory-reporting limits.

#### 2.4.4.2 PAHs IN SOIL

Benzo(a)anthracene was detected in soil up to 0.750 mg/kg (SB-15 at 2-2.5 feet below ground surface), above the Regional Water Board residential screening level of 0.160 mg/kg. BaP was detected in soil up to 1.0 mg/kg (SB-15 at 2-2.5 feet below ground surface), above the Regional Water Board residential screening level of 0.016 mg/kg. Benzo(b)fluoranthene was detected in soil up to 1.1 mg/kg (SB-15 at 2-2.5 feet below ground surface), above the Regional Water Board residential screening level of 0.100 mg/kg. Dibenz(a,h)anthracene was detected in soil up to 0.017 mg/kg (SB-15 at 2-2.5 feet below ground surface), above the Regional Water Board residential screening level of 0.016 mg/kg. Other PAHs were detected in soil, but at concentrations below their respective Regional Water Board residential screening levels.

#### 2.4.4.3 METALS IN SOIL

Arsenic was detected in soil up to 4.2 mg/kg (SB-16 at 2-2.5 feet below ground surface), which is consistent with background arsenic concentrations of up to 11 mg/kg for the San Francisco Bay Area (Duverge, 2011). Lead was detected up to 2,100 mg/kg, below the Regional Water Board residential screening level of 80 mg/kg. Other metals were detected in the soil samples but at levels below their respective Regional Water Board ESLs.

#### 2.4.4.4 VOCs IN SOIL GAS

VOCs were not detected in soil gas at concentrations above their respective Regional Water Board residential screening levels. Methane was detected in soil gas at 134,000 ppmv, above its CalEPA action level of 5,000 ppmv.

### **3.0 RISK MANAGEMENT**

This section presents the procedures for the management of soil, soil gas and groundwater following Site construction activities. The data evaluation has revealed that: soil beneath buildings and hardscapes as well as beneath the marker fabric in the landscape areas contains chemical concentrations above health based screening levels; and groundwater, if encountered during future maintenance activities, contains residual TPH. Methane was also detected in soil gas above its applicable action level. The management procedures presented below are designed to control the potential threat from the residual chemicals in soil, soil gas and groundwater.

#### **3.1 SOIL RISK MANAGEMENT**

Soil beneath the marker fabric within the landscape areas and soil beneath buildings and hardscapes contains chemicals above applicable screening levels. A marker geotextile fabric was placed at the base of the landscape area excavations separating the native soil from the imported backfill material. Soil generated during future Site maintenance activities has the potential to contain chemicals above health-based protective levels and should be managed using the procedures identified below.

##### **3.1.1 Soil Management**

###### **3.1.1.1 LANDSCAPE AREA MAINTENANCE**

If soil is removed from below the geotextile marker fabric within the landscape areas, the soil should be stockpiled and characterized for off-Site disposal or, if feasible, replacement in the excavated area. Following soil removal and/or replacement, the geotextile marker fabric should be replaced and the area above the marker fabric backfilled with clean, imported soil.

### 3.1.1.2 ENGINEERED FILL

If soil is removed from below buildings and/or hardscapes, the soil should be stockpiled and characterized for off-Site disposal or, if feasible, reused beneath the hardscape. Following completion of soil removal and/or replacement, the excavation areas should be backfilled as necessary with clean, imported soil and the hardscape replaced.

### **3.1.2 Worker Health and Safety**

Due to the potential exposure to residual chemicals in soil and groundwater following Site development activities, a *Health and Safety Plan (HASP)* should be prepared. The *HASP* should be followed by on-Site personnel. The *HASP* addresses the requirements of the Occupational Health and Safety Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.120 guidelines and Title 8 California Code of Regulations (CCR) Section 5192. The *HASP* should be read by Site workers and visitors to apprise them of the Site conditions and provide instructions for implementing proper safety training and procedures during development activities.

As phases of work proceed, the *HASP* should be updated to reflect: Site organizational structure; names of key personnel; personnel training requirements; medical surveillance program; summary of risk assessment; a task-specific hazard analysis; Site control program; personal protective equipment use; air monitoring plan; decontamination procedures; emergency response plan; spill containment; Site sanitation facilities; and standard operating procedures. The contractor conducting the maintenance activities should also use their Injury and Illness Prevention Program (IIPP) in conjunction with the *HASP*.

### **3.1.3 Dust Control**

Dust control will be performed by applying water with a low-pressure spray system. Low volumes of potable water will be routinely spread in areas where dust may be generated because

of excavation activities. If monitoring indicates that the dust control measures are not adequate, then additional engineering control measures will be implemented. These additional measures will include, but are not limited to: 1) change of work procedures; 2) soil wetting during and excavation, stockpiling, backfilling and loading; 3) tarping of trucks; and 4) covering of exposed excavations and stockpiles with plastic sheeting; and 5) use of dust palliatives.

#### **3.1.4 Soil Stockpile Management**

The following procedures will be used for management of soil stockpiles. The soil stockpiles will be covered with plastic sheeting to control dust. Stockpiled areas will also be bermed to prevent storm water erosion and/or runoff. Uncovered stockpiles will be watered pursuant to dust control requirements to minimize airborne particulate emissions. The berms surrounding the stockpiled area will be inspected and maintained when the stockpiles are uncovered and water is applied for dust control.

Any portions of the stockpile not being actively worked on during a given day will remain covered with plastic sheeting. Plastic sheeting will be held in place by tires, concrete or other appropriate weighted material. Excavations, stockpiles and inactive work areas will be inspected regularly to assess the potential for dust generation. Stockpiles will be inspected daily for proper cover.

#### **3.1.5 Import Soil**

Imported fill material will be used for backfilling of excavations. Soil samples will be collected from borrow areas for characterization prior to import and placement at the Site. The laboratory analytical results of the soil samples collected from the proposed imported fill material borrow areas will be compared to the Regional Water Board Tier 1 ESLs, with concurrence from the ACEH. A summary of the imported fill material soil sample collection methodology is presented below.

### 3.1.5.1 SOIL SAMPLE COLLECTION METHODOLOGY

The contractor will identify borrow areas and soil samples will be collected as appropriate. The frequency of sampling will be conducted in general following the California Department of Toxic Substances' (DTSC) *Information Advisory – Clean Imported Fill Material*. The borrow area soil samples will be collected in pre-cleaned brass liners or glass jars, labeled and placed in a chilled cooler for transportation to a CDPH ELAP laboratory following ASTM D 4840 chain-of-custody protocols. The soil samples will be analyzed for the suite of analytes in accordance with DTSC's *Advisory for Clean Imported Fill Material*.

### 3.1.6 **Waste Management**

Excavated soil not reused on-Site for engineered fill will be stockpiled, characterized and profiled for off-Site transportation and disposal. In addition, groundwater removed from excavations should be containerized, characterized and profiled for off-Site transportation and disposal. Procedures for characterizing the excavated soil and groundwater are presented below.

#### 3.1.6.1 WASTE CHARACTERIZATION

Soil and groundwater should be tested and analytical results used to appropriate disposition. The testing protocol should be reviewed with the applicable potential disposal facilities prior to profiling the material for disposal. Depending on the nature of the material, samples may be analyzed for TPHg, TPHd, VOCs, PAHs, metals and/or other chemicals required by the waste disposal facility. The frequency of sampling is dependent on the landfill acceptance criteria. The results of the sampling should be forwarded to landfills or other appropriate facilities for profiling and acceptance.

### 3.1.6.2 OFF-SITE WASTE TRANSPORT

Non-hazardous soils should be transported off-Site using licensed transporters and appropriate bills of lading. Hazardous wastes should be manifested off-Site on Uniform Hazardous Waste Manifests in accordance with regulatory requirements. Appropriately designated and licensed trucks will be used to convey the waste from the Site to the disposal facilities.

### 3.1.6.3 RECORDKEEPING

A log sheet should be maintained that documents the date, time, estimated volume, waste/material, trucking company, driver and vehicles used for the trip. The log will also document the decontamination procedures of the trucks. Log sheets will be kept at the Site. In addition, copies of bills-of-lading, analytical results representing the load, hazardous waste manifests (as appropriate), route maps and directions, emergency instructions and contacts will be carried with each load leaving the Site.

## **3.2 GROUNDWATER RISK MANAGEMENT**

The laboratory analysis of groundwater samples previously collected at the Site revealed detectable concentrations of TPH. Groundwater removed from excavations advanced as part of maintenance activities will be treated and discharged to the sanitary sewer pursuant to local permit requirements or containerized for off-Site disposal characterization. Details of the groundwater management protocols are presented below.

### **3.2.1 Dewatering**

Groundwater encountered within excavations should be removed using dewatering wells or sump pumps to lower the water table below the base of the excavations. The extracted groundwater will then be pumped to aboveground settling tanks to reduce suspended sediments. The groundwater should then be treated for discharge to the sanitary sewer pursuant to an approved

groundwater discharge permit and sewer system capacity requirements of the City of Oakland or transported off-Site for disposal or recycling at an appropriate disposal facility. For sanitary sewer discharge, groundwater treatment, following removal of solids, should be conducted to remove chemical constituents. The treated groundwater should then be discharged at rates in compliance with City of Oakland sewer capacity constraints.

### 3.2.1.1 DISCHARGE TREATMENT

Extracted groundwater will be placed in on-Site aboveground storage tanks to allow for gravity settling of suspended sediments. The treatment system will be plumbed so that additional influent storage can be added as needed. Following removal of solids, the extracted water will be treated to remove petroleum hydrocarbons and VOCs.

#### Granular Activated Carbon Adsorption

Following removal of solids, the groundwater will be treated for removal of dissolved organics. Granular activated carbon (GAC), a common form of activated carbon for water treatment, will be used during treatment to adsorb dissolved organics, including petroleum hydrocarbons. The adsorption rate is a function of influent water quality, the specific contaminant's adsorption kinetics (isotherms) and the degree of removal efficiency required to achieve the discharge standard. GAC is manufactured in size ranges of 20 to 40 mesh. The carbon is installed in a vessel and raw water is passed through the activated carbon bed. Vessels are sized based upon the contaminant, concentration and flow.

In addition to required compliance monitoring, to avoid the problem of "breakthrough" due to exhausting the adsorption capacity of the carbon, two GAC units will be plumbed in series. Water samples will be routinely collected from a sample port between the carbon vessels. The samples will be analyzed for petroleum hydrocarbons to monitor for breakthrough. If breakthrough is detected, then the lag carbon vessels will be moved to lead position, and new carbon vessels installed in the lag position.

## **4.0 NOTIFICATION PROCEDURES**

As identified above, soil, soil gas and groundwater containing TPH, PAHs and metals might be encountered following Site construction and should be managed in accordance with Section 3.0. In the event that uncharacterized, contaminated material is encountered during future maintenance activities, and it is unrelated to known sources (i.e., it does not fit the contaminant and risk profiles presented in the *RAP*), the contractor should follow the procedures presented below. Notices are required to be submitted to the ACEH when conditions do not conform to the *LUC*; and when ownership of the property is transferred.

### **4.1 NON-CONFORMANCE NOTIFICATION**

If the Site owner identifies any conditions that are not in conformance with the *LUC* during the annual inspections or at any other time, the Site owner must within 10 days of identifying the violation: determine the identity of the party in violation, send a letter advising the party of the violation of the *LUC*, and demand that the violation ceases immediately. Additionally, copies of any correspondence related to the violation of the *LUC* are required to be sent to the ACEH within 10 days of its original transmission.

### **4.2 SUBSEQUENT OWNER NOTIFICATION**

The Site owner is required to provide written notice to the ACEH not later than thirty (30) days after any conveyance of any ownership interest in the Site. The written notice should include the name and mailing address of the new Site owner and shall reference the Site name and Case No.: RO3206. The notice should also include the Assessor's Parcel Number. Disclosure of Site investigation reports to a future buyer and/or developer should be conducted to provide appropriate information on the conditions at the Site.

### **4.3 DISCOVERY**

Upon the discovery of newly found contamination following Site development activities, operations within 20-feet of the boundary of the discovery will cease and the area will be enclosed by the contractor using suitable barriers, i.e., chain link fence, fabric fence, etc. Known contaminants that are found to have affected a larger area are not to be considered as “newly found contamination” as this term is reserved for contaminants not reasonably anticipated given the known sources, or for which a risk management analysis has not been presented by this *RRMP*. An appropriately qualified environmental professional should then make an initial determination of the nature of the discovered condition in the field using observations and field equipment.

#### **4.3.1 Notification Requirements**

Initial identification of hazardous substances is often based on visual or olfactory observations by the contractor. However, to protect worker health and safety and to ensure accurate results, after proper notification, an appropriately qualified environmental professional should be contacted to conduct or oversee the field screening activities using direct reading equipment such as a photoionization detector (PID). If the field tests and visual observations indicate contamination, the Site owner will notify the ACEH of the initial discovery of newly found contamination.

Samples will be collected for laboratory analysis and grading operations will stop in the immediate area pending review of the laboratory analytical results and approval from the ACEH that operations may continue. Based on the results of the laboratory analysis, one of two scenarios could occur:

- **No Action Required:** If the results of the analytical testing reveal concentrations of constituents that are less than applicable screening levels, the ACEH will be notified via email of the event including confirmation test results. After review of the sample results

and concurrence by the ACEH that operations may continue, Site development work in this area will proceed.

- **Action Required:** If the results of the analytical testing reveal concentrations of constituents that exceed applicable screening levels, the Site owner shall notify via email the ACEH of the analytical testing results. The notification shall include a report that identifies the location of the contamination, applicable regulatory comments, remedy and duration of work plan.

#### **4.3.2 Conditions Posing an Immediate Threat**

For life-threatening or serious hazardous materials incidents, local police, fire and rescue services shall also be contacted by calling 9-1-1.

In addition, the ACEH will be notified immediately upon the discovery of any condition posing an immediate threat to public health or safety or the environment. Within seven days of the onset of such a condition, a report will be submitted to the ACEH, setting forth the events that occurred and the measures taken in response thereto.

#### **4.3.3 Releases to Water**

For any quantity of spill or release of hazardous substances or petroleum hydrocarbons to water, the following numbers shall be contacted immediately upon discovery:

- National Spill Response Center: 1-800-424-8802;
- California Office of Emergency Services: (916) 845-8510;
- California Regional Water Quality Control Board – San Francisco Bay Region: (510) 622-2300; and

- Alameda County Environmental Health: (510) 567-6700.

#### **4.3.4 Releases to Soil**

For spills or releases of hazardous substances or petroleum hydrocarbons to soil that are considered, based on best professional judgment and/or physical evidence (including but not limited to olfactory, visual, field instrument, and lab data), to be an immediate threat to human health and the environment, the ACEH shall be contacted immediately upon discovery. Spills or releases not considered an immediate threat to human health and the environment will be reported to the ACEH within 24-hours.

#### **4.3.5 Underground Storage Tank (UST) Notification**

Special consideration is necessary when underground storage tanks (USTs) are encountered. The decommissioning of USTs is regulated by the ACEH. The owner/operator must notify the ACEH within 24 hours of discovering a leak or release from a UST. Once the agencies are notified, subsequent Site assessment activities will be conducted.

### **4.4 INITIAL SITE-MANAGEMENT PROCEDURES**

After the notification procedures have been initiated, an appropriately qualified environmental professional will assess the health and safety situation to determine whether workers can safely continue working within the affected area. If continuation of Site maintenance within the affected area is deemed to not pose an unacceptable threat to human health and the environment, appropriate initial Site-management procedures will be implemented, as described below.

The initial Site-management includes handling, excavation, dewatering, disposal and transportation of hazardous substances necessary to allow Site development to continue. Throughout the initial Site-management process, the Site owner, working with the ACEH should review the project and determine whether immediate corrective actions may be necessary and

how to prevent an off-Site release of the material. The Site owner, or its designee, will oversee the implementation of the applicable sampling program necessary to characterize the material and facilitate laboratory analysis of samples.

#### **4.4.1 Segregating Contaminated Material**

The first step in initial site-management of potentially contaminated media is segregating the material from clean material. If Site conditions allow, a stockpile area should be established to segregate potentially contaminated soil, incorporating Best Management Practices (BMPs) such as a lining, silt fences, straw bales and cover material and in compliance with Bay Area Air Quality Management District (BAAQMD) requirements. To limit the volume of affected media, clean material should not be added to existing contaminated material.

Alternatively, roll-off boxes, aboveground storage tanks (ASTs) or 55-gallon drums may be used to contain materials. Soil or sediment suspected of being contaminated through olfactory or visual evidence should be segregated and placed in a lined and covered stockpile until it can be characterized (sampled and analyzed) by qualified personnel.

Potentially contaminated groundwater or sludge should likewise be segregated through methods such as AST, drums, or similar methods. These materials should be characterized by sampling and analysis under the direction of appropriately qualified and trained personnel. Airborne contaminants such as dust laden with heavy metals should be controlled using dust suppression methods, such as water trucks and mulch.

In the event that contaminated material is to be stockpiled, soil samples will be collected from the stockpile for characterization prior to disposal. Baseline soil samples will also be collected to characterize the soil conditions within the designated stockpile area. The stockpiles will then be covered with plastic, weighed down with sand bags to minimize the potential for the contaminated material to become airborne, and inspected daily. Following removal of the

stockpiles, soil samples will be collected from the stockpile area to verify that the underlying soil has not been impacted.

## **5.0 MONITORING AND MAINTENANCE PROGRAM**

This section summarizes the post-construction monitoring and maintenance requirements. The monitoring and maintenance program addresses the long-term management of the engineering controls installed pursuant to the RAP including those within the landscape and hardscape areas and the methane mitigation system. Maintenance and monitoring will begin once Site development is complete and include annual inspections of the landscape and hardscape areas. Future owners, occupants, managers and contractors who are delegated or authorized to perform property maintenance or construction will be required to comply with the measures identified in the *RRMP* for long-term maintenance of engineering controls and remedial systems at the Site.

For the methane mitigation system, the frequency and parameters for the monitoring and maintenance program will be included in the *O&M Plan*. The *O&M Plan* will be submitted to the ACEH following installation of the methane mitigation system and appended to the *RRMP*.

### **5.1 INSTITUTIONAL CONTROLS**

Soil beneath marker fabrics, buildings and hardscapes as well as shallow groundwater require institutional controls to limit use or contact. Therefore, the LUCs will limit direct contact with soil and groundwater unless permitted in writing by the ACEH.

### **5.2 ENGINEERING CONTROLS**

Engineering controls implemented pursuant to the *RAP* will be inspected and maintained, as necessary. Soil containing TPH, PAHs and lead will be present beneath geotextile marker fabric in landscape areas and beneath buildings and hardscapes. A methane mitigation system will be installed beneath building(s), as necessary, to control migration of methane to indoor air. Trench dams will be installed within utility corridors to control preferential migration of shallow groundwater containing TPH.

### **5.2.1 Landscaping and Hardscape Maintenance**

Maintenance of the landscape and hardscape areas requires periodic inspections. Stresses producing minor defects are caused by changes in temperature or moisture content, traffic, or by small movements in underlying or adjacent materials. The landscape and hardscape areas will be inspected on an annual basis during the third quarter of each year (i.e., between July and September). The inspections will be conducted to identify areas of cracking, ponding or settlement so that repairs can be made before the onset of rainy season.

During each inspection, an Inspection Form will be completed, which describes the condition of the landscape and hardscape area and locates areas that require further inspection or repair. This Inspection Form will be included as an appendix to an Annual Inspection Report submitted to the ACEH for the Site. An example Site Inspection Form has been included in Appendix A.

#### **5.2.1.1 REPAIR PROCEDURES**

Procedures for correcting distresses in the hardscapes include patching, crack and surface sealing, and in some cases resurfacing. Patching may be either temporary or permanent repair. Repairs to the hardscapes should be conducted in accordance with the Site construction plans and specifications.

### **5.2.2 Methane Mitigation Systems Maintenance**

All systems shall be maintained as installed and recommended by the manufacturer and/or system designer, as set forth in the *O&M Plan*.

### **5.2.3 Methane Mitigation Systems Monitoring**

The monitoring frequency for the methane mitigation system will be detailed in the *O&M Plan* and include: once following construction completion; in accordance with the manufacturer and/or system designer; and/or following building modifications, to evaluate the effectiveness of the

mitigation system. The monitoring will include field measurements of subslab methane gas concentrations beneath the building. The monitoring frequency will continue, unless otherwise modified with concurrence from the ACEH.

#### 5.2.3.1 SUBSLAB MONITORING

The subslab methane gas concentrations will be measured using the subslab monitoring ports installed beneath the building (Figure 5-1). Portable field instruments including an flame ionization detector (FID) or equivalent device will be used to draw air from beneath the buildings through the subslab monitoring port. If methane concentrations are detected above the action level, then air will be introduced through the subslab monitoring port to sweep methane concentrations out through the vent riser. The subslab concentrations will be recorded on the Site Inspection Form.

### **5.2.4 Reporting**

The owner or operator will submit an annual inspection report to ACEH. The annual inspection report must include the dates, times and names of those who conducted the inspection and reviewed the annual inspection report. The annual report should also: describe how the observations were performed (e.g., drive by, fly over, walk in, etc.); summaries of repairs and maintenance work, if conducted, during the reporting period; and recommendations, if any, for repairs and corrective actions.

### **5.3 RECORDKEEPING**

The Site owner will maintain a central repository of the data, reports and other documents associated with Site environmental conditions. All such data, reports and other documents should be preserved for a minimum of six (6) years after the conclusion of all activities referenced in such documents. If the ACEH requests that some or all of these documents be

preserved for a longer period of time, the party should either comply with that request, deliver the documents to the ACEH, or permit the ACEH to copy the documents prior to destruction.

The Site owner should notify the ACEH in writing at least ninety (90) days prior to the expiration of the six-year minimum retention period before destroying any documents related to the Site. If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the six-year period, the related records should be retained until the completion and resolution of all issues arising there from or until the end of the six-year period, whichever is later.

When requested by the ACEH, the owner is required to make available to the ACEH, and provide copies of, all data and information concerning contamination at the Site, including technical records and contractual documents, sampling and monitoring information and photographs and maps.

## 6.0 REFERENCES

Alameda County Environmental Health, *Case Closure for Fuel Leak Case No. RO0000039 (Geotracker Global ID T0600102107), Roadway Express, 1708 Wood Street, Oakland, California, July 30, 2015 (ACEH, 2015).*

California Regional Water Quality Control Board – San Francisco Bay Region, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater (Regional Water Board, 2016).*

Grafcon, *Environmental Site Summary, 1708 Wood Street, Oakland, California, November 21, 2016 (Grafcon, 2016).*

State Water Resources Control Board, *Resolution No. 92-49: Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304, October 2, 1996 (SWRCB, 1996).*

USEPA, *Indoor Air Vapor Intrusion Mitigation Approaches, Engineering Issue, EPA/600/R-08-115, October 2008 (USEPA, 2008).*

United States Environmental Protection Agency (USEPA), Office of Solid Waste and Emergency Response, *Engineering Controls Fact Sheet: Engineering Controls on Brownfields Information Guide: How They Work with Institutional Controls; the Most Common Types Used; and an Introduction to Costs, EPA-560-F-10-005, November 2010 (USEPA, 2010).*

West Environmental Services & Technology, Inc, *Remedial Action Plan, 1708 Wood Street, Oakland, California, January 2017 (WEST, 2017).*

## **7.0 DISTRIBUTION LIST**

Mr. Martin Ward  
PSAI IV Partners, LLC  
155 Montgomery Street, Suite 1600  
San Francisco, CA 94104

Mr. Keith Nowell, P.G., C.H.G.  
Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502

RESIDUAL RISK MANAGEMENT PLAN  
1708 WOOD STREET  
OAKLAND, CALIFORNIA



## **TABLES**

TABLE 2-1  
SUMMARY OF SOIL ANALYTICAL RESULTS-TPH and VOCS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE
<i>Area 1-Northwestern UST Area</i>											
BM-7	12/10/07	6	0.5 U	0.5 U	86	--	--	--	--	--	--
BM-8	<del>12/10/07</del>	7	0.5 U	0.5 U	1,700	--	--	--	--	--	--
BM-9	<del>12/10/07</del>	5	0.5 U	0.5 U	83	--	--	--	--	--	--
BM-16	8/5/08	19	1.0 U	2.4 SG Y	13 SG	--	5.2 U	5.2 U	5.2 U	5.2 U	21 U
		29	1.0 U	1.0 SG	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	20 U
BM-17	8/5/08	10.5	1.0 U	2.4 SG Y	16 SG	--	5.0 U	5.0 U	5.0 U	5.0 U	20 U
		23	1.0 U	3.1 SG Y	15 SG	--	4.9 U	4.9 U	4.9 U	4.9 U	19 U
		25	1.0 U	1.3 SG Y	8.2	--	5.2 U	5.2 U	5.2 U	5.2 U	21 U
BM-18	8/5/08	2.5	1.0 U	3.7 SG Y	16 SG	--	4.9 U	4.9 U	4.9 U	4.9 U	19 U
		8.5	1.0 U	< 1.0 SG	< 5.0 SG	--	5.1 U	5.1 U	5.1 U	5.1 U	20 U
		12.5	0.9 U	2.0 SG Y	13 SG	--	4.7 U	4.7 U	4.7 U	4.7 U	19 U
BM-19	8/5/08	8.0	1.0 U	7.6 SG Y	15 SG	--	4.9 U	4.9 U	4.9 U	4.9 U	20 U
		11	1.0 U	3.7 SG Y	19 SG	--	4.9 U	4.9 U	4.9 U	4.9 U	20 U
		19	1.0 U	1.0 U	5.0 U	--	4.9 U	4.9 U	4.9 U	4.9 U	19 U
		22	0.9 U	1.0 U	5.0 U	--	4.7 U	4.7 U	4.7 U	4.7 U	19 U
SB-1	2/15/11	2.5-3	0.3 U	10	49 U	510	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U
SB-2	<del>2/15/11</del>	<del>2.5-3</del>	<del>0.3 U</del>	<del>130</del>	<del>49</del>	<del>540</del>	<del>0.006 U</del>	<del>0.006 U</del>	<del>0.006 U</del>	<del>0.011 U</del>	<del>0.006 U</del>
SB-3	<del>2/15/11</del>	--	<del>0.3 U</del>	<del>21</del>	<del>61</del>	<del>1,000</del>	<del>0.006 U</del>	<del>0.006 U</del>	<del>0.006 U</del>	<del>0.011 U</del>	<del>0.006 U</del>
WEST-W	10/31/11	16	0.2 U	10 U	20 U	--	0.0077 U	0.0077 U	0.0077 U	0.0015 U	0.0077 U
WEST-E	<del>10/31/11</del>	<del>16</del>	<del>0.1 U</del>	<del>9.9 U</del>	<del>20 U</del>	<del>--</del>	<del>0.0053 U</del>	<del>0.0053 U</del>	<del>0.0053 U</del>	<del>0.0011 U</del>	<del>0.0053 U</del>
EAST-W	<del>10/31/11</del>	<del>15.5</del>	<del>0.1 U</del>	<del>9.9 U</del>	<del>20 U</del>	<del>--</del>	<del>0.0051 U</del>	<del>0.0051 U</del>	<del>0.0051 U</del>	<del>0.0010 U</del>	<del>0.0051 U</del>
EAST-E	<del>10/31/11</del>	<del>16</del>	<del>0.1 U</del>	<del>9.9 U</del>	<del>20 U</del>	<del>--</del>	<del>0.0055 U</del>	<del>0.0055 U</del>	<del>0.0055 U</del>	<del>0.0011 U</del>	<del>0.0055 U</del>
SW1-E3	11/18/11	--	1.1	42	196	--	0.0092U	0.0092U	0.0092U	0.018U	0.0092U
SW2-N5	11/18/11	--	4.8 J	173	76	--	0.240 U	0.240 U	0.240 U	0.490 U	0.240 U
SW3-W4B	11/18/11	--	40	206	40 U	--	0.420U	0.420U	0.420U	0.840 U	0.420U
SW4-W	11/18/11	3.5	104	<b>5,930</b>	1,140 J	--	4.800 U	4.800 U	4.800 U	0.600 U	4.800 U

TABLE 2-1  
SUMMARY OF SOIL ANALYTICAL RESULTS-TPH and VOCS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE
<i>Area 2-Central UST Basin/Oil Water Separator Area/Maintenance Shop</i>											
B-1	7/1/97	--	1 U	1 U	--	--	--	--	--	--	--
B-3	7/1/97	--	1 U	240	--	--	--	--	--	--	--
B-4	7/1/97	--	1 U	1 U	--	--	--	--	--	--	--
B-5	7/1/97	--	1 U	5.4	--	--	--	--	--	--	--
B-6	7/1/97	--	1 U	1 U	--	--	--	--	--	--	--
B-7	7/1/97	--	1 U	1 U	--	--	--	--	--	--	--
B-8	7/1/97	--	1 U	1 U	--	--	--	--	--	--	--
BM-2	12/10/07	5	0.50 U	8.8 Y	86	--	--	--	--	--	--
		13	0.50 U	0.50 U	--	--	--	--	--	--	--
BM-10	12/10/07	5	0.9 U	4.5 SG Y	12 SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.019 U
		24	0.9 U	1.0 U	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.018 U
BM-11	12/10/07	2.5	0.9 U	30 SG Y	860 SG Y	--	0.005 U	0.005 U	0.005 U	0.005 U	0.019 U
		11	0.9 U	1.0 U SG	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.019 U
		20	1.0 U	1.1 SG Y	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.018 U
BM-12	12/10/07	3	1.0 U	65 SG Y	130 SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.018 U
		9.5	0.9 U	1.2 SG Y	10 SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.019 U
		19.5	1.0 U	1.0 U	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.020 U
BM-13	12/10/07	3.5	1.0 U	3.7 SG Y	13SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.021 U
		21	1.0 U	1.0 U	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.021 U
BM-14	12/10/07	3	1.0 U	56 SG Y	90 SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.020 U
		17.5	1.0 U	1.0 U	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.020 U
		23.5	1.0 U	1.0 U	5.0 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.019 U
BM-15	12/10/07	3.5	1.0 U	45 SG Y	320 SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.020 U
		11	1.0 U	1.3 SG Y	11 SG	--	0.005 U	0.005 U	0.005 U	0.005 U	0.020 U

TABLE 2-1  
SUMMARY OF SOIL ANALYTICAL RESULTS-TPH and VOCS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE
OWS-1N	10/27/11	3	0.1 U	70	271	--	0.004 U	0.004 U	0.004 U	0.009 U	0.004 U
OWS-2NE	10/27/11	3	0.2	<b>1,420</b>	2,300	--	0.460 U	0.460 U	0.460 U	0.920 U	0.460 U
OWS-3E	10/27/11	3	0.1	28	78	--	0.004 U	0.004 U	0.004 U	0.009 U	0.004 U
OWS-4S	10/27/11	3.5	0.1 U	40	76	--	0.003 U	0.003 U	0.003 U	0.007 U	0.003 U
OWS-5W	10/27/11	3	0.1 J	55	89	--	0.006 U	0.006 U	0.006 U	0.011 U	0.006 U
OWS-6F	10/27/11	4	0.604	<b>628</b>	510	--	0.510 U	0.510 U	0.510 U	1.0 U	0.510 U
OWS-11-A	10/27/11	3	0.1 U	10 U	20 U	--	0.007 U	0.007 U	0.007 U	0.001 U	0.007 U
OWS NEA	10/27/11	3	0.1 U	7.1 J	16.4 J	--	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
OWSL 1	10/27/11	4	0.1 U	10 U	20 U	--	0.007 U	0.007 U	0.007 U	0.001 U	0.007 U
OWSL 2	10/27/11	3	0.1 U	25	14.8 J	--	0.005 U	0.005 U	0.005 U	0.009 U	0.005 U
OWSL 3	10/27/11	4	0.1 U	9.5 J	10.2 J	--	0.006 U	0.006 U	0.006 U	0.011 U	0.006 U
OWSL 4	10/27/11	2	0.1 U	53	82	--	0.004 U	0.004 U	0.004 U	0.009 U	0.004 U
SB-9	3/18/11	1-1.5	0.2 U	6.1	50 U	--	--	--	--	--	--
SB-9	3/18/11	7.5-8	0.2 U	1.0 U	50 U	--	--	--	--	--	--
SB-11	2/16/11	2-2.5	310	<b>8,700</b>	3,400	20,000	0.013 U	0.013 U	0.013 U	0.027 U	0.013 U
SB-12	2/16/11	2-2.5	0.3 U	19	54	940	0.007 U	0.007 U	0.007 U	0.014 U	0.007 U
SB-13	2/16/11	1.5-2	0.3 U	2.3	50 U	490 U	0.006 U	0.006 U	0.006 U	0.011 U	0.006 U
SB-14	3/18/11	14.5-16	0.2 U	1.9	50 U	490 U	0.005 U	0.005 U	0.005 U	0.009 U	0.005 U
SB-20	3/18/11	1-1.5	--	--	--	--	--	--	--	--	--
		11.5-12	--	1.0 U	50 U	--	--	--	--	--	--
SB-22	3/18/11	1-1.5	0.3	<b>370</b>	2,100	--	--	--	--	--	--
		7.5-8	0.2 U	2	49 U	--	--	--	--	--	--
SB-23	3/18/11	1-1.5	0.3 U	57	280	--	--	--	--	--	--
		7.5-8	0.2 U	2	49 U	--	--	--	--	--	--

TABLE 2-1  
SUMMARY OF SOIL ANALYTICAL RESULTS-TPH and VOCS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE
<i>Loading Doack Building</i>											
SB-4	2/15/11	2-2.5	--	37	84	--	0.007 U	0.007 U	0.007 U	0.014 U	0.007 U
SB-5	2/15/11	2-2.5	--	220	420	--	0.007 U	0.007 U	0.007 U	0.013 U	0.007 U
SB-6	2/15/11	2-2.5	--	<b>2,700</b>	9,200	--	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U
SB-7	2/16/11	2.5-3	--	1.7	50 U	--	0.010 U	0.010 U	0.010 U	0.020 U	0.010 U
SB-8	2/17/11	1.5-2	0.3 U	<b>2,400</b>	6,800	--	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U
<i>Eastern Side of Subject Property</i>											
SB-15	2/16/11	2-2.5	0.3 U	45	240	--	0.005 U	0.005 U	0.005 U	0.011 U	0.005 U
SB-16	2/17/11	2-2.5	0.4 U	<b>290</b>	2,200	--	0.008 U	0.008 U	0.008 U	0.015 U	0.008 U
SB-24	3/18/11	1-1.5	--	55	110	--	--	--	--	--	--
		11.5-12	--	1.0 U	50 U	--	--	--	--	--	--
SB-25	3/18/11	1-1.5	--	8.0	49 U	--	--	--	--	--	--
		11.5-12	--	1.1	49 U	--	--	--	--	--	--
SB-26	3/18/11	1-1.5	--	25	60	--	--	--	--	--	--
		11.5-12	--	1.0 U	49 U	--	--	--	--	--	--
SB-27	3/18/11	1-1.5	--	80	170	--	--	--	--	--	--
		11.5-12	--	1.0 U	50 U	--	--	--	--	--	--
Residential ESLs			740	230	11,000	--	0.23	970	5.1	560	42
Construction Worker ESLs			2,800	880	32,000	--	24.00	4,100	480	2,400	3,700

Notes:

Bolded Values exceed its respective screening level (human health shallow soil residential)

All results reported in micrograms per kilogram (mg/kg)

J= EPA Flag-Estimated Value

U= Constituent not detected at or above the indicated value

SG= Sampled Analyzed with Silica Gel Cleanup

Y= Atypical Pattern

7-8=Sample location excavated from site

TABLE 2-2  
SUMMARY OF SOIL ANALYTICAL RESULTS-PAHS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	Naphthalene	Acenaphthene	Accenaphthylene	Fluorene	Phenanthrene	Anthracene	Benzo(a)anthracene	Chrysene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g, h, i)perylene	Indeno(1, 2, 3-cd)pyrene	Fluoranthene	Pyrene	Dibenz(a, h)anthracene
<i>Area 1-Northwestern UST Area</i>																		
SB-1	2/15/11	2.5-3	0.017	0.010 U	0.066	0.020	0.260	0.094	<b>0.300</b>	0.280	<b>0.270</b>	<b>0.270</b>	0.110	0.120	0.099	0.360	0.560	<b>0.037</b>
SB-2	<del>2/15/11</del>	<del>2.5-3</del>	<del>0.010 U</del>	<del>0.010 U</del>	<del>0.0053</del>	<del>0.010 U</del>	<del>0.011</del>	<del>0.006</del>	<del>0.007</del>	<del>0.006</del>	<del>0.009</del>	<del>0.009</del>	<del>0.010 U</del>	<del>0.007</del>	<del>0.010 U</del>	<del>0.012</del>	<del>0.016</del>	<del>0.010 U</del>
SB-3	<del>2/15/11</del>	--	<del>0.010 U</del>	<del>0.010 U</del>	<del>0.010 U</del>	<del>0.010 U</del>	<del>0.010 U</del>	<del>0.010 U</del>	<del>0.010 U</del>									
<i>Loading Dock Area</i>																		
SB-4	2/15/11	2-2.5	0.029	0.058	0.022	0.081	0.670	0.200	<b>0.230</b>	0.200	<b>0.180</b>	<b>0.210</b>	0.084	0.069	0.068	0.530	0.570	<b>0.017</b>
SB-5	2/15/11	2-2.5	0.001 U	0.082	0.100	<b>0.160</b>	<b>0.180</b>	0.054	0.140	0.090	0.150	0.250	<b>0.017</b>					
SB-6	2/15/11	2-2.5	0.001 U	0.055	0.083	<b>0.058</b>	0.100	0.001 U	0.001 U	0.001 U	0.065	0.099	0.001 U					
SB-7	2/16/11	2.5-3	0.001 U	0.001 U	0.001 U	0.001 U	0.000 U	0.001 U	0.001 U									
SB-8	2/17/11	1.5-2	0.250 U	<b>0.450</b>	0.760	<b>0.350</b>	<b>0.450</b>	0.250 U	0.250 U	0.250 U	0.250 U	0.680	0.250 U					
<i>Eastern Area/Historical Use Area</i>																		
SB-15	2/16/11	2-2.5	0.500 U	0.500 U	0.170	0.078	0.900	0.150	<b>0.750</b>	0.850	<b>1.000</b>	<b>1.100</b>	0.490	0.480	0.400	1.400	2.000	<b>0.100</b>
SB-16	2/17/11	2-2.5	0.500 U	0.500 U	0.052	0.220	0.500 U	0.500 U	<b>0.220</b>	0.280	<b>0.340</b>	<b>0.450</b>	0.170	0.130	0.098	0.390	0.620	0.500 U
SB-24	3/18/11	1-1.5	0.099 U	0.099 U	0.110	0.099 U	0.540	0.160 U	<b>0.380</b>	0.420	<b>0.480</b>	<b>0.540</b>	0.240	0.230	0.190	0.740	1.100	0.099 U
		11.5-12	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U									
SB-25	3/18/11	1-1.5	0.005 U	0.005 U	0.005 U	0.005 U	0.027	0.006	0.038	0.042	<b>0.039</b>	0.057	0.025	0.025	0.021	0.650	0.072	0.007
		11.5-12	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U									
SB-26	3/18/11	1-1.5	0.010 U	0.015	0.010 U	0.010 U	0.010 U	0.011	0.014	0.010 U								
		11.5-12	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U									
SB-27	3/18/11	1-1.5	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U									
		11.5-12	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U									
Residential ESLs			3.3	3,600	--	2,400	--	18,000	0.16	15	0.016	0.16	1.6	--	1.60	60	85	0.016
Construction Worker ESLs			350	10,000	--	6,700	--	50,000	16	1,500	1.6	16	150	--	16	6,700	5,000	1.6

Notes:

Bolded Values exceed its respective screening level (human health shallow soil residential)

All results reported in micrograms per kilogram (mg/kg)

J= EPA Flag-Estimated Value

U= Constituent not detected at or above the indicated value

SG= Sampled Analyzed with Silica Gel Cleanup

Y= Atypical Pattern

7-8--Sample location excavated from site

TABLE 2-3  
SUMMARY OF SOIL ANALYTICAL RESULTS-METALS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Silver	Vanadium	Mercury	Zinc
<i>Area 1-Northwestern UST Area (Soil)</i>																
BM-7	12/10/07	6	3.2	34	1.0 U	1.0 U	50	8.0	23	9.6	1.4	37	1.0 U	41	0.050 U	61
BM-8	12/10/07	7	5.4	54	1.0 U	1.0 U	42	5.3	36	49	1.0 U	26	1.0 U	35	0.250	100
BM-9	12/10/07	5	2.8	94	1.0 U	1.0 U	31	7.7	28	22	1.0 U	25	1.0 U	33	0.050 U	70
SB-1	2/15/11	2.5-3	11	1,000	<0.38	3.3	206	10	270	780	<1.9	60	1.0	25	0.67	1,200
SB-2	2/15/11	2.5-3	4.8	77	<0.38	<0.48	39	5.5	23	44	<1.9	31	<0.95	32	0.097	120
SB-3	2/15/11	--	4.4	21	<0.42	<0.53	40	5.0	16	18	<2.1	31	<1.1	29	0.037	48
WEST-W	10/31/11	16	--	--	--	0.9 U	51.8	--	--	5.6	--	49.2	--	--	--	44.5
WEST-E	10/31/11	16	--	--	--	0.9 U	49.9	--	--	5.0	--	45.3	--	--	--	41.0
EAST-W	10/31/11	15.5	--	--	--	0.9 U	49.6	--	--	5.3	--	47.9	--	--	--	43.8
EAST-E	10/31/11	16	--	--	--	0.9 U	46	--	--	3.9	--	37.0	--	--	--	35.7
SW1-E3	11/18/11	3	--	--	--	0.9 U	28.5	--	--	3.2	--	16.6	--	--	--	28
SW2-N5	11/18/11	5	--	--	--	0.9 U	52.4	--	--	7.4	--	61.2	--	--	--	56.1
SW3-W4B	11/18/11	4	--	--	--	0.9 U	50.6	--	--	5.8	--	54.1	--	--	--	50.8
SW4-W	11/18/11	3.5	--	--	--	0.9 U	42	--	--	197	--	44	--	--	--	180
<i>Area 2-Central UST Basin/Oil Water Separator Area/Maintenance Shop</i>																
BM-1	12/1/07	8	5.1	21	1.0 U	1.4	44	14	19	6	1.0 U	65	1.0 U	36	0.050 U	51
SB-9	3/18/11	1-1.5	--	--	--	--	--	--	--	160	--	--	--	--	--	--
SB-9	3/18/11	7.5-8	--	--	--	--	--	--	--	4.3	--	--	--	--	--	--
SB-11	2/16/11	2-2.5	7.8	76	0.4 U	1.1	39	7.7	36	420	2.1 U	44	1.0 U	17	0.270	210
SB-12	2/16/11	2-2.5	5.9	270	0.4 U	1.1	43	9.0	27	1,300	1.9 U	37	1.0 U	28	0.100	290
SB-13	2/16/11	1.5-2	4.3	110	0.4 U	0.5 U	45	5.8	22	110	2.1 U	32	1.1 U	34	0.043	100
SB-14	3/18/11	14.5-16	4.2 U	87	0.4 U	0.5 U	26	4.0	6.3 U	4.4	2.1 U	18	1.1 U	16	0.033	12
SB-20	3/18/11	1-1.5	--	--	--	--	--	--	--	50	--	--	--	--	--	--
		11.5-12	--	--	--	--	--	--	--	6.7	--	--	--	--	--	--

TABLE 2-3  
SUMMARY OF SOIL ANALYTICAL RESULTS-METALS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Silver	Vanadium	Mercury	Zinc
SB-21	3/18/11	1-1.5	--	--	--	--	--	--	--	14,000	--	--	--	--	--	--
		3.5-4	--	--	--	--	--	--	--	690	--	--	--	--	--	--
SB-22	3/18/11	1-1.5	--	--	--	--	--	--	--	4,800	--	--	--	--	--	--
		7.5-8	--	--	--	--	--	--	--	6.6	--	--	--	--	--	--
SB-23	3/18/11	1-1.5	--	--	--	--	--	--	--	30	--	--	--	--	--	--
		7.5-8	--	--	--	--	--	--	--	6.4	--	--	--	--	--	--
OWS-1N	<del>10/27/11</del>	3	--	--	--	0.9 U	30	--	--	57	--	35	--	--	--	102
OWS-2NE	<del>10/27/11</del>	3	--	--	--	5.0	30	--	--	171	--	43	--	--	--	1710
OWS-3E	<del>10/27/11</del>	3	--	--	--	2.0	31	--	--	412	--	77	--	--	--	539
OWS-4S	<del>10/27/11</del>	3.5	--	--	--	0.9 U	30	--	--	184	--	37	--	--	--	155
OWS-5W	<del>10/27/11</del>	3	--	--	--	0.9 U	33	--	--	59	--	26	--	--	--	51
OWS-6F	<del>10/27/11</del>	4	--	--	--	1.0 U	45	--	--	70	--	27	--	--	--	99
OWS-11-A	<del>10/27/11</del>	3	--	--	--	1.0 U	44	--	--	4.7	--	22	--	--	--	32
OWS NEA	<del>10/27/11</del>	3	--	--	--	12	37	--	--	59	--	39	--	--	--	1990
OWSL 1	<del>10/27/11</del>	4	--	--	--	1.0 U	53	--	--	6.6	--	32	--	--	--	57
OWSL 2	<del>10/27/11</del>	3	--	--	--	0.9 U	51	--	--	28	--	41	--	--	--	100
OWSL 3	<del>10/27/11</del>	4	--	--	--	1.0 U	47	--	--	21	--	33	--	--	--	81
OWSL 4	<del>10/27/11</del>	2	--	--	--	1.0 U	40	--	--	54	--	43	--	--	--	85
<i>Loading Dock Area</i>																
SB-4	2/15/11	2-2.5	8.6	13	0.4 U	0.5 U	42	3.7	21	3.2	3.4	24	1.0 U	33	0.120	100
SB-5	2/15/11	2-2.5	5.0	34	0.4 U	0.5 U	48	5.1	26	8.5	<2.1	33	1.0 U	35	0.150	130
SB-6	2/15/11	2-2.5	3.8 U	85	0.4 U	0.5 U	49	4.4	18	19	<1.9	34	1.0 U	34	0.043	47
SB-7	2/16/11	2.5-3	4.5	120	0.4 U	0.5 U	81	10	23	15	<2.0	100	1.0 U	31	0.062	60
SB-8	2/17/11	1.5-2	3.9 U	160	0.4 U	0.5 U	59	7.7	14	10	<2.0	59	1.0 U	20	1.1	36

TABLE 2-3  
SUMMARY OF SOIL ANALYTICAL RESULTS-METALS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Depth (ft bgs)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Silver	Vanadium	Mercury	Zinc
<i>Eastern Side of Subject Property</i>																
SB-15	2/16/11	2-2.5	2.0 U	110	0.4 U	0.5 U	46	7.5	28	<b>250</b>	2.0 U	34	1.0 U	28	0.380	100
SB-16	2/17/11	2-2.5	4.2	130	0.4 U	0.5 U	35	6.0	41	<b>340</b>	2.0 U	29	1.0 U	26	0.180	250
SB-24	3/18/11	1-1.5	--	--	--	--	--	--	--	<b>2,100</b>	--	--	--	--	--	--
		11.5-12	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--
SB-25	3/18/11	1-1.5	--	--	--	--	--	--	--	<b>110</b>	--	--	--	--	--	--
		11.5-12	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--
SB-26	3/18/11	1-1.5	--	--	--	--	--	--	--	<b>100</b>	--	--	--	--	--	--
		11.5-12	--	--	--	--	--	--	--	3.6	--	--	--	--	--	--
SB-27	3/18/11	1-1.5	--	--	--	--	--	--	--	<b>160</b>	--	--	--	--	--	--
		11.5-12	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--
Residential ESLs			11	15,000	150	39	120,000	23	3,100	80	40	820	390	390	13	23,000
Construction Worker ESLs			11	3,000	42	39	530,000	28	14,000	160	1,800	86	1,800	470	44	110,000

Notes:

Bolded Values exceed its respective screening level (human health shallow soil residential)

All results reported in micrograms per kilogram (mg/kg)

J= EPA Flag-Estimated Value

U= Constituent not detected at or above the indicated value

SG= Sampled Analyzed with Silica Gel Cleanup

Y= Atypical Pattern

7-8=Sample location excavated from site

TABLE 2-4  
SUMMARY OF SOIL GAS ANALYTICAL RESULTS  
1708 Wood Street  
Oakland, California

Sample ID	Depth (feet)	Date	Dichlorodifluoromethane	Dichlorotetrafluoroethane	Chloroethane	Chloroethene	Bromomethane	Chloroethane	Trichlorofluoro-methane	1,1-Dichloroethene	Trichlorotrifluoroethane	Methylene chloride	1,1-Dichloroethane	cis-1,2-Dichloroethene	Chloroform	1,1,1-Trichloroethane	Carbon Tetrachloride	1,2-Dichloroethane	Benzene	Trichloroethene	1,2-Dichloropropane
			(ug/m <sup>3</sup> )																		
SG-1	1	12/14/16	49.5 U	69.9 U	20.7 U	25.6 U	38.8 U	26.4 U	56.2 U	39.7 U	76.6 U	34.7 U	40.5 U	39.7 U	48.8 U	40.5 U	62.9 U	40.5 U	31.9 U	53.7 U	46.2 U
SG-2	1	12/14/16	9.89 U	14 U	4.13 U	5.11 U	7.77 U	68.8	14.9	7.93 U	15.3 U	6.95 U	8.10 U	7.93 U	10.2	10.9 U	12.6 U	8.09 U	14.2	10.7 U	9.24 U
SG-3	1	12/14/16	4.95 U	6.99 U	2.07 U	2.56 U	3.88 U	2.64 U	5.62 U	4.05 U	7.66 U	3.47 U	4.05 U	3.97 U	13.7	5.46 U	6.29 U	4.05 U	15.1	5.37 U	4.62 U
SG-4	1	12/14/16	198 U	280 U	82.6 U	102 U	155 U	106 U	225 U	159 U	225 U	139 U	162 U	159 U	195 U	218 U	252 U	162 U	128 U	215 U	185 U
Residential ESLs			--	--	47,000	4.7	2,600	5.2E+06	--	37,000	--	510	880	4,200	61	5.2E+05	33	54	48	240	140

Notes:

µg/m<sup>3</sup>: micrograms per meter cubed

U: Constituent not detected at or above the indicated value

--: not available

ESLs: California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Levels (Rev. 3)

a: CalEPA Recommended Action Level for Methane, 2005

TABLE 2-4  
SUMMARY OF SOIL GAS ANALYTICAL RESULTS  
1708 Wood Street  
Oakland, California

Sample ID	Depth (feet)	Date	Toluene	cis-1,3-Dichloropropene	1,1,2-Tetrachloroethane	Tetrachloroethene	1,2-Dibromoethane	Chlorobenzene	Ethyl Benzene	Xylenes	Styrene	1,1,2,2-Tetrachloroethane	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	Hexachlorobutadiene	Methane	Helium
			(ug/m <sup>3</sup> )																	(ppmv)	(%)
SG-1	1	12/14/16	37.7 U	45.4 U	54.6 U	67.8 U	76.8 U	46.0 U	43.4 U	86.8 U	42.6 U	68.7 U	49.2 U	49.2 U	60.1 U	60.1 U	60.1 U	74.2 U	107 U	134,000	0.318
SG-2	1	12/14/16	13.9	9.08 U	10.9 U	13.6 U	15.4 U	9.21 U	8.68 U	17.4 U	8.52 U	13.7 U	9.83 U	22.5	12 U	12 U	12 U	14.8 U	21.3 U	30.1	1.81
SG-3	1	12/14/16	5.88	4.54 U	5.46 U	6.78 U	7.68 U	4.60 U	4.34 U	4.34 U	4.26 U	6.87 U	4.92 U	4.92 U	6.01 U	6.01 U	6.01 U	7.42 U	10.7 U	32.6	0.932
SG-4	1	12/14/16	218 U	182 U	218 U	271 U	307 U	184 U	174 U	347 U	170 U	275 U	202	201	241 U	241 U	241 U	297 U	427 U	212	0.688
Residential ESLs			1.6E+05	88	88	240	2.3	26,000	560	5.2E+04	4.7E+05	24	--	--	--	130	1.0E+05	1,000	--	5,000 <sup>a</sup>	--

Notes:

µg/m<sup>3</sup>: micrograms per meter cubed

U: Constituent not detected at or above the indicated value

--: not available

ESLs: California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Levels (Rev. 3)

a: CalEPA Recommended Action Level for Methane, 2005

TABLE 2-5  
SUMMARY OF SHALLOW GROUNDWATER ANALYTICAL RESULTS-TPH, VOCS, CHLORIDE and PCBs  
1708 Wood Street  
Oakland, California

Sample ID	Date	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	DIPE	PCE	Chloride	PCBs
<i>Area 1- Northwestern UST Basin</i>														
BM-7	12/10/07	50 U	120 Y	--	5,000 U	--	--	--	--	--	--	--	--	--
BM-8	12/10/07	54,000	61,000	--	430,000	--	--	--	--	--	--	--	--	--
BM-9	12/10/07	180	1,200	--	5,000 U	--	--	--	--	--	--	--	--	--
SB-1	2/15/11	50 U	700	760	7,400 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	380,000	0.56 U
SB-2	2/15/11	50 U	3,400	2,600	6,500	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	35,000	0.68 U
SB-3	2/15/11	--	690	2,400	28,000 U	--	--	--	--	--	--	--	--	--
Etank Grab	10/31/11	182	2,180	368 J	--	1.0 U	1.0 U	0.74 J	2.0 U	1.0 U	--	--	--	--
Wtank Grab	10/31/11	598	2,250	271 J	--	5	111	11	62	2.0 U	--	--	--	--
<i>Area 2-Central UST Basin/Oil Water Seperator Area/Maintenance Shop</i>														
B-1	7/24/97	50 U	50 U	--	500 U	--	--	--	--	--	--	--	--	--
B-3	7/24/97	50 U	500	--	540	--	--	--	--	--	--	--	--	--
B-4	7/24/97	50 U	560	--	500 U	--	--	--	--	--	--	--	--	--
B-5	7/24/97	50 U	50 U	--	500 U	--	--	--	--	--	--	--	--	--
B-6	7/24/97	50 U	2,000	--	690	--	--	--	--	--	--	--	--	--
B-7	7/24/97	840	120,000	--	8,800	--	--	--	--	--	--	--	--	--
B-8	7/24/97	50 U	2,000	--	610	--	--	--	--	--	--	--	--	--
BM-1	12/10/07	--	--	--	--	--	--	--	--	--	--	--	--	--
BM-2	12/10/07	260	28,000	1,500	5.0 U	--	--	--	--	--	--	--	--	--
BM-3	12/10/07	50 U	--	--	--	--	--	--	--	--	--	--	--	--
BM-4	12/10/07	50 U	620 U	9900	5,000 U	--	--	--	--	--	--	--	--	--
BM-5	12/10/07	50 U	--	--	--	--	--	--	--	--	--	--	--	--
BM-6	12/10/07	50 U	--	--	--	--	--	--	--	--	--	--	--	--
BM-10-S	8/4/08	50 U	50 U	300 U SG	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--	--	--
BM-11-S	8/4/08	50 U	50 U	300 U SG	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--	--	--
MW-2	8/4/08	50 U	50 U	300 U SG	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--	--	--
BM-12-S	8/5/08	50 U	50 U	300 U SG	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--	--	--
BM-15-S	8/5/08	50 U	50 U	300 U SG	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--	--	--

TABLE 2-5  
SUMMARY OF SHALLOW GROUNDWATER ANALYTICAL RESULTS-TPH, VOCS, CHLORIDE and PCBs  
1708 Wood Street  
Oakland, California

Sample ID	Date	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	DIPE	PCE	Chloride	PCBs
MW-1	2/14/11	50 U	1,200	--	1,400	--	--	--	--	--	--	--	--	--
MW-6	2/14/11	50 U	51 U	130	5,100 U	--	--	--	--	--	--	0.5 U	--	--
MW-7	2/14/11	50 U	51 U	100 U	5,200 U	--	--	--	--	--	--	0.5 U	--	--
MW-8	2/14/11	50 U	52 U	100 U	5,200 U	--	--	--	--	--	--	0.5 U	--	--
SB-10	2/16/11	50 U	2,300	1,400	7,000	0.50 U	0.50 U	0.50 U	1.0 U	0.5 U	0.5 U	0.5 U	--	--
SB-11	2/16/11	240	19,000	6,900	48,000	0.5 U	0.5 U	0.5 U	1.0 U	0.6	0.6	0.05 U	--	--
CO Water	10/31/11	50 U	2,990	1,970	--	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	--	--	--	--
CO Water-2	10/31/11	94.1	758	< 200	--	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	--	--	--	--
OWS-GW	10/31/11	50 U	197	< 200	--	1.0 U	1.0 U	1.0 U	2.0 U	0.87 J	--	--	--	--
<i>Loading Dock Area</i>														
SB-4	2/15/11	--	650	550	--	0.50 U	0.50 U	0.50 U	1.0 U	0.5 U	0.5 U	0.05 U	--	--
SB-6	2/16/11	50 U	940	690	--	0.50 U	0.50 U	0.50 U	1.0 U	50 U	0.5 U	0.5 U	--	--
SB-7	2/17/11	50 U	490	510	--	0.50 U	0.50 U	0.50 U	1.0 U	50 U	0.5 U	0.5 U	--	--
<i>Eastern Side of Subject Property</i>														
SB-16	2/17/11	50 U	1,100	1,600	--	0.50 U	0.50 U	0.50 U	1.0 U	2.8	0.5 U	0.5 U	--	--
SB-17	2/17/11	50 U	230	330	--	0.50 U	0.50 U	0.50 U	1.0 U	50 U	0.5 U	1.9	--	--
SB-18	2/17/11	50 U	3,100	2,200	--	0.50 U	0.50 U	0.50 U	1.0 U	50 U	0.5 U	0.5 U	--	--

Notes:

All results reported in micrograms per kilogram (µg/l)

Y= Atypical Pattern

SG= Silica Gel Cleanup run on sample

U= Constituent not detected at or above the indicated value

TABLE 2-6  
SUMMARY OF SHALLOW GROUNDWATER ANALYTICAL RESULTS-PAHS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Naphthalene	Phenanthrene	Anthracene	Benzo[a]anthracene	Chrysene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[g, h, i] perylene	Indeno[1, 2, 3-cd]pyrene	Fluoranthene	Pyrene	Dibenz(a, h)anthracene
<i>Area 1- Northwestern UST Basin</i>														
SB-1	2/15/11	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
SB-2	2/15/11	1.0	7.7	1.8	2.20	2.5	2.5	1.6	1.8	1.5	1.3	5.5	6.3	0.29
SB-3	2/15/11	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
<i>Loading Dock Area</i>														
SB-4	2/15/11	2.4 U	0.25	< 2.4	0.20	0.21	0.22	0.26	0.14	0.17	0.10	0.32	0.44	2.4 U
SB-6	2/16/11	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
SB-7	2/17/11	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
<i>Eastern Side of Subject Property</i>														
SB-16	2/17/11	0.17	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
SB-17	2/17/11	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.20	0.1 U	0.14	0.17	0.1 U
SB-18	2/17/11	0.24	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Notes:

All results reported in micrograms per liter (µg/l)

Y= Atypical Pattern

SG= Silica Gel Cleanup run on sample

U= Constituent not detected at or above the indicated value

TABLE 2-7  
SUMMARY OF SHALLOW GROUNDWATER ANALYTICAL RESULTS-METALS  
1708 Wood Street  
Oakland, California

Sample ID	Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Silver	Vanadium	Mercury	Zinc
<i>Area 1- Northwestern UST Basin</i>															
BM-7	12/10/07	31	270	5 U	2.0 U	270	42	100	83	--	220	220	230	0.2 U	260
BM-8	12/10/07	11	94	5 U	2.0 U	110	15	45	30	--	750	--	90	0.2 U	87
BM-9	12/10/07	72	2,400	5 U	7	640	170	640	860	--	500	--	580	0.2 U	1,500
SB-1	2/15/11	130	130	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	--	10 U	--	10 U	0.2 U	56
SB-2	2/15/11	10 U	65	2.0 U	2.5 U	10 U	2.4	20 U	5.0 U	--	10 U	--	10 U	0.2 U	25
Etank Grab	10/31/11	--	--	--	2.0 U	55	--	--	38	--	60	--	--	--	167
Wtank Grab	10/31/11	--	--	--	15	886	--	--	2,050	--	1,010	--	--	--	3,070
<i>Area 2-Central UST Basin/Oil Water Seperator Area/Maintenance Shop</i>															
BM-1	12/10/07	5	21	5.0 U	1.4	44	14	19	6	5.0 U	65	5.0 U	36	0.2 U	51
SB-10	2/16/11	10 U	460	2.9	2.5 U	10 U	4	20 U	5.0 U	14	11	--	10 U	0.2 U	22
SB-11	2/16/11	10 U	240	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	10 U	68	--	10 U	0.2 U	26
OWS-GW	10/31/11	--	--	--	2.0 U	10 U	--	--	121	--	52	--	--	--	121
CO Water	10/31/11	--	--	--	2.0 U	13	--	--	80	--	19	--	--	--	102
CO Water-2	10/31/11	--	--	--	2.0 U	80	--	--	311	--	54	--	--	--	388
<i>Loading Dock Building</i>															
SB-4	2/15/11	10 U	77	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	10 U	10 U	--	10 U	0.2 U	20 U
SB-6	2/16/11	10 U	110	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	10 U	10 U	--	10 U	0.2 U	31
SB-7	2/17/11	10 U	53	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	10 U	10 U	--	10	0.2 U	20 U
<i>Eastern Side of Subject Property</i>															
SB-16	2/17/11	11	110	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	10 U	10 U	--	10 U	0.2 U	27
SB-17	2/17/11	10 U	240	2.0 U	2.5 U	88	18	70	100	10 U	59	--	76	0.29	240
SB-18	2/17/11	10 U	36	2.0 U	2.5 U	10 U	2.0 U	20 U	5.0 U	10 U	10 U	--	10 U	0.2 U	20 U

Notes:

All results reported in micrograms per kilogram (µg/l)

Y= Atypical Pattern

U= Constituent not detected at or above the indicated value

TABLE 2-8  
SUMMARY OF DEEP GROUNDWATER ANALYTICAL RESULTS-TPH and VOCs  
1708 Wood Street  
Oakland, California

Sample ID	Date	TPHg	TPHd	TPHmo	Total Oil & Grease	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	DIPE	PCE
<i>Area 2-Central UST Basin/Oil Water Separator Area/Maintenance Shop</i>												
BM-10-D	8/4/08	50 U	50 U	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-11-D	8/4/08	50 U	50 U SG	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-12-D	8/4/08	50 U	50 U SG	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-13-O	8/4/08	50 U	50 U SG	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-14-O	8/4/08	50 U	50 U	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-15-D	8/4/08	50 U	50 U SG	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-16-O	8/4/08	50 U b	50 U b	300 U b	--	0.50 U b	0.50 U b	0.50 U b	0.50 U b	2.0 U b	--	--
BM-17-O	8/4/08	50 U	50 U SG	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-18-O	8/4/08	50 U	50 U	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
BM-19-O	8/4/08	50 U	50 U	300 U	--	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	--	--
MW-3	2/14/11	50 U	51 U	100 U	5,200 U	0.50 U	0.50 U	0.50 U	1.00 U	0.50 U	0.50 U	0.50 U
MW-4	2/14/11	50 U	51 U	100 U	5,200 U	0.50 U	0.50 U	0.50 U	1.00 U	0.50 U	0.50 U	0.50 U
MW-5	2/14/11	50 U	51 U	100 U	5,200 U	0.50 U	0.50 U	0.50 U	1.00 U	0.50 U	0.8	0.50 U

Notes:

All results reported in micrograms per kilogram (µg/l)

Y= Atypical Pattern

SG= Silica Gel Cleanup run on sample

b = Analyzed outside of hold time

U= Constituent not detected at or above the indicated value

RESIDUAL RISK MANAGEMENT PLAN  
1708 WOOD STREET  
OAKLAND, CALIFORNIA



## **FIGURES**



Figure 1-1  
 Mar 2017

**SITE LOCATION MAP**  
 1708 Wood Street, Oakland, California

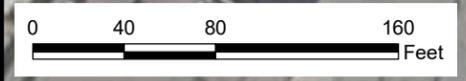




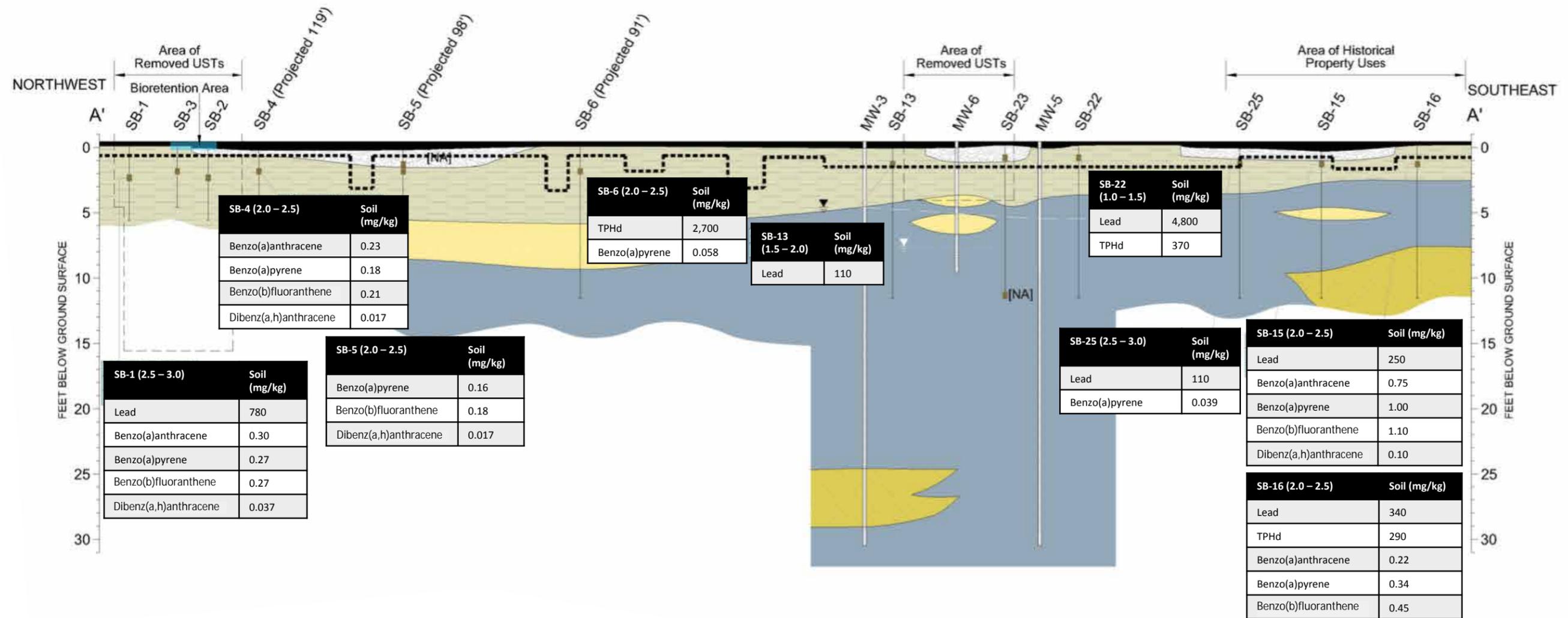
**LEGEND**

- Cross Section Profile
- Area of Interest
- Approximate Location of Former Oil-Water Separator
- Former Maintenance Shed/Chemical Storage
- Approximate Location of Abandoned UST
- SB-1 to SB-8 Boring Location (Groundwater Technology, 1987)
- B-1 to B-8 Boring Location (BCON, 1997)
- BM-1 to BM-9 Boring Location (B&M, 2007)
- BM-10 to BM-19 Boring Location (B&M, 2008)
- SB-1 to SB-27 Boring Location (ACC, 2011)
- SG-1 to SG-4 Soil Gas Sample Locations (WEST, 2016)
- MW-1 to MW-2 Monitoring Well Location (R.S. Egan, 1987; Destroyed 2008)
- MW-3 to MW-5 Monitoring Well Location (R.S. Egan, 1987; Destroyed 2008)
- MW-6 to MW-8 Shallow Monitoring Well Location (B&M, 2009; Destroyed 2015)

**Notes:**  
 All locations approximate Taken from ACC Environmental Consultants sample location figure (2/6/2011).  
 Only samples along the cross-section displayed here.

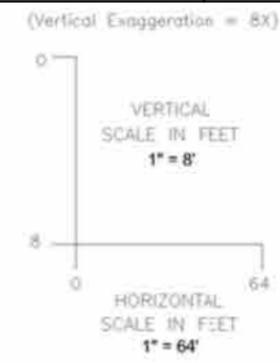


<h1 style="margin: 0;">SITE PLAN</h1>	
<p style="margin: 0;">1708 Wood Street Oakland, California</p>	
	<p>Figure 1</p>
<p>Mar 2017</p>	



**LITHOLOGY KEY**

Asphalt	Silty Sand/Sand
Concrete	Clayey Sand/Sand
Gravel Fill	Bay Mud (Young)
Clayey Fill	



- ..... Approximate Depth and Location of Proposed Paver Roadway Sections
- ..... Approximate Depth and Location of Proposed Over-excavation Areas/Planter Areas
- ..... Approximate Depth and Location of Proposed Building Slabs

Figure 2-1	<b>GEOLOGIC CROSS-SECTION A-A'</b>
Mar 017	1708 Wood Street, Oakland, California

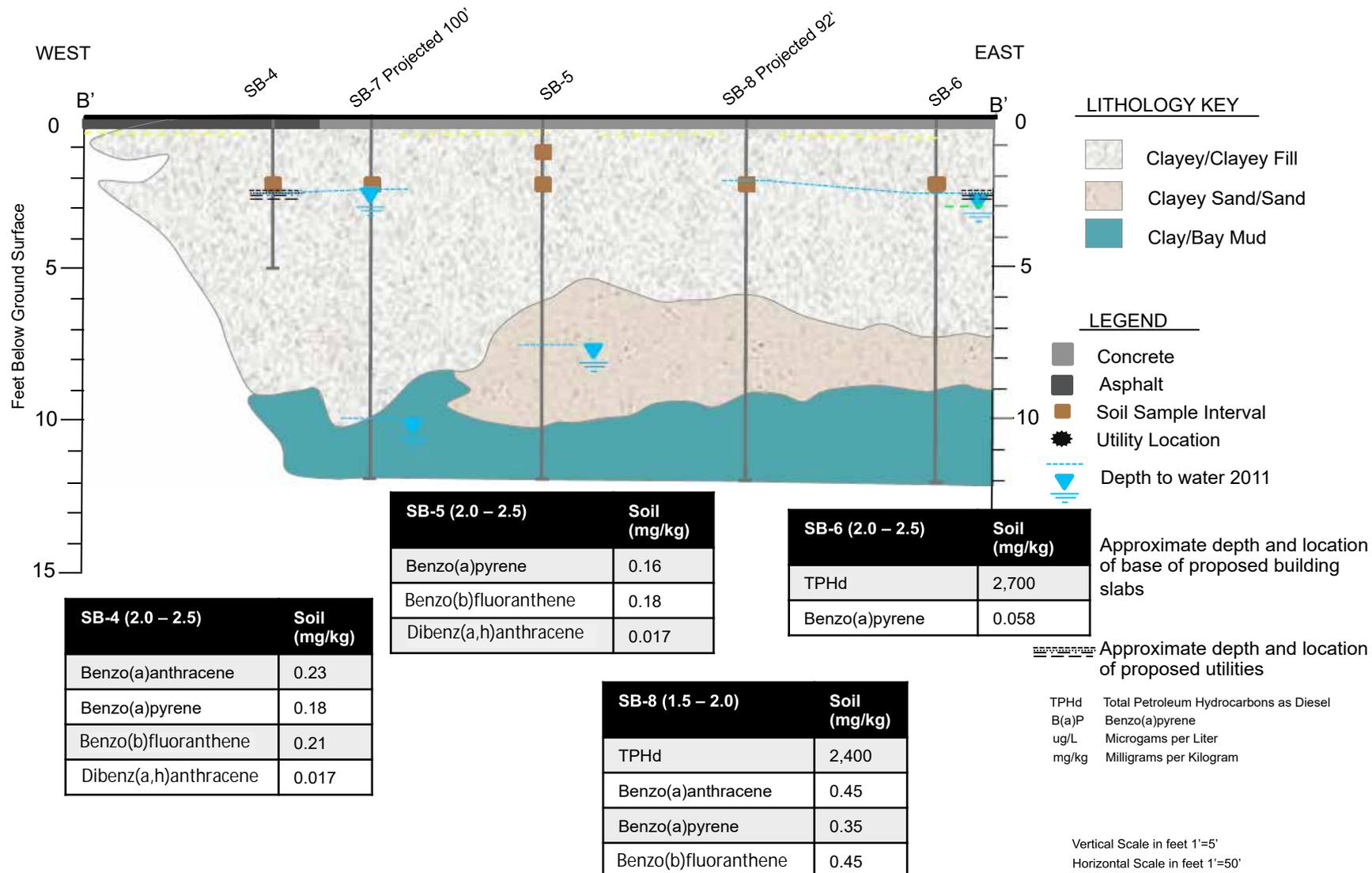


Figure 2-□

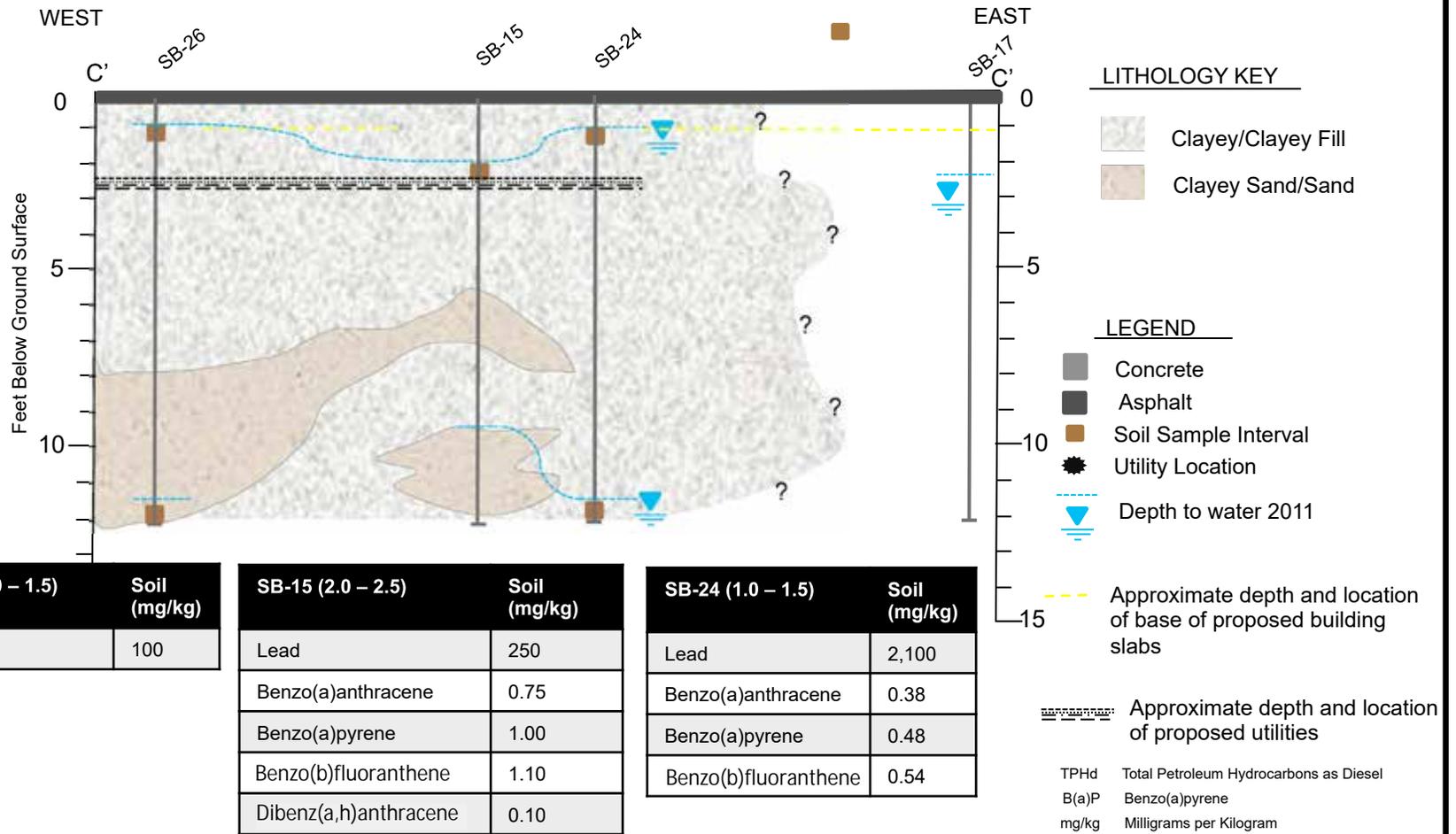
**GEOLOGIC CROSS-SECTION B-B'**



Grafcon, 2016

Mar □ 2017

1708 Wood Street, Oakland, California



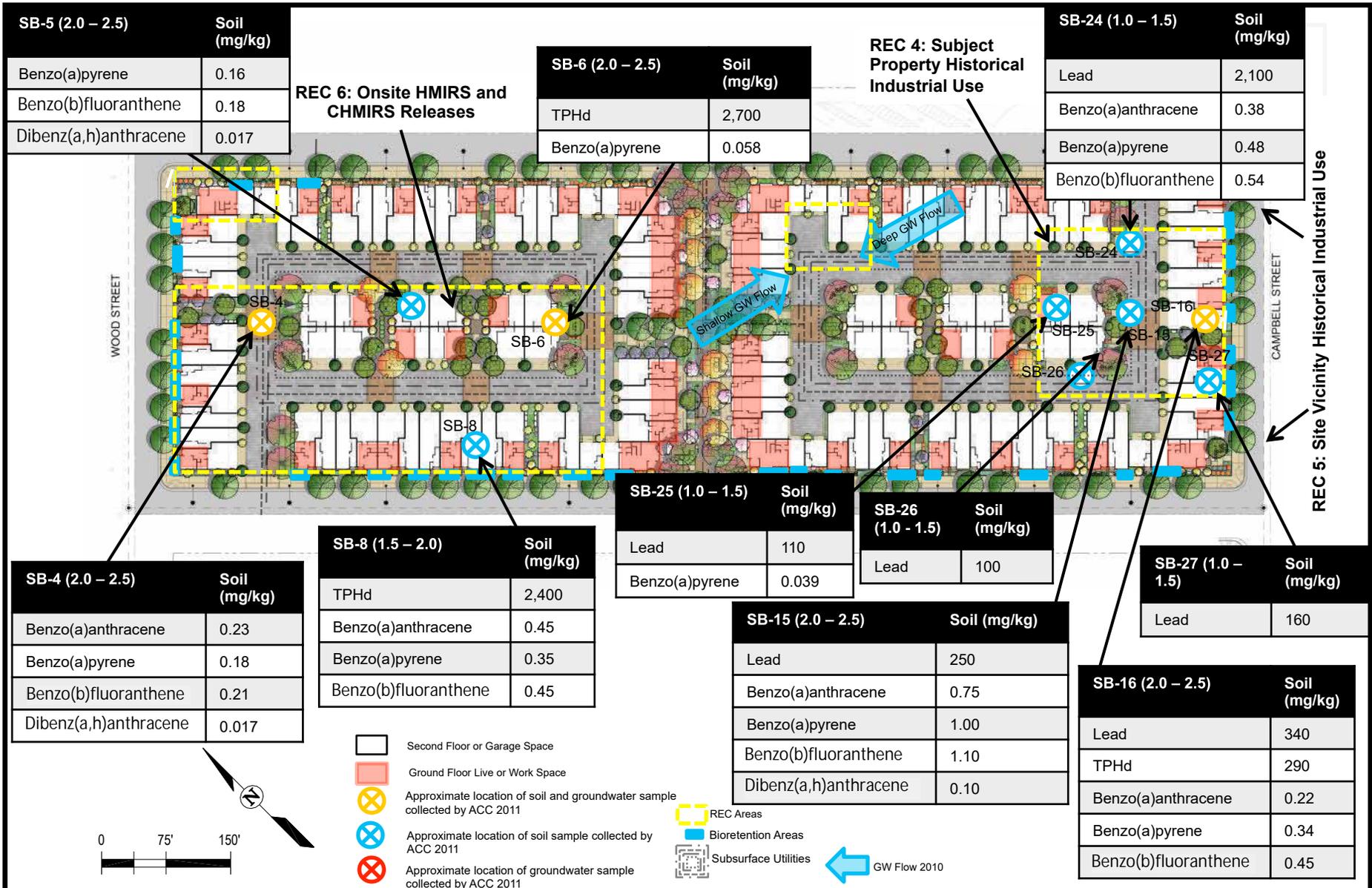
SB-26 (1.0 – 1.5)	Soil (mg/kg)
Lead	100

SB-15 (2.0 – 2.5)	Soil (mg/kg)
Lead	250
Benzo(a)anthracene	0.75
Benzo(a)pyrene	1.00
Benzo(b)fluoranthene	1.10
Dibenz(a,h)anthracene	0.10

SB-24 (1.0 – 1.5)	Soil (mg/kg)
Lead	2,100
Benzo(a)anthracene	0.38
Benzo(a)pyrene	0.48
Benzo(b)fluoranthene	0.54

Figure 2-□	<b>GEOLOGIC CROSS-SECTION C-C'</b>
Mar □ 2017	1708 Wood Street, Oakland, California





Figure

Mar  2017

**SAMPLE LOCATION MAP  
OVER PROPOSED SITE DEVELOPMENT**

1708 Wood Street, Oakland, California



Grafcon, 2016

SB-1 (2.5 – 3.0)	Soil (mg/kg)
Lead	780
Benzo(a)anthracene	0.30
Benzo(a)pyrene	0.27
Benzo(b)fluoranthene	0.27
Dibenz(a,h)anthracene	0.037

SW4-W (3.5)	Soil (mg/kg)
Lead	197
TPHd	5,930

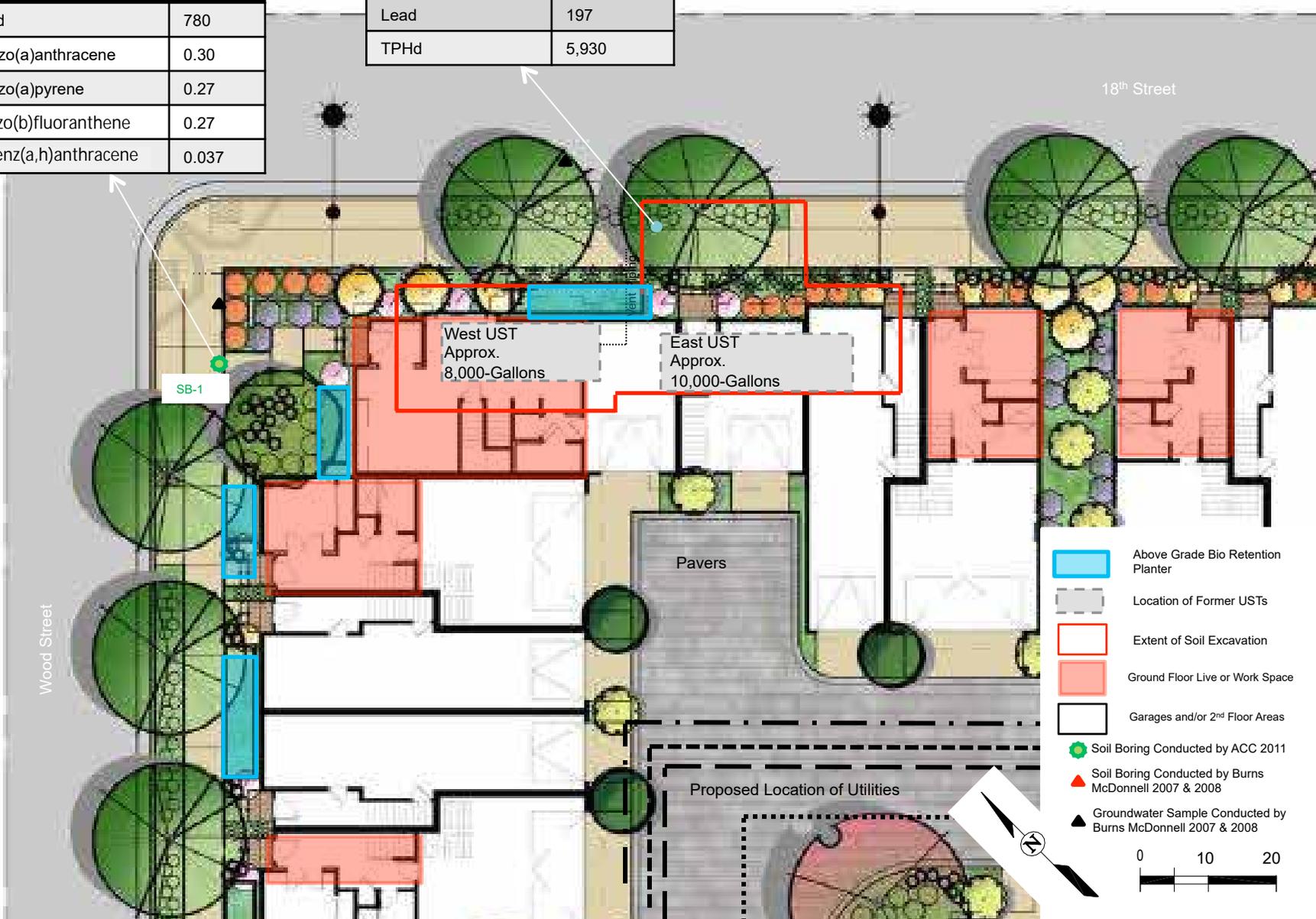
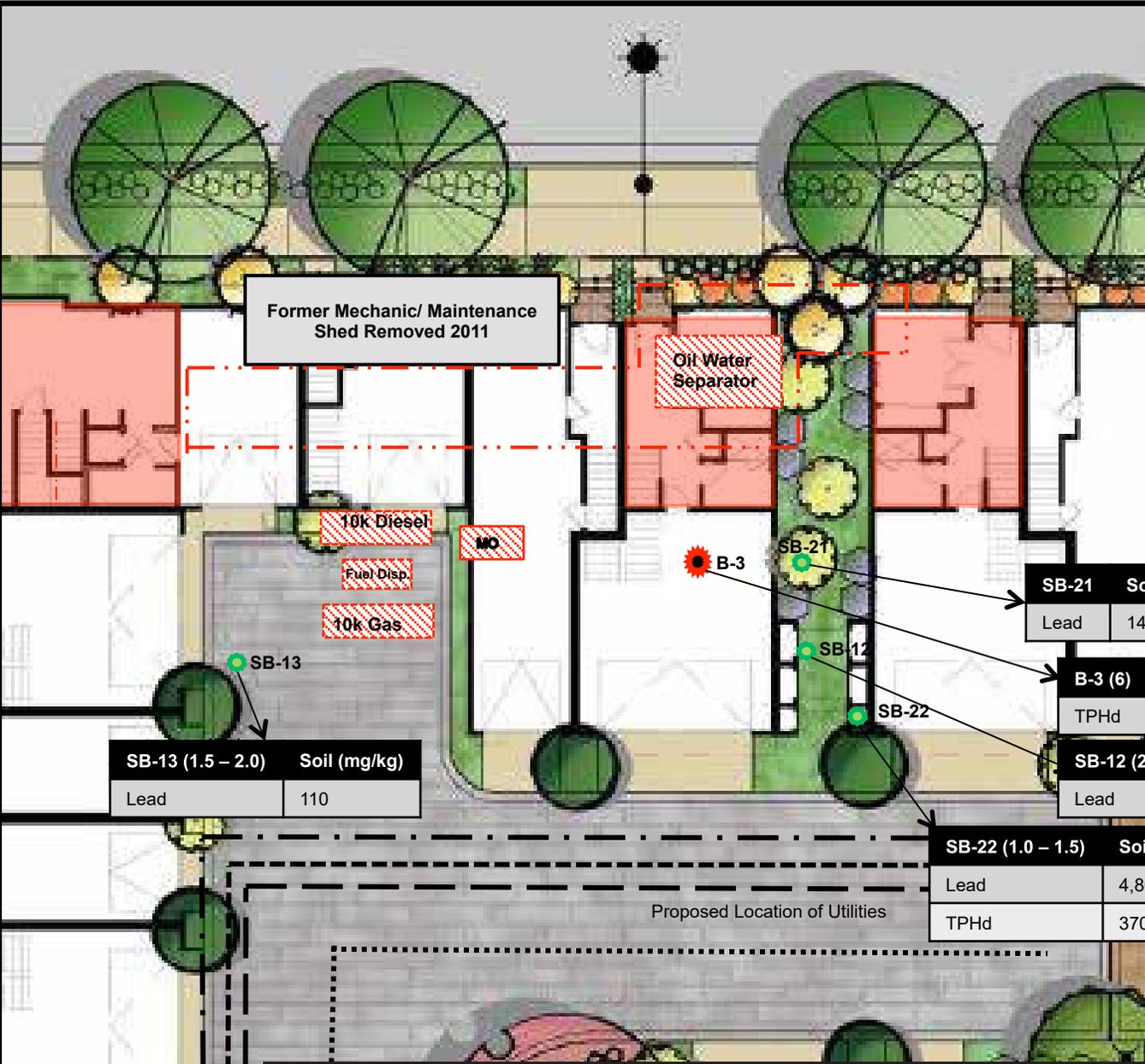


Figure 15  
Mar 2017

**AREA 1-NORTHWEST UST  
BASIN-PROPOSED SITE DEVELOPMENT**  
1708 Wood Street, Oakland, California



-  Soil Boring Conducted by ACC 2011
-  Soil Boring Conducted by BCON Env. 1997
-  Soil Boring Conducted by Burns McDonnell August 2008
-  Soil Boring Conducted by Burns McDonnell August 2011
-  Former Monitoring Wells
-  Locations of former Oil Water Separator and USTs
-  Locations of former building
-  Ground Floor Live or Work Space
-  Extent of soil excavation
-  Garages and/or 2nd Floor Areas



SB-21 Soil (mg/kg)	
Lead	14,000

B-3 (6) Soil (mg/kg)	
TPHd	240

SB-12 (2.0 - 2.5) Soil (mg/kg)	
Lead	1,300

SB-22 (1.0 - 1.5) Soil (mg/kg)	
Lead	4,800
TPHd	370

SB-13 (1.5 - 2.0) Soil (mg/kg)	
Lead	110

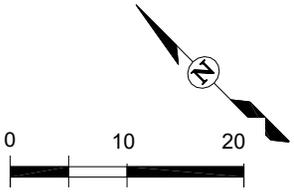


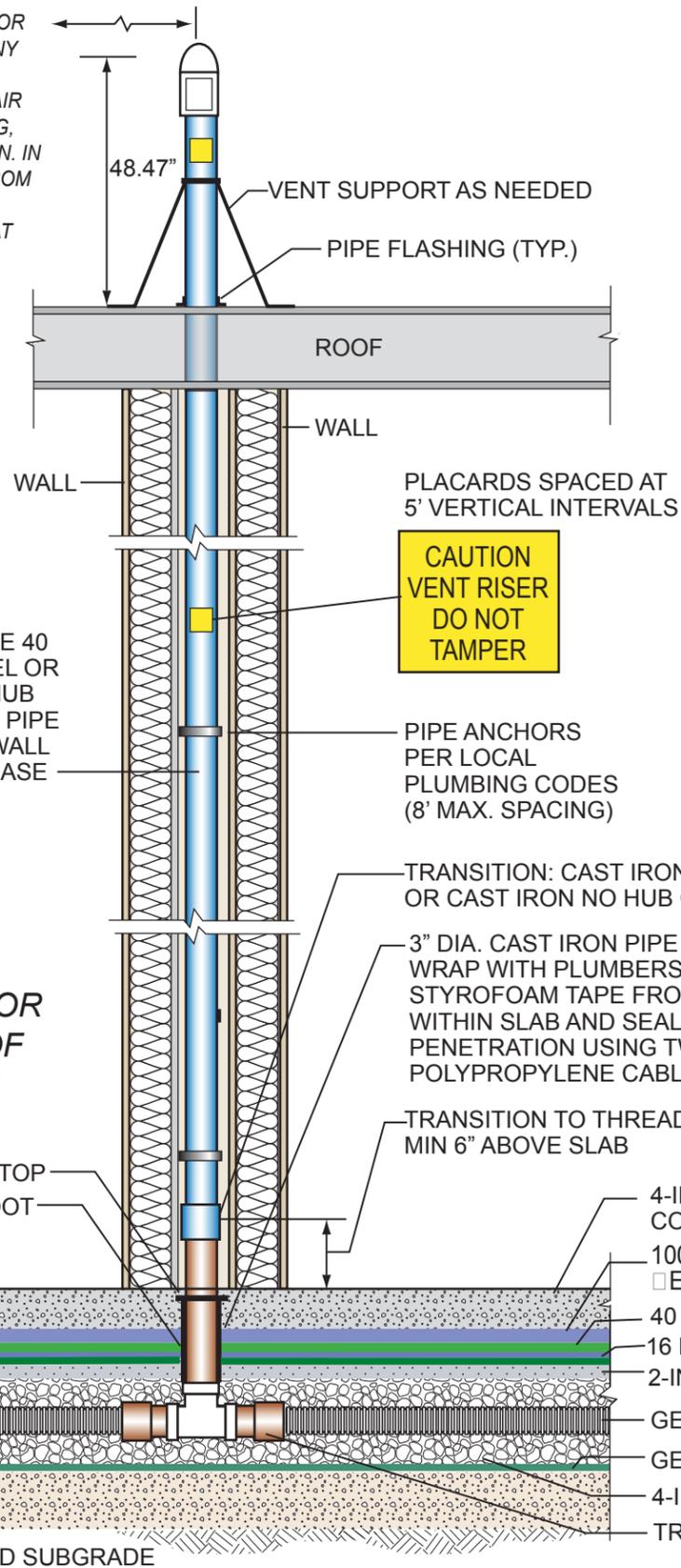
Figure     
 Mar   2017

### AREA 2-CENTRAL UST BASIN

1708 Wood Street, Oakland, California



10' MIN. AWAY FROM, OR AT LEAST 3' ABOVE ANY OPENABLE WINDOW, DOOR, OPENING OR AIR INTAKE INTO BUILDING, OR VENT SHAFT. 3' MIN. IN EVERY DIRECTION FROM ANY LOT LINE, ALLEY, AND STREET. MIN. 3' AT PARAPET WALL.



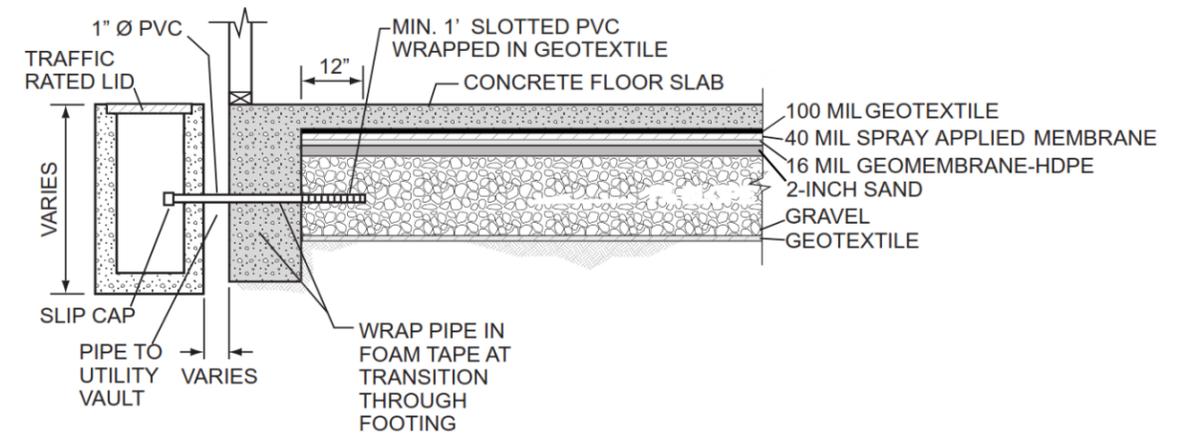
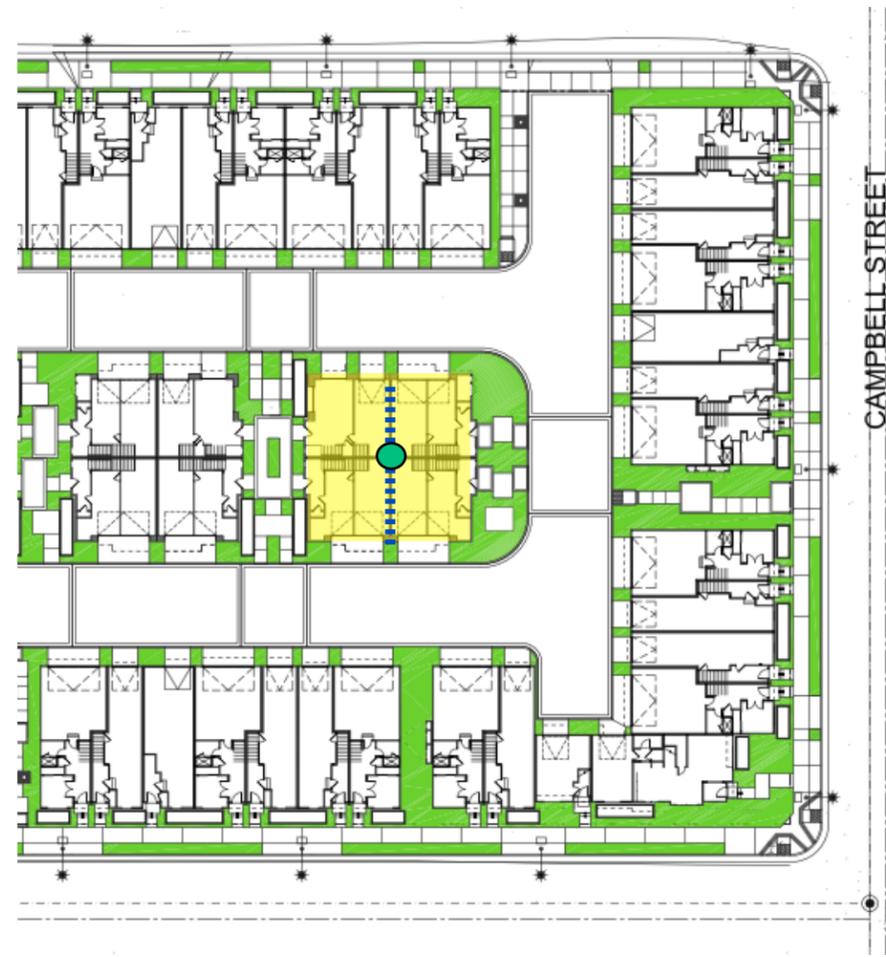
**NOTES:**

1. TERMINATION OF PASSIVE VENT RISER SHALL BE AS FOLLOWS.
  - A. 10' MIN. AWAY FROM, OR AT LEAST 3' ABOVE ANY OPENABLE WINDOW, DOOR, OPENING OR AIR INTAKE, OR VENT SHAFT.
  - B. 3' MIN. IN EVERY DIRECTION FROM ANY LOT LINE, ALLEY, AND STREET.
  - C. EXTEND THROUGH THE VENT FLASHING. 12" MIN. ABOVE THE ROOF, AND 3' MIN. FROM ANY PARAPET OR BUILDING WALL.
2. WRAP ALL PIPING WITH APPROVED MATERIAL THROUGH THE CONCRETE SLAB OR FLOOR.
3. SUPPORT ALL PIPING PER PLUMBING CODES.
4. AIR TEST AT 5 PSIG FOR 15 MINUTES. TEST FROM TEST TEE THRU ROOF VIA PRESSURE GAUGE LOCATED AT ROOF VENT.
5. VENT RISER SHALL BE FINISHED WITH ROOF JACK SIMILAR TO SANITARY VENT.

SEE PLAN FOR LOCATION OF VENT RISER

**SUBSLAB VAPOR COLLECTION / VENT RISER DETAIL**

N.T.S.



**SUBSLAB MONITORING PORT DETAIL**

N.T.S.

- VENT RISER LOCATION
- ▬▬▬▬▬▬▬ GEO VENT BELOW SLAB LOCATION

**CONCEPTUAL VAPOR SYSTEM DESIGN DETAILS**  
 1708 Wood Street  
 Oakland, California

**WEST**  
 Environmental Services & Technology

Figure 5-1  
 Mar 2017

RESIDUAL RISK MANAGEMENT PLAN  
1708 WOOD STREET  
OAKLAND, CALIFORNIA



**APPENDIX A**  
**SITE INSPECTION FORM**

