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October 17, 2013

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Toscana Baking Company  
Environmental Compliance Department  
580 Julie Ann Way  
Oakland, CA 94621

Hostess Brands/  
Interstate Bakeries Corporation  
Environmental Compliance Department  
6031 Connection Drive  
Irving, TX 75039

Scott Atthowe  
Scott C. Atthowe Trust  
3924 Market Street  
Oakland, CA 94608-3828

Earthgrains Company  
Environmental Compliance Department  
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132 Hawthorne Street  
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Kevin Keegen  
Metz Baking Company/  
Specialty Foods Corp  
Environmental Compliance Department  
520 Lake Cook Road, Suite 550  
Deerfield, IL 60015

Paul Phillips  
Jeffries & Co  
11100 Santa Monica Blvd., 10<sup>th</sup> Floor  
Los Angeles, CA 90025

Subject: Fuel Leak Case No. RO0000490 and GeoTracker Global ID T0600101187, San Francisco French Bread, 3924 Market Street, Oakland, CA 94607

Dear Responsible Parties:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Work Plan to Conduct Soil Boring Investigation* dated March 26, 2012, which was prepared by Gribi Associates, on behalf of Mr. Scott Atthowe, for the subject site.

The purpose of the work presented in the work plan is to define the lateral and vertical extent of the Bunker C fuel oil identified in soil and groundwater at the site. Investigation and groundwater monitoring following the 1991 removal of an underground storage tank revealed the presence of a black oily substance in soil and groundwater. The oil was reported to match the profile for Bunker C fuel oil. The work plan proposes to advance eight direct-push continuous-core soil borings to a depth of approximately 20 feet below the ground surface. Including an additional boring requested by ACEH, four of the borings are located along a transect perpendicular to the groundwater flow direction, up gradient of the former tank location with three borings forming a transect perpendicular to the first, south of the former tank. Two additional borings are proposed across Market Street, down gradient of the former tank.

ACEH has evaluated the data and recommendations presented in the above-mentioned work plan, in conjunction with the case files and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP) criteria). Based on ACEH staff review, we have determined that the site fails to meet the LTCP General Criteria e (Site Conceptual Model), and the Media-Specific Criteria for Groundwater and Vapor Intrusion to Indoor Air. ACEH's determination is based on insufficient data and analysis to support groundwater plume stability and delineation, and protection of human occupants of future site buildings from vapor intrusion.

Conversations Mr. James Gribi, of Gribi Associates, over the past half-year have resulted in work plan revisions. The revisions included an updated figure showing an additional boring, identified as boring B-9, on the figure provided to ACEH on October 10, 2012. Boring B-9 is depicted south of MW-2 and is aligned to form a transect with borings B-1 and B-5, as depicted on the original work plan Figure 3. A utility study, provided to ACEH on February 13, 2013, identified groundwater as below the level of utility trenches in the Market Street right-of-way, and additionally resulted in a realignment of the boring locations along Market Street across from the site to avoid utilities.

Base on our review the proposed scope of work may be implemented provided that the boring location B-9 is incorporated during the field implementation. Submittal of a revised Work Plan is not required unless an alternate scope of work outside that described in the Work Plan and technical comments below is proposed.

Therefore, at this juncture ACEH requests that you prepare a Site Conceptual Model (SCM) with Data Gap Identification to address the Technical Comments provided below.

## **TECHNICAL COMMENTS**

### **1) LTCP General Criteria Evaluation -**

- i. **General Criteria C** – According to the LTCP, the tank, pipe, or other appurtenant structure that released petroleum into the environment (i.e., the primary source) has been removed, repaired, or replaced. It is not the intent of the policy to allow sites with ongoing leaks from the UST system to qualify for closure.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to support that the primary source of Bunker C fuel oil has been removed.

- ii. **General Criteria D** – The LTCP requires that at petroleum unauthorized release sites where investigation indicates the presence of free product, free product shall be removed to the maximum extent practicable.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to support that the free product observed in the site monitoring wells has been removed to the extent practicable.

- iii. **General Criteria E** – A Conceptual Site Model (CSM) that assesses the nature, extent, and mobility of the release has not been developed as required by the LTCP.
- iv. **General Criteria F** – Secondary source is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point source of release from the primary source.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to support that secondary source has been removed to the extent practicable as the primary source has not been identified.

- v. **General Criteria G** – Soil and groundwater have been tested for MTBE.

ACEH's review of the case files indicates that soil has not been tested for MTBE. Additionally, the one groundwater monitoring event for which ACEH has MTBE data has elevated laboratory reporting limits of no less than 2,500 micrograms per liter. These reporting limits exceed regulatory guidelines on which ACEH evaluates its cases.

- vi. **General Criteria H** – Nuisance condition does not exist at the site.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to determine whether or not a nuisance condition exists.

## 2) LTCP Media Specific Criteria Evaluation -

- i. **Groundwater** – To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the policy.

Our review of the case files indicates that insufficient data and analysis has been presented to support the requisite characteristics of plume stability or plume length classification. Specifically, the appearance of a viscous oily material, subsequently identified as Bunker C oil, observed in MW-1 on August 4, 1999 and observed in all three groundwater monitoring wells on April 19, 2000 demonstrates the presence of a plume. The limits of the plume has not been defined; therefore, the stability of the plume cannot be determined. Please present a strategy in the SCM described in Item 9 below to collect sufficient data to delineate the distance from the release where attenuation exceeds migration and the distal end of the plume.

Alternatively, please provide justification of why the site satisfies the media-specific criteria for groundwater in the SCM (described in Item 9) that assures that threats to existing and anticipated beneficial uses of groundwater have been mitigated or are de minimis.

- ii. **Vapor Intrusion to Indoor Air** – The LTCP describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to human occupants of existing or future site buildings, and adjacent parcels. Appendices 1 through 4 of the LTCP criteria illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

Our review of the case files indicates that the site data and analysis fail to support the requisite characteristics of one of the four scenarios. Specifically, the source of the Bunker C fuel oil has not been identified, the soil contamination in the bioattenuation zone has not been adequately characterized, and the lateral extent of the plume not delineated. Therefore, there is potential for vapor intrusion into existing site buildings, especially in the vicinity of monitoring well MW-1.

Therefore, please present a strategy in the SCM with Data Gap Identification described in Item 9 below to collect additional data to satisfy the bioattenuation zone characteristics of Scenarios 1, 2 or 3, or to collect gas data to satisfy Scenario 4.

Alternatively, please provide justification of why the site satisfies the Media-Specific Criteria for Vapor Intrusion to Indoor Air in a SCM that assures that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to occupants of future buildings.

Please note, that if direct measurement of soil gas is proposed, ensure that your strategy is consistent with the field sampling protocols described in the Department of Toxic Substances Control's Final Vapor Intrusion Guidance (October 2011). Consistent with the guidance, ACEH requires installation of permanent vapor wells to assess temporal and seasonal variations in soil gas concentrations.

- iii. **Direct Contact and Outdoor Air Exposure** – The LTCP describes conditions where direct contact with contaminated soil or inhalation of contaminants volatilized to outdoor air poses a low threat to human health. Release sites where human exposure may occur must satisfy the media specific criteria for direct contact and outdoor air exposure to be considered low-threat.

ACEH's review of the case files indicates that insufficient data has been collected in the 0 to 5 and 5 to 10 foot below ground surface intervals to support closure under this criterion. Therefore, please present a strategy in the SCM with Data Gap Identification described in Item 9 below to collect and analyze soil samples for benzene, ethylbenzene, naphthalene and polycyclic aromatic hydrocarbons (PAHs) to satisfy the direct contact and outdoor air criteria.

Alternatively, please provide justification of why the site satisfies the Media-Specific Criteria for Outdoor Air and Direct Contact in a SCM that assures that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to occupants of future buildings.

### 3) Electronic Report and Data Upload Compliance –

- i. **Geotracker** – A review of the case file and the State's Geotracker database indicates that the site is not in compliance with previous directive letters. Compliance is also a State requirement. Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs, including SLIC programs. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites was required in GeoTracker. At present missing data and documents include, but may not be limited to, older reports, older EDF submittals, GEO\_MAPS, GEO\_WELL data, and all bore logs. Compliance is required by the State and is tied to reimbursement funding by the UST Cleanup Fund. Please see Attachment 1 for limited additional details, and the state GeoTracker website for full details. ACEH requests notification of, and a list of, the documents uploaded to Geotracker. Please upload all submittals to GeoTracker as well as to ACEH's ftp website by the date specified below.
- ii. **ACEH** – ACEH's case file for the subject site contains only the electronic files listed on our website at <http://www.acgov.org/aceh/lop/ust.htm>. You are requested to submit copies of all other reports, data, correspondence, etc. related to environmental investigations for this

property (including Phase I reports) not currently contained in our case file. For example no groundwater monitoring reports have been submitted to our website for the period 2000-2012. ACEH requests notification of, and a list of, the documents uploaded ACEH's ftp website by the date specified below.

- 4) Figures** – Please include the following figures in the SCM report requested below.
- a. An extended site map utilizing an aerial photographic base showing the facility in relation to its' immediate surrounding properties.
  - b. A site map utilizing an aerial photographic base showing the showing on-site and off-site utilities in the immediate vicinity of the site, in relation to all boring and well locations, and the estimated areal extent of free product.
  - c. Cross sectional figures depicting lithology, borings, utilities, soil sample locations with summary text boxes portraying selected contaminant concentrations, and the phreatic surface. Well screen intervals should also be depicted on the cross sections.
- 5) Soil Sampling** – Please collect and analyze soil samples at maximum intervals of not more than five feet, at signs of obvious contamination, at the soil/groundwater interface, and at significant changes in lithology. Submit a sufficient number of soil samples for laboratory analyses to define the vertical extent of contamination from each boring. Please collect and analyze on-site samples from each boring at two depths within the upper five-feet and at least one sample from the interval of five- to 10 feet, as measured from below the ground surface (bgs).
- 6) Soil and Groundwater Analysis**
- a. **Soil** – The work plan identifies the scope of analysis for soil samples as total petroleum hydrocarbons as gasoline (TPHg), total petroleum hydrocarbons as diesel (TPHd), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Results for MTBE analysis has not been found in the case file. Health and Safety Code section 25296.15 prohibits closing a UST case unless the soil, groundwater or both have been tested for MTBE. Please add MTBE to the scope of analysis for the soil samples. In accordance with the California State Water Resources Control Board (SWCB) Leaking Underground Storage Fuel Tank Guidance (LUFT) Manual, dated September 2012, please use EPA test method 8260B/C for the BTEX and MTBE analysis. Sites having Bunker C or residual fuel oil impacts will be evaluated for the presence of poly-aromatic hydrocarbons (PAHs). Please add the 16 priority pollutant PAHs (naphthalene, acenaphthene, acenaphthylene, anthracene, phenanthrene, fluorene, chrysene, fluoranthene, pyrene, benzo(b)fluoranthene, benzo(a) pyrene, benzo(k)fluoranthene, benzo(a)anthracene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene to the scope of analysis at the site by EPA test method 8270 SIM (LUFT 2012).
  - b. **Groundwater** – The work plan proposes collecting grab-groundwater samples from each of the borings and identifies the scope of analysis for groundwater samples as TPHg, TPHd, and BTEX. Previous results for MTBE analysis have sufficiently elevated laboratory reporting limits to preclude using MTBE concentrations in health risk

determinations. Sites having Bunker C or residual fuel oil impacts will be evaluated for the presence of PAHs. Please add MTBE and the 16 priority pollutant PAHs to the scope of analysis for the groundwater samples. Use EPA test method 8260B/C for the BTEX and MTBE analysis and EPA test method 8270 SIM for the PAHs (LUFT 2012).

- c. **Silica Gel Cleanup** – The LUFT manual specifies using silica gel cleanup for TPHd and motor oil range petroleum hydrocarbons. ACEH requires silica gel cleanup be performed on all samples submitted for diesel and motor oil analysis.
- 7) **On-site Water Well** – The location of a water supply well was identified at the site. Please determine the status of the well. If the well has not been decommissioned, please recover a water sample from the well and analyze for the chemicals identified in Section 6(b) above. If there are no future plans to use the well, please decommission the well in accordance with regulatory guidelines.
  - 8) **Data Interpretation** – ACEH's review of the case files found data for sample identification MW-1 and MW-3 with a *Product* matrix in the August 25, 2000 Groundwater Monitoring Report. The laboratory analysis report reports units for the diesel and motor oil components of the fuel in milligrams per kilogram. Please explain if the sample is a water sample or a soil sample.
  - 9) **Site Conceptual Model** – Please incorporate the results of the field investigation into a focused SCM, submitted by the date identified below, that addresses the technical comments listed above. A Data Gap Identification table within the SCM should outline a work plan that addresses filling the data gaps. Please support the scope of work with the focused SCM and Data Quality Objectives that relate the data collection to each LTCP criteria. For example please clarify which scenario within each Media-Specific Criteria a sampling strategy is intended to apply to.  
  
In order to expedite review, ACEH requests the SCM be presented in a tabular format that highlights the major SCM elements and associated data gaps, which need to be addressed to progress the site to case closure under the LTCP. Please see Attachment A "Site Conceptual Model Requisite Elements". Please sequence activities in the proposed Data Gap Investigation scope of work to enable efficient data collection in the fewest mobilizations possible.
  - 10) **Gant Chart- Path to Closure Project Schedule** – The SWRCB passed Resolution No. 2012-0062 on November 6, 2012 which requires development of a "Path to Closure Plan" by December 31, 2013 that addresses the impediments to closure for the site. The Path to Closure must have milestone dates tied to calendar quarters which will achieve site cleanup and case closure in a timely and efficient manner and minimizes the cost of corrective action. Therefore, by the date listed below please prepare a Path to Closure Schedule (further detailed in Attachment B) for your site that incorporates the items identified by ACEH in the Technical Comments above as impediments to closure. ACEH will review the schedule to ensure that all key elements are included.

### **NOTIFICATION OF FIELDWORK ACTIVITIES**

Please schedule and complete the fieldwork activities by the date specified below and provide ACEH with at least three (3) business days notification prior to conducting the fieldwork.

### **TECHNICAL REPORT REQUEST**

Please upload technical reports to the ACEH ftp site (Attention: Keith Nowell), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **November 1, 2013**— Electronic Report and Data Upload (reports, data, etc.)
- **November 15, 2013**—**Path to Closure and Schedule** (File to be named: RO0000490\_PROJ\_SCH\_yyyy-mm-dd)
- **December 2, 2014**—**Site Conceptual Model Report** (File to be named: RO0000490\_SCM\_R\_yyyy-mm-dd)

If your email address does not appear on the cover page of this notification ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

Thank you for your cooperation. Should you have any questions regarding this correspondence or your case, please call me at (510) 567-6764 or send an electronic mail message at [keith.nowell@acgov.org](mailto:keith.nowell@acgov.org).

Sincerely,

Keith Nowell PG, CHG  
Hazardous Materials Specialist

Attachment 1 Responsible Party(ies) Legal Requirements/Obligations ACEH Electronic Report Upload (ftp) Instructions  
Attachment A Site Conceptual Model Requisite Elements  
Attachment B Path to Closure Requisite Elements

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032  
(Sent via E-mail to: [lgriffin@oaklandnet.com](mailto:lgriffin@oaklandnet.com))  
James Gribi, Gribi Associates, 1090 Adams Street, Suite K, Benicia, CA 94510  
(Sent via E-mail to: [JGribi@gribiassociates.com](mailto:JGribi@gribiassociates.com))

Dilan Roe, ACEH (Sent via E-mail to: [dilan.roe@acgov.org](mailto:dilan.roe@acgov.org))  
Keith Nowell, ACEH (Sent via E-mail to [keith.nowell@acgov.org](mailto:keith.nowell@acgov.org))  
GeoTracker, File

**ATTACHMENT 1**

**Responsible Party(ies) Legal Requirements/Obligations  
& ACEH Electronic Report Upload (ftp) Instructions**



# Attachment 1

## Responsible Party(ies) Legal Requirements/Obligations

### REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

### ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements: ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)).

### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "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." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)</b>	<b>REVISION DATE:</b> July 25, 2012
	<b>ISSUE DATE:</b> July 5, 2005
	<b>PREVIOUS REVISIONS:</b> October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

## REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single Portable Document Format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

## Submission Instructions

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org)
  - b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

**ATTACHMENT A**

**Site Conceptual Model Requisite Elements**

# ATTACHMENT A

## Site Conceptual Model

The site conceptual model (SCM) is an essential decision-making and communication tool for all interested parties during the site characterization, remediation planning and implementation, and closure process. A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors.

The SCM is initially used to characterize the site and identify data gaps. As the investigation proceeds and the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened until it is said to be "validated". At this point, the focus of the SCM shifts from site characterization towards remedial technology evaluation and selection, and later remedy optimization, and forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

For ease of review, Alameda County Environmental Health (ACEH) requests utilization of tabular formats to (1) highlight the major SCM elements and their associated data gaps which need to be addressed to progress the site to case closure (see Table 1 of attached example), and (2) highlight the identified data gaps and proposed investigation activities (see Table 2 of the attached example). ACEH requests that the tables presenting the SCM elements, data gaps, and proposed investigation activities be updated as appropriate at each stage of the project and submitted with work plans, feasibility studies, corrective action plans, and requests for closures to support proposed work, conclusions, and/or recommendations.

The SCM should incorporate, but is not limited to, the topics listed below. Please support the SCM with the use of large-scaled maps and graphics, tables, and conceptual diagrams to illustrate key points. Please include an extended site map(s) utilizing an aerial photographic base map with sufficient resolution to show the facility, delineation of streets and property boundaries within the adjacent neighborhood, downgradient irrigation wells, and proposed locations of transects, monitoring wells, and soil vapor probes.

- a. Regional and local (on-site and off-site) geology and hydrogeology. Include a discussion of the surface geology (e.g., soil types, soil parameters, outcrops, faulting), subsurface geology (e.g., stratigraphy, continuity, and connectivity), and hydrogeology (e.g., water-bearing zones, hydrologic parameters, impermeable strata). Please include a structural contour map (top of unit) and isopach map for the aquitard that is presumed to separate your release from the deeper aquifer(s), cross sections, soil boring and monitoring well logs and locations, and copies of regional geologic maps.
- b. Analysis of the hydraulic flow system in the vicinity of the site. Include rose diagrams for depicting groundwater gradients. The rose diagram shall be plotted on groundwater elevation contour maps and updated in all future reports submitted for your site. Please address changes due to seasonal precipitation and groundwater pumping, and evaluate the potential interconnection between shallow and deep aquifers. Please include an analysis of vertical hydraulic gradients, and effects of pumping rates on hydraulic head from nearby water supply wells, if appropriate. Include hydraulic head in the different water bearing zones and hydrographs of all monitoring wells.
- c. Release history, including potential source(s) of releases, potential contaminants of concern (COC) associated with each potential release, confirmed source locations, confirmed release locations, and existing delineation of release areas. Address primary leak source(s) (e.g., a tank, sump, pipeline, etc.) and secondary sources (e.g., high-

## ATTACHMENT A

### Site Conceptual Model (continued)

concentration contaminants in low-permeability lithologic soil units that sustain groundwater or vapor plumes). Include local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.).

- d. Plume (soil gas and groundwater) development and dynamics including aging of source(s), phase distribution (NAPL, dissolved, vapor, residual), diving plumes, attenuation mechanisms, migration routes, preferential pathways (geologic and anthropogenic), magnitude of chemicals of concern and spatial and temporal changes in concentrations, and contaminant fate and transport. Please include three-dimensional plume maps for groundwater and two-dimensional soil vapor plume plan view maps to provide an accurate depiction of the contaminant distribution of each COC.
- e. Summary tables of chemical concentrations in different media (i.e., soil, groundwater, and soil vapor). Please include applicable environmental screening levels on all tables. Include graphs of contaminant concentrations versus time.
- f. Current and historic facility structures (e.g., buildings, drain systems, sewer systems, underground utilities, etc.) and physical features including topographical features (e.g., hills, gradients, surface vegetation, or pavement) and surface water features (e.g. routes of drainage ditches, links to water bodies). Please include current and historic site maps.
- g. Current and historic site operations/processes (e.g., parts cleaning, chemical storage areas, manufacturing, etc.).
- h. Other contaminant release sites in the vicinity of the site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for the SCM. Include a summary of work and technical findings from nearby release sites, including the two adjacent closed LUFT sites, (i.e., Montgomery Ward site and the Quest Laboratory site).
- i. Land uses and exposure scenarios on the facility and adjacent properties. Include beneficial resources (e.g., groundwater classification, wetlands, natural resources, etc.), resource use locations (e.g., water supply wells, surface water intakes), subpopulation types and locations (e.g., schools, hospitals, day care centers, etc.), exposure scenarios (e.g. residential, industrial, recreational, farming), and exposure pathways, and potential threat to sensitive receptors. Include an analysis of the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e., vapor pathway). Please include copies of Sanborn maps and aerial photographs, as appropriate.
- j. Identification and listing of specific data gaps that require further investigation during subsequent phases of work. Proposed activities to investigate and fill data gaps identified.

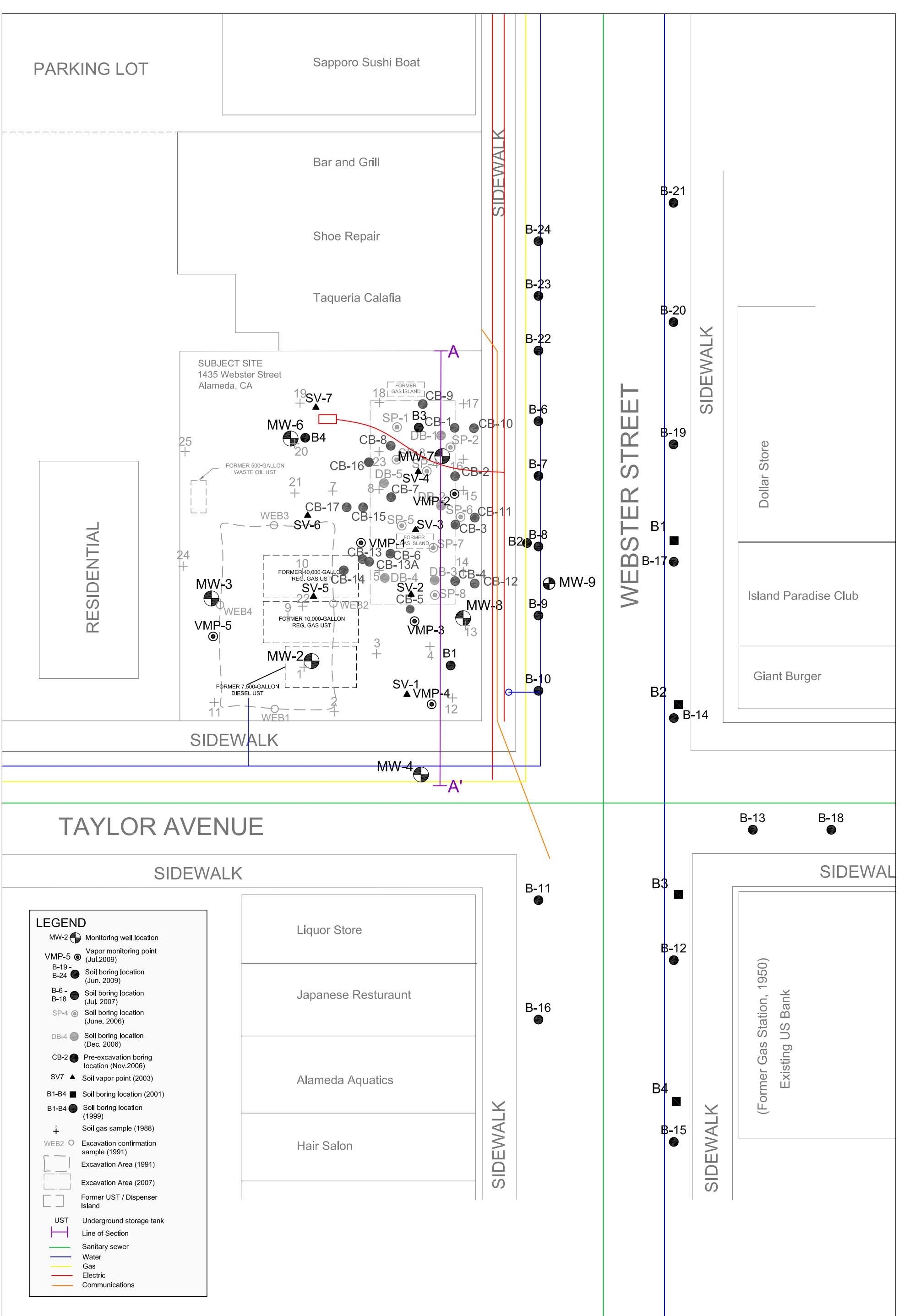
**TABLE 1  
INITIAL SITE CONCEPTUAL MODEL**

<b>CSM Element</b>	<b>CSM Sub-Element</b>	<b>Description</b>	<b>Data Gap</b>	<b>How to Address</b>
Geology and Hydrogeology	Regional	<p>The site is in the northwest portion of the Livermore Valley, which consists of a structural trough within the Diablo Range and contains the Livermore Valley Groundwater Basin (referred to as "the Basin") (DWR, 2006). Several faults traverse the Basin, which act as barriers to groundwater flow, as evidenced by large differences in water levels between the upgradient and downgradient sides of these faults (DWR, 2006). The Basin is divided into 12 groundwater basins, which are defined by faults and non-water-bearing geologic units (DWR, 1974).</p> <p>The hydrogeology of the Basin consists of a thick sequence of fresh-water-bearing continental deposits from alluvial fans, outwash plains, and lacustrine environments to up to approximately 5,000 feet bgs (DWR, 2006). Three defined fresh-water bearing geologic units exist within the Basin: Holocene Valley Fill (up to approximately 400 feet bgs in the central portion of the Basin), the Plio-Pleistocene Livermore Formation (generally between approximately 400 and 4,000 feet bgs in the central portion of the Basin), and the Pliocene Tassajara Formation (generally between approximately 250 and 5,000 or more feet bgs) (DWR, 1974). The Valley Fill units in the western portion of the Basin are capped by up to 40 feet of clay (DWR, 2006).</p>	None	NA
	Site	<p><b>Geology:</b> Borings advanced at the site indicate that subsurface materials consist primarily of finer-grained deposits (clay, sandy clay, silt and sandy silt) with interbedded sand lenses to 20 feet below ground surface (bgs), the approximate depth to which these borings were advanced. The documented lithology for one on-site boring that was logged to approximately 45 feet bgs indicates that beyond approximately 20 feet bgs, fine-grained soils are present to approximately 45 feet bgs. A cone penetrometer technology test indicated the presence of sandier lenses from approximately 45 to 58 feet bgs and even coarser materials (interbedded with finer-grained materials) from approximately 58 feet to 75 feet bgs, the total depth drilled. The lithology documented at the site is similar to that reported at other nearby sites, specifically the Montgomery Ward site (7575 Dublin Boulevard), the Quest laboratory site (6511 Golden Gate Drive), the Shell-branded Service Station site (11989 Dublin Boulevard), and the Chevron site (7007 San Ramon Road).</p> <p><b>Hydrogeology:</b> Shallow groundwater has been encountered at depths of approximately 9 to 15 feet bgs. The hydraulic gradient and groundwater flow direction have not been specifically evaluated at the site.</p>	<p>As noted, most borings at the site have been advanced to approximately 20 feet bgs, and one boring has been advanced and logged to 45 feet bgs; CPT data was collected to 75 feet bgs at one location. Lithologic data will be obtained from additional borings that will be advanced on site to further the understanding of the subsurface, especially with respect to deeper lithology.</p> <p>The on-site shallow groundwater horizontal gradient has not been confirmed. Additionally, it is not known if there may be a vertical component to the hydraulic gradient.</p>	<p>Two direct push borings and four multi-port wells will be advanced to depth (up to approximately 75 feet bgs) and soil lithology will be logged. See items 4 and 5 on Table 2.</p> <p>Shallow and deeper groundwater monitoring wells will be installed to provide information on lateral and vertical gradients. See Items 2 and 5 on Table 2.</p>
Surface Water Bodies		The closest surface water bodies are culverted creeks. Martin Canyon Creek flows from a gully west of the site, enters a culvert north of the site, and then bends to the south, passing approximately 1,000 feet east of the site before flowing into the Alamo Canal. Dublin Creek flows from a gully west of the site, enters a culvert approximately 750 feet south of the site, and then joins Martin Canyon Creek approximately 750 feet southeast of the site.	None	NA
Nearby Wells		The State Water Resources Control Board's GeoTracker GAMA website includes information regarding the approximate locations of water supply wells in California. In the vicinity of the site, the closest water supply wells presented on this website are depicted approximately 2 miles southeast of the site; the locations shown are approximate (within 1 mile of actual location for California Department of Public Health supply wells and 0.5 mile for other supply wells). No water-producing wells were identified within 1/4 mile of the site in the well survey conducted for the Quest Laboratory site (6511 Golden Gate Drive; documented in 2009); information documented in a 2005 report for the Chevron site at 7007 San Ramon Road indicates that a water-producing well may exist within 1/2 mile of the site.	A formal well survey is needed to identify water-producing, monitoring, cathodic protection, and dewatering wells.	Obtain data regarding nearby, permitted wells from the California Department of Water Resources and Zone 7 Water Agency (Item 11 on Table 2).

**TABLE 2  
DATA GAPS AND PROPOSED INVESTIGATION**

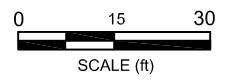
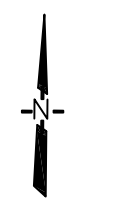
<b>Item</b>	<b>Data Gap</b>	<b>Proposed Investigation</b>	<b>Rationale</b>	<b>Analysis</b>
5	Evaluate the possible presence of impacts to deeper groundwater.  Evaluate deeper groundwater concentration trends over time.  Obtain data regarding the vertical groundwater gradient.  Obtain more lithological data below 20 feet bgs.	Install four continuous multichannel tubing (CMT) groundwater monitoring wells (aka multi-port wells) to approximately 65 feet bgs in the northern parking lot with ports at three depths (monitoring well locations may be adjusted pending results of shallow grab groundwater samples; we will discuss any potential changes with ACEH before proceeding). Groundwater monitoring frequency to be determined. Soil samples will be collected only if there are field indications of impacts. Soil lithology will be logged. However, information regarding the moisture content of soil may not be reliable using sonic drilling technology (two borings will be logged using direct push technology; see Item 4, above).	One well is proposed at the western (upgradient) property boundary to confirm that there are no deeper groundwater impacts from upgradient. Two wells are proposed near the center of the northern parking lot to evaluate potential impacts in an area where deeper impacts, if any, would most likely to be found. One well is proposed at the eastern (downgradient) property boundary to confirm that there are no impacts extending off-site. Port depths will be chosen based on the locations of saturated soils (as logged in direct push borings; see Item 4, above), but are expected at approximately 15, 45, and 60 feet bgs.	<i>Groundwater:</i> VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.
6	Evaluate possible off-site migration of impacted soil vapor in the downgradient direction (east).  Evaluate concentration trends over time.	Install 4 temporary nested soil vapor probes at approximately 4 and 8 feet bgs along the eastern property boundary. Based on the results of the sampling, two sets of nested probes will be converted to vapor monitoring wells to allow for evaluation of VOC concentration trends over time.	Available data indicate that PCE and TCE are present in soil vapor in the eastern portion of the northern parking lot. Samples are proposed on approximately 50-foot intervals along the eastern property boundary to provide a transect of concentrations through the vapor plume. The depths of 4 and 8 feet bgs are chosen to provide data closest to the source (i.e., groundwater) while avoiding saturated soil, and also provide shallower data to help evaluate potential attenuation within the soil column. Two sets of nested vapor probes will be converted into vapor monitoring wells (by installing well boxes at ground surface); the locations of the permanent wells will be chosen based on the results of samples from the temporary probes.	<i>Soil vapor:</i> VOCs by EPA Method TO-15.
7	Evaluate potential for off-site migration of impacted groundwater in the downgradient direction (east).	Advance two borings to approximately 20 feet bgs in the parking lot of the property east of the Crown site for collection of grab groundwater samples.	Two borings are proposed off-site, on the property east of the Crown site, just east of the building in the expected area of highest potential VOC concentrations.	<i>Groundwater:</i> VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.
8	Evaluate VOC concentrations just north of the highest concentration area.	Advance two borings to approximately 20 feet bgs north of Building A for collection of soil and grab groundwater samples. Soil samples will be collected at two depths in the vadose zone. Soil samples will be collected based on field indications of impacts (PID readings, odor, staining) or, in the absence of field indications of impacts, at 5 and 10 feet bgs.	The highest concentrations of PCE in groundwater were detected at boring NM-B-32, just north of Building A. The nearest available data to the north are approximately 75 feet away. One of the borings will be advanced approximately 20 feet north of NM-B-32 to provide data close to the highest concentration area. A second boring will be advanced approximately halfway between the first boring and former boring NM-B-33 to provide additional spatial data for contouring purposes. These borings will be part of a transect in the highest concentration area.	<i>Groundwater:</i> VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.  <i>Soil:</i> VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).
9	Evaluate VOC concentrations in soil vapor in the south parcel of the site.	Install four temporary soil vapor probes at approximately 5 feet bgs around boring SV-25, where PCE was detected in soil vapor at a low concentration.	PCE was detected in soil vapor sample SV-25 in the southern parcel, although was not detected in groundwater in that area. Three probes will be installed approximately 30 feet from of boring SV-25 to attempt to delineate the extent of impacts. A fourth probe is proposed west of the original sample, close to the property boundary and the location of mapped utility lines, which may be a potential conduit, to evaluate potential impacts from the west.	<i>Soil vapor:</i> VOCs by EPA Method TO-15.
10	Obtain additional information regarding subsurface structures and utilities to further evaluate migration pathways and sources.	Ground penetrating radar (GPR) and other utility locating methodologies will be used, as appropriate, to further evaluate the presence of unknown utilities and structures at the site.	Utilities have been identified at the site that include an on-site sewer lateral and drain line, and shallow water, electric, and gas lines. Given the current understanding of the distribution of PCE in groundwater at the site, it is possible that other subsurface utilities, and specifically sewer laterals, exist that may act as a source or migration pathway for distribution of VOCs in the subsurface.	NA

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**LEGEND**

- MW-2 Monitoring well location
- VMP-5 Vapor monitoring point (Jul. 2009)
- B-19 - B-24 Soil boring location (Jun. 2009)
- B-6 - B-18 Soil boring location (Jul. 2007)
- SP-4 Soil boring location (June, 2006)
- DB-4 Soil boring location (Dec. 2006)
- CB-2 Pre-excitation boring location (Nov. 2006)
- SV7 Soil vapor point (2003)
- B1-B4 Soil boring location (2001)
- B1-B4 Soil boring location (1999)
- + Soil gas sample (1988)
- WEB2 Excavation confirmation sample (1991)
- Excavation Area (1991)
- Excavation Area (2007)
- Former UST / Dispenser Island
- UST Underground storage tank
- Line of Section
- Sanitary sewer
- Water
- Gas
- Electric
- Communications



Revision: 0  
 Date: 2/28/2011  
 Drafted By: ES

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 262 Michelle Court  
 So. San Francisco, CA 94080  
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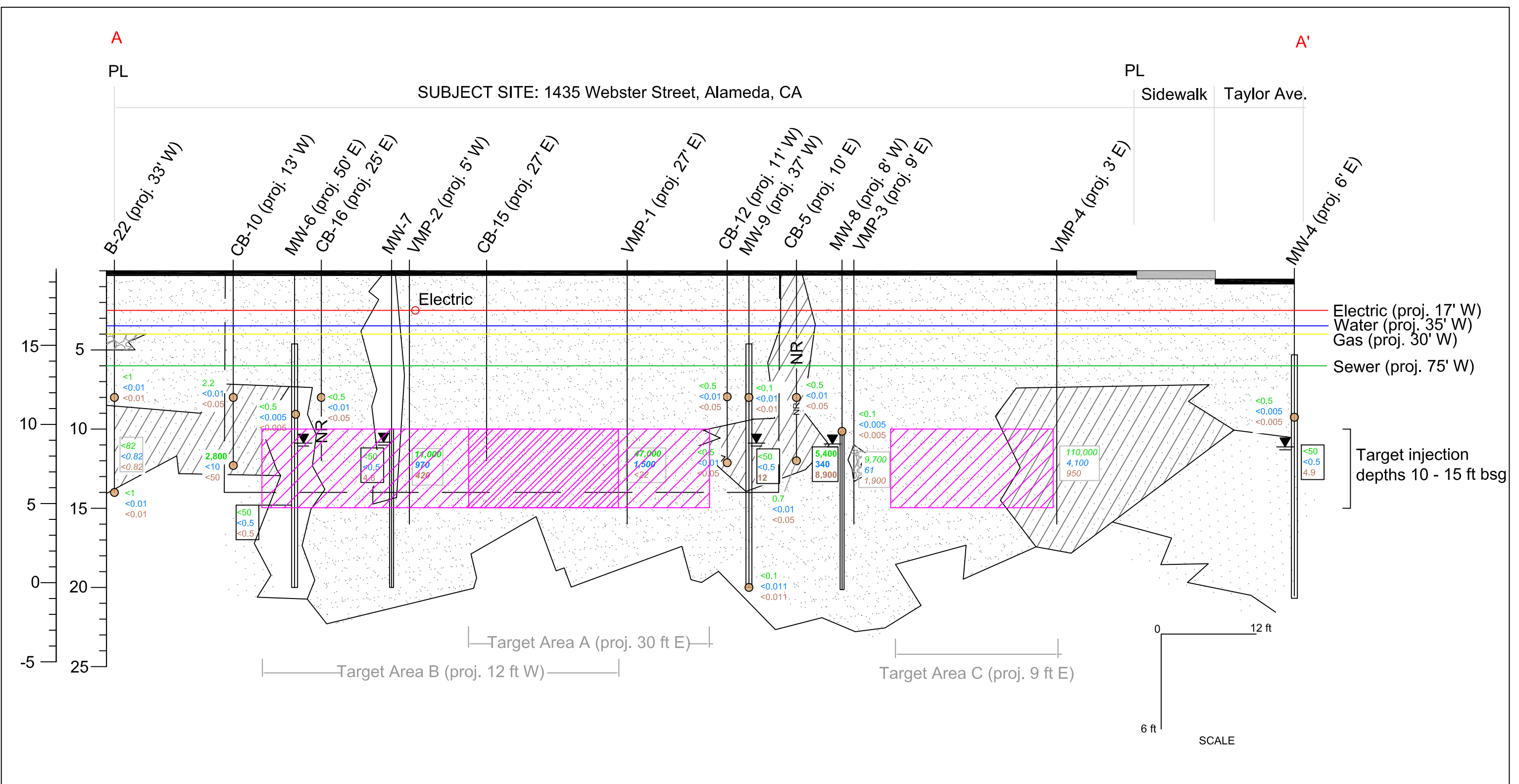
**SITE**  
 1435 Webster  
 Alameda, California

**FIGURE 2**

**Site Map**



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LEGEND			
	SW, well graded gravelly sand		2007 Excavation Boundary
	SP, poorly graded sand, <5% fines		Asphalt
	SM, silty sand with >10% clay and SC, clayey sand		Concrete
	SM, silty sand		Targeted Injection Area
PL	Property line	NR	No recovery
	TPHg benzene MTBE		Soil sample and contaminant concentrations in mg/kg
	TPHg benzene MTBE		Groundwater sample and contaminant concentrations in ug/L (grab samples in italics) 8/27/2009
			Groundwater elevation, 8/27/2009

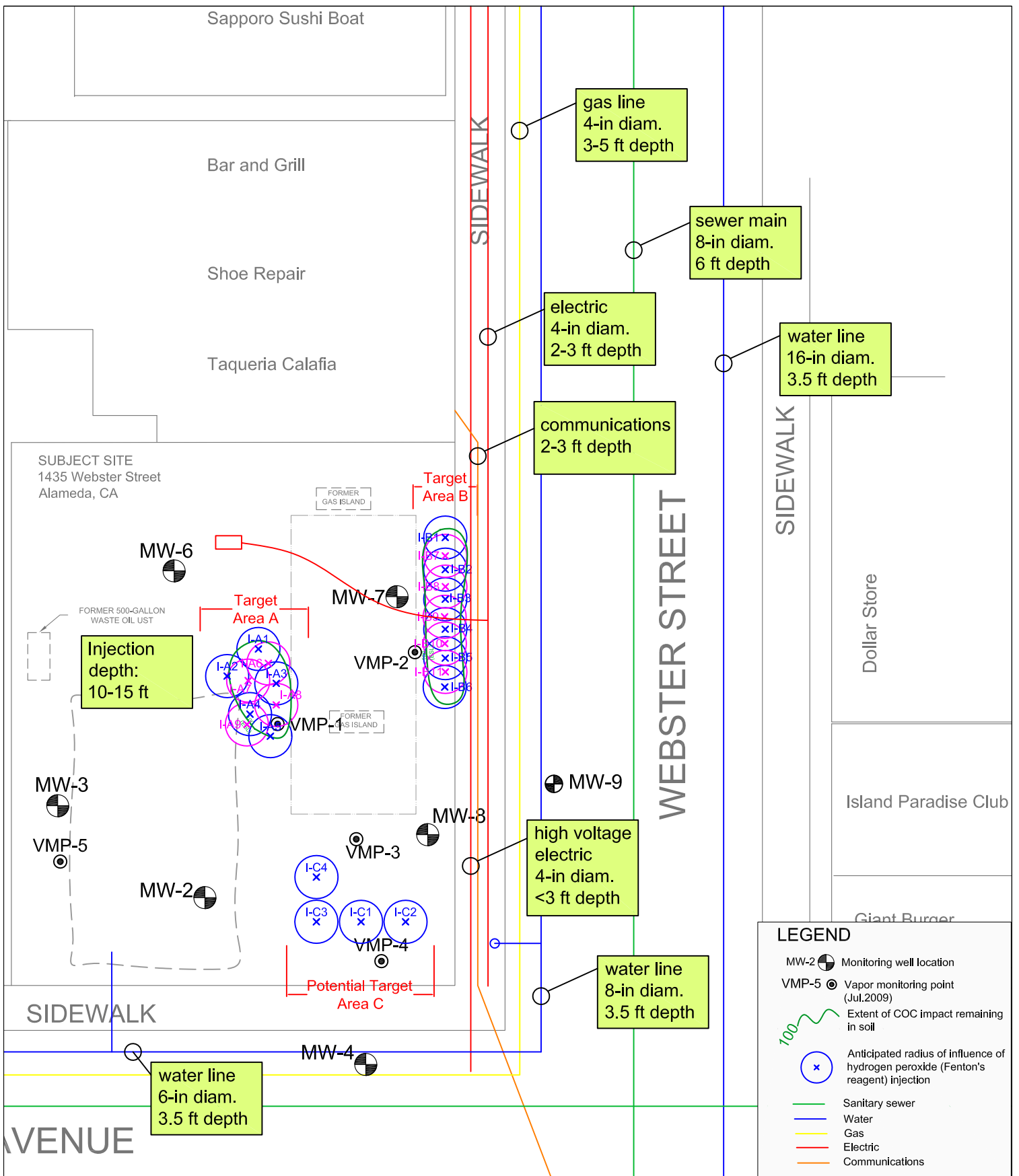
	262 Michelle Court So. San Francisco, CA 94080 Main: (650) 616-1200 Fax: (650) 616-1244
	Revision: 2
	Date: 1/21/2010
Drafted By: ES	

**SITE**

1435 Webster Street  
Alameda, California

**FIGURE 3**

**Geologic Cross Section A-A'**



**LEGEND**

- MW-2 Monitoring well location
- VMP-5 Vapor monitoring point (Jul.2009)
- Extent of COC impact remaining in soil
- Anticipated radius of influence of hydrogen peroxide (Fenton's reagent) injection
- Sanitary sewer
- Water
- Gas
- Electric
- Communications

0      15      30  
 SCALE (ft)

Revision: 1  
 Date: 2/28/2011  
 Drafted By: ES

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**SITE**  
 1435 Webster Street  
 Alameda, California

**FIGURE**  
**4**

**Proposed Targeted Injection Areas and Utility Map**

**ATTACHMENT B**

**Path to Closure Project Schedule Requisite Elements**

## ATTACHMENT B

### Path to Closure Project Schedule Requisite Elements

The State Water Resources Control Board passed Resolution No. 2012-0062 on November 6, 2012 which requires development of a "Path to Closure Plan" by December 31, 2013 that addresses the impediments to closure for the site. The Path to Closure must have milestone dates tied to calendar quarters which will achieve site cleanup and case closure in a timely and efficient manner and minimizes the cost of corrective action. ACEH will review the schedule to ensure that all key elements are included.

Please submit an electronic copy that includes, but is not be limited to, the following key environmental elements and milestones as appropriate:

- Preferential Pathway Study
- Soil, Groundwater, and Soil Vapor Investigations
- Initial, Updated, and Final/Validated SCMs
- Interim Remedial Actions
- Feasibility Study/Corrective Action Plan
- Pilot Tests
- Remedial Actions
- Soil Vapor and Groundwater Monitoring Well Installation and Monitoring
- Public Participation Program (Fact Sheet Preparation/Distribution/Public Comment Period, Community Meetings, etc.)
- Case Closure Tasks (Request for closure documents, ACEH Case Closure Summary Preparation and Review, Site Management Plan, Institutional Controls, Public Participation, Landowner Notification, Well Decommissioning, Waste Removal, and Reporting.)

Please include time for regulatory and RP in house review, permitting, off-site access agreements, and utility connections, etc.

Please use a critical path methodology/tool to construct a schedule with sufficient detail to support a realistic and achievable Path to Closure Schedule. The schedule is to include at a minimum:

- Defined work breakdown structure including summary tasks required to accomplish the project objectives and required deliverables
- Summary task decomposition into smaller more manageable components that can be scheduled, monitored, and controlled
- Sequencing of activities to identify and document relationships among the project activities using logical relationships
- Identification of critical paths, linkages, predecessor and successor activities, leads and lags, and key milestones
- Identification of entity responsible for executing work
- Estimated activity durations (60-day ACEH review times are based on calendar days)