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By Alameda County Environmental Health 1:38 pm, Apr 28, 2017

April 26, 2017

Ms. Karel Detterman, PG  
Hazardous Materials Specialist  
Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502

**Subject: Transmittal - Data Gap Work Plan, Second Addendum and,  
Perjury Statement**  
27501 Loyola Avenue, Hayward, California  
Site Cleanup Program Case No. RO0003150

Dear Ms. Detterman:

I declare under penalty of perjury, that the information and/or recommendations contained in the attached document for the above-referenced Site are true and correct to the best of my knowledge.

If you have any questions or need additional information, please do not hesitate to call me at (925) 918-0637, or Ms. Veronica Statham at AEI Consultants at (510) 907-3145.

Sincerely,



Mr. Daniel Bo

April 26, 2017

Ms. Karel Detterman, PG  
Hazardous Materials Specialist  
Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502

*Submitted Via Electronic Upload to DEH FTP and GeoTracker (T10000007086)*

**Subject: Data Gap Work Plan Second Addendum**  
27501 Loyola Avenue, Hayward, California  
Site Cleanup Program Case No. RO0003150  
AEI Project No. 335476

Dear Ms. Detterman:

On behalf of Harvest Investments, AEI Consultants (AEI) has prepared this *Data Gap Work Plan Second Addendum* ("the Addendum") to present the proposed additional subsurface investigation activities to be conducted at 27501 Loyola Avenue in Hayward, California ("the Site"). Figure 1 presents the Site location and vicinity. This Addendum modifies our proposed scope of work presented in the September 14, 2016 *Data Gap Work Plan Addendum* and has been prepared in response to the March 17, 2017 letter from the Alameda County Department of Environmental Health (DEH) and recent discussions. As previously presented to the DEH, we understand the importance of obtaining the requested historical information for the Site and would like to continue in parallel with the proposed investigation activities. The proposed investigation activities are to characterize the existing Site conditions in shallow soils and soil gas at the Site to assess the potential for exposure of future residents and/or construction workers to residual petroleum hydrocarbons present at the Site. The proposed investigation activities are presented below.

## SCOPE OF WORK

AEI proposes the following scope of work to characterize residual petroleum hydrocarbons in shallow soils and soil gas at the Site. The previously presented soil gas investigation is included herein to that the entire proposed investigation scope can be presented in total.

To identify the previously identified data gaps at the Site, AEI proposes:

- Performing a field utility scan to identify potential preferential migration pathways and the possible presence of the former extraction and/or monitoring wells present at the Site;
- Collecting soil gas samples to characterize the potential for vapor intrusion to the proposed future residential buildings;
- Collecting shallow soil samples to characterize residual petroleum hydrocarbons in soil and the potential for direct exposure to future residents and construction workers; and,

- If present, sampling on-site wells to evaluate residual petroleum impacts to groundwater.

These activities are presented in detail below.

### **Preliminary Field Activities**

A Site-specific health and safety plan will be prepared, reviewed by on-site personnel, and kept on-site for the duration of the fieldwork. Drilling permits will be obtained from Alameda County Public Works Agency (ACPWA) for this investigation. The public underground utility locating service Underground Service Alert (USA) will be notified to identify public utilities in the work area at least 48 hours prior to drilling activities. Under the oversight of a licensed Professional Geologist or Engineer, a field utility scan will be conducted by an independent utility locating company to identify underground utilities and former wells on the property. In addition to scanning areas of the proposed boring locations, the field utility scan will identify areas of abandoned utilities, if present, which may serve as preferential pathways. The Site location and vicinity are shown on Figure 1. Figure 2 presents the Site plan.

### **Soil and Soil Gas Sampling**

AEI will advance eight soil borings (SG-1 through SG-4, and SB-1 through SB-4) to a total depth of 5.5 feet bgs via a limited-access drill rig equipped with direct-push technology. The proposed soil boring locations are shown on Figure 2. Soil borings SG-1 through SG-4 are proposed at locations beneath future occupied spaces of the proposed residential buildings (specifically, anticipated areas of guest rooms and studies). The expected foundation type is slab-on-grade; therefore, the proposed soil vapor samples will be collected at a depth of approximately five-feet below the proposed foundation. Soil borings SB-5 through SB-8 were selected at areas of future landscaping.

At each location, the soil core will be observed and described using the Unified Soil Classification System (USCS) and Munsell Soil Color Chart. The soil core will also be screened with a photo ionization detector (PID) for VOCs. Soil description, color, odor, PID measurements, and other notable features will be recorded on field boring logs. Soil will be collected from each soil boring at depths of 0.5 and 2.5-feet bgs for potential analysis. Soil samples will be collected and containerized in four-ounce wide-mouth glass jars and En Core™ samplers. One soil sample from each soil boring, eight samples in total, will be analyzed as follows:

- Total petroleum hydrocarbons as diesel, and motor oil (TPHd, and TPHmo) using US EPA Testing Method 8015M, with silica gel cleanup.
- Total petroleum hydrocarbons as gasoline (TPHg) and Volatile organic compounds (VOCs) using US EPA Testing Method 8260B.
- Lead using US EPA Testing Method 6020.

Soil samples collected, but not analyzed, will be submitted to the laboratory on hold and may be analyzed as warranted by the results of the above described analysis.

Following soil boring advancement at locations SG-1 through SG-4, a temporary soil gas probe will be constructed in general accordance with the *Advisory – Active Soil Gas Investigations*, dated July 2015 and issued by the California Department of Toxic Substances Control (DTSC) and Los

Angeles and San Francisco Regional Water Quality Control Boards. Each soil vapor probe will be constructed with a vapor screen attached to 1/4-inch diameter Teflon™ or equivalent tubing placed at approximately five feet bgs and covered with approximately one-foot of sand. The soil gas probe will then be sealed by backfilling the remaining section of borehole with bentonite to the surface.

After waiting the *Advisory*-recommended equilibration time of a minimum of two-hours, a shut-in test, a leak test, and purging of the sample tubing and screen will be conducted. Soil gas samples will then be collected from each of the newly constructed soil gas probes using laboratory-supplied, batch-certified clean, one-liter evacuated canisters and flow regulators set at approximately 150 milliliters per minute (mL/min). After approximately five minutes (depending on the down-hole vacuum), or -5 in Hg vacuum in the canister, each canister will be closed and removed from the sampling line and the final canister vacuum will be recorded. The canister sample will be sealed with a gas tight cap, appropriately labeled, and entered onto a chain-of-custody documentation for delivery to the laboratory. Each soil gas sample will be analyzed for VOCs using US EPA Test Method TO-15, oxygen, methane, and the leak check compound helium using ASTM D1945.

### **Soil Boring Destruction**

Following sample collection and removal of the soil vapor probes, the borings will be destroyed as required by ACPWA.

### **Groundwater Sampling**

If operational groundwater monitoring or extraction wells are located from the former Site assessment and remediation activities are identified, groundwater samples will be collected from each of the identified operational wells.

Pre-sampling activities at each well will include visually assessing the condition of the well head and well seal, screening for the presence of non-aqueous phase liquid (NAPL), measuring the equilibrated depth to groundwater, and measuring the total depth of the Well. If NAPL is present, the thickness of the NAPL will be measured using a Solinst 122 or equivalent electronic oil/water interface probe such. The depth to water will be measured in each well using an electronic depth to water meter, calibrated to 0.01-feet. Following pre-sampling activities, the wells will be purged using a submersible pump for a total of three well volumes or until significant well dewatering has occurred. During well purging, the groundwater parameters temperature, pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity (based on visual observations) will be measured at approximately five-minute intervals. Depth to water and measured groundwater parameters will be recorded on Groundwater Sample Data Sheets.

Once purging is completed, groundwater samples will be collected from each well using a disposal bailer. Samples will be collected in appropriate laboratory-supplied containers. The samples will be labeled, entered onto the chain-of-custody record, and placed in an ice-chilled cooler for transport to the laboratory for analysis. Each groundwater sample collected will be analyzed for TPHg and VOCs using US EPA Testing Method 8260B and TPHd and TPHmo using US EPA Testing Method 8015M, with silica gel cleanup.



## **Investigation Derived Waste**

Investigation derived waste will be stored on-site in sealed, labeled, department of transportation (DOT) approved 55-gallon drums. Disposal will depend upon the receipt of the analytical results.

## **Reporting**

Upon the completion of the above-described field activities and receipt of the laboratory analytical data, AEI will prepare a report presenting the methods and results of the investigation. The report will summarize the investigation activities, tabular summaries of the data, and figures showing the sample locations. The soil, soil gas, and groundwater sample results will be compared to the California State Water Resources Control Board's *Low-Threat Underground Storage Tank Case Closure Policy* and/or the current Environmental Screening Levels (ESLs) provided by the California Regional Water Quality Control Board, San Francisco Bay Region as appropriate.

The report will also respond to the DEH's March 17, 2017 letter and will include the following:


- Confirm the current status of the former groundwater monitoring and extraction wells that were installed as part of investigation and remediation of the former service station.
- The results of a file review at the Hayward Fire Department to identify additional information regarding the former release case and investigation and remediation activities performed.
- Hydrographs for each of the groundwater monitoring wells with available data.
- Figure of the historical and final extent of separate phase hydrocarbons in the subsurface.

## **CLOSING**

AEI appreciates working with the DEH to move this Site forward and allow for the safe development of the proposed residential structures. If there are any questions regarding our investigation, please do not hesitate to contact Mr. Trent Weise at (408) 559-7600.

Sincerely,

**AEI Consultants**

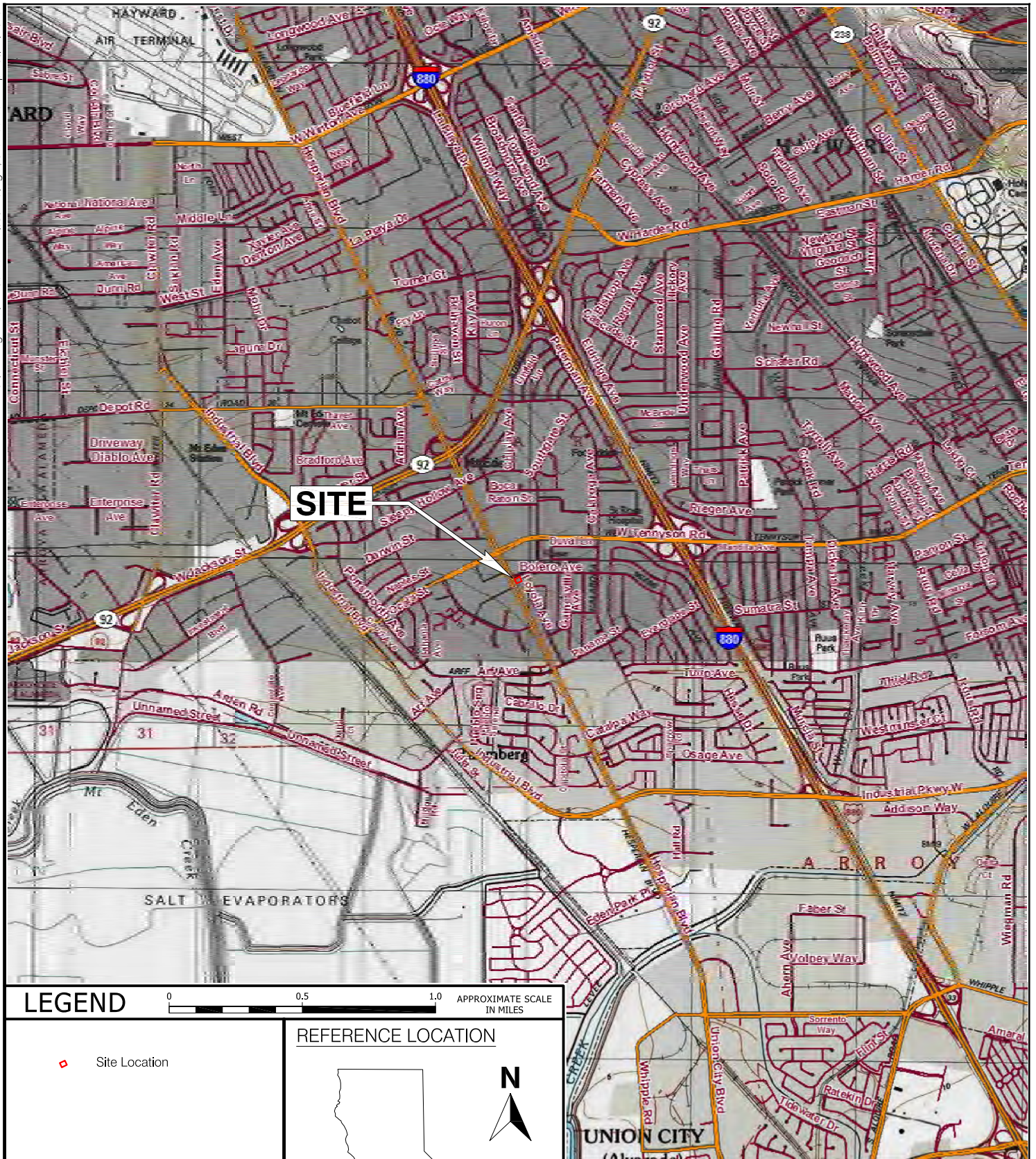
  
Trent A. Weise, P.E.  
Vice President



Enclosures





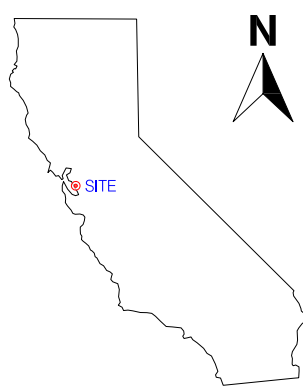


### LEGEND



Site Location

### REFERENCE LOCATION



# AEI Consultants

3880 South Bascom Avenue, San Jose, California

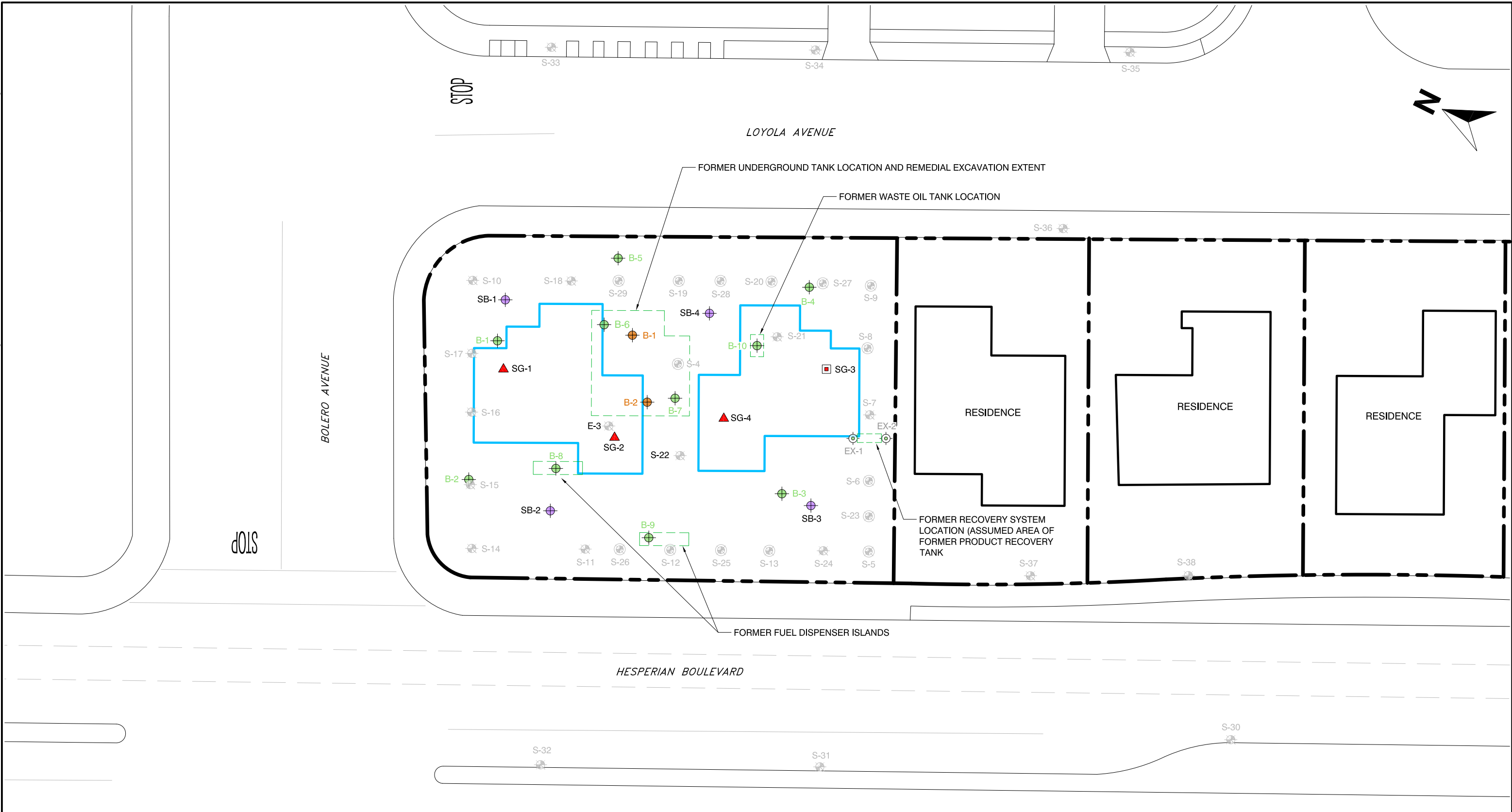
## SITE LOCATION MAP

27501 Loyola Avenue  
Hayward, California

FIGURE 1  
Project No. 335476

Map Source:  
USGS 7.5 Minute  
Topographic Quadrangle Map,  
Hayward, CA - 1993,  
Photorevised 1996





**LEGEND**

- SB-1 Proposed Soil Boring Location
- SG-1 Proposed Soil Gas Sample
- S-29 Destroyed Extraction Well
- S-35 Destroyed Groundwater Monitoring Well
- B-10 Soil Boring
- B-1 Former Soil Boring (Soil Subsequently Excavated)
- EX-2 Confirmation Soil Sample (Locations Estimated; locations described as on ends of product recovery UST excavation)
- Footprint of Proposed Development
- Approximate Property Boundary



**NOTE:**  
 Base Map Sources:  
 Google Earth, Image Date 10/30/2015  
 Shell Plot Plan, 12/1979  
 Woodward-Clyde Consultants Map, 04/1989  
 EMCON Associates Report, 10/20/1984

<b>AEI Consultants</b> 2500 Camino Diablo, Walnut Creek, California	
<b>SITE PLAN</b>	
27501 Loyola Avenue Hayward, California	FIGURE 2 Project No. 335476