

# Environmental Restoration Services

Site Investigations \* Fuel Tank Closures and Installations \* Site Remediation \* Regulatory Reporting

Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Second Floor  
Alameda, CA 94502

October 24, 2003

Attn: Mr. Barney Chan, Haz Mat. Specialist for : 15651 Worthley Dr., San Lorenzo

Re: Proposed Revised Investigative Workplan

Dear Mr. Chan ,

Alameda County  
OCT 29 2003  
Environmental Health

Environmental Restoration Services (ERS) is pleased to submit to following revised version of the ERS October 9, 2003 Workplan, per your verbal comments,  for your review.

## 1.0 INTRODUCTION

On April 30, 2003 , one 12000 gallon underground tank last containing diesel was removed at the subject site (Figure 2) by ERS. Analytical results of a groundwater sample recovered from the excavation showed elevated levels of diesel constituents.

ERS treated the affected groundwater within the open excavation, has de-watered the excavation and sampled the re-charge. ERS has also sampled soil imported from off-site for backfilling purposes, and was granted a permit to discharge the treated groundwater to the sanitary sewer. When permission had been granted to use the imported soil as backfill, ERS de-watered the excavation one additional time, and sampled the re-charge, and backfilled the excavation using existing and imported soil. Under a discharge permit granted by the Oro Loma Sanitary District (OLSD), ERS has discharged all of the affected groundwater to the sanitary sewer.

This Workplan first reviews the site background, describes the tank removal, sampling protocols and the analytical results and remedial actions, and then proposes an additional investigative scope of work, as requested by the Alameda County Health Care Services Agency (ACHCSA)

## 1.1 Site Location

The site is located in a commercial district of San Lorenzo, California on property at 15651 Worthley Dr. ( Figure 1).

## **1.2 Background**

On April 30, 2003, one 12,000 gallon underground tank last containing diesel was removed.

## **1.3 Site History**

### **1.3.1 Description of Site**

The site is occupied by a trucking terminal. About 20% of the site is occupied by the present structures, with the remaining area covered by asphalt and concrete driving surfaces.

## **2.0 SITE DESCRIPTION**

### **2.1 Site Description**

The site is located approximately 200 feet southeast of the corner of Grant Ave. and Worthley Dr.. An approximate 1500 square foot office and trucking terminal is located down the center portion of the parcel with an approximate 2000 square foot truck repair building located in north corner of the parcel. The majority of the remaining property is paved.

### **2.2 Vicinity Map**

A vicinity map is given in Figure 1 which includes the location of any known hydraulic influences. San Lorenzo Creek lies approximately 1600 feet northwest of the site and San Francisco Bay lies approximately 2700 feet northwest of the site. A site map is given in Figure 1 which includes information on adjacent streets.

### **2.3 Depth to Groundwater**

Depth to groundwater based groundwater elevation within the existing excavation at the site is approximately five feet below ground surface (bgs.)

### **2.4 Soil Profile**

The tank excavation sidewalls show predominantly silty to high plasticity clays starting at the ground surface.

### **2.5 Waste Removal**

One tank and approximately 7000 gallons of groundwater have been removed from the site.

## **2.6 Previous Investigative and Remedial Work**

On April 30, 2003, permission was given by the Health Inspector Robert Weston of the ACHSA to remove the tank from the excavation. The pea-gravel backfill material surrounding the tanks did appear to be stained and emit an odor. The tank was transported to the ECI T.S.D. facility in Richmond.

On April 30, 2003, after removal of the UST, ERS recovered one soil sample ("West SW@4") from the western excavation sidewall at approximately 4' bgs., and one groundwater sample from the excavation ("Pit GW"). The results of the analysis indicated levels of TPH/d, BTEX and fuel oxygenates below the varying detection limit for both samples, with the exception of TPH/d concentrations in groundwater sample "Pit GW" at 2560 parts per million (ppm).

On May 1, 2003 the groundwater within the excavation was inoculated with Solmar L-100 hydrocarbon consuming microbes. The groundwater within the excavation was aerated using a submersible electric pump.

On June 5, 2003, the excavation was dewatered of approximately 5000 gallons and stored on-site within a 5000 gallon aboveground storage tank (AST) and as groundwater was recharging into the excavation, a grab water sample was recovered. The analytical results of the groundwater recharge sample indicated no BTEX above the detection limit and 0.52 parts per million of TPH/d.

On June 5, 2003, one sample was obtained from the water contained in the tank and tested per Oro Loma Sanitary District (OLSD) waste discharge requirements. The analytical results were below discharge limits and a discharge permit was obtained from the OLSD.

On October 1, 2003 the 5000 gallons of groundwater within the AST and approximately 2000 gallons of groundwater within the excavation, was disposed of to the sanitary sewer.

On October 1, 2003, as groundwater was recharging into the excavation prior to backfill, a grab water sample was recovered. The analytical results of the groundwater recharge sample indicated no TPH/d above the analytical detection limit.

On October 1, 2003, prior to backfill, ERS also recovered one soil sample ("East - SW@4") from the eastern excavation sidewall at approximately 4' bgs.. The analytical results of the soil sample indicated no TPH/d or BTEX above the analytical detection limit.

### **3.0 PROPOSED INVESTIGATIVE SCOPE OF WORK**

Since the extent of groundwater contamination has not been defined, the investigative scope of work will be comprised of installing six soil borings at on-site locations and sampling the groundwater at each boring location.

#### **3.1 Reconnaissance Boring Installation and Groundwater Sampling**

Prior to initiating drilling, a subsurface drilling permit will be obtained from the Alameda County Public Works Agency (ACPWA). ACHCSA will be notified a minimum of 72 hours prior to drilling.

Three soil borings (SB-1 through SB-6) will be constructed to determine the presence of hydrocarbons in the groundwater, in the vicinity of the former tank location. Boring locations are shown in Figure 2.

Prior to mobilization of the drilling equipment on-site and at each boring location, all associated boring and sampling equipment will be thoroughly cleaned to removed all soil, oil, grease, mud, tar, etc. The cleaning process will consist of TSP cleaning of the drilling equipment and a clean water final rinse.

##### **3.1.1 Soil Boring Procedure**

The boring will be advanced using a small diameter push rig (Geo-Probe or equivalent) to a depth of approximately 8 feet. All of the soil recovered from the boring will be logged under the supervision of a registered civil engineer. Visual and olfactory observations of petroleum hydrocarbons will be made and recorded on the boring log.

##### **3.1.2 Groundwater Grab Sampling Procedures**

After completion of drilling a new, PVC screened casing will be inserted into each boring. Each boring will then be allowed to recharge with groundwater. Then, a new, disposable bailer will be inserted into the well casing for recovery of a groundwater grab sample. The groundwater will be emptied into sample containers obtained directly from the analytical laboratory. An effort will be made to minimize exposure of the sample to air. The groundwater samples will immediately be stored on crushed ice and maintained at a constant 4 degrees Celsius. The samples will be transported to North State Environmental Labs (NSEL) of South San Francisco, under chain-of-custody procedures.

### 3.1.3 Laboratory Analyses

The following analyses will be performed on the groundwater samples obtained from the borings.

TPH-diesel (EPA Method CTFSH); BTEX and MTBE (EPA Method 8020)

### 3.3 Informal Groundwater Gradient Determination

In order to obtain an accurate estimation for groundwater gradient, the top of each temporary casing will be surveyed to an accuracy of 0.01 feet using an assumed elevation of 10 feet MSL for top of casing at SB-2.

Approximately 24 hours after sampling the borings, the water levels in each of the casings will be measured within a five-minute period. The water surface elevations in the wells will be calculated using the survey data. An estimated horizontal hydraulic gradient will be calculated based on accurately determined casing locations and depth to water measurements. The borings will be backfilled immediately after completion of the sampling and depth to water measurements, with a cement grout mixture containing approximately 3% bentonite

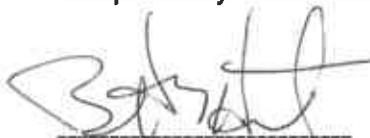
### 4.0 REPORTING

All documents created during the investigation including boring logs, sampling field notes, chains of custody, and laboratory reports will be included in a Report of Findings to be submitted to the ACHCSA.

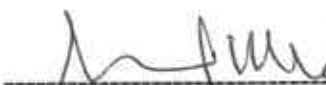
The Report of Findings will recommend further investigation if the limits of contamination were not determined.

If you have any questions regarding these comments or scope of work, or wish to add to or alter the scope of this investigation, please do not hesitate to call Ben Halsted at 650-325-3216 so I may resubmit any revisions.

Respectfully submitted this 24<sup>th</sup> day of October, 2003.



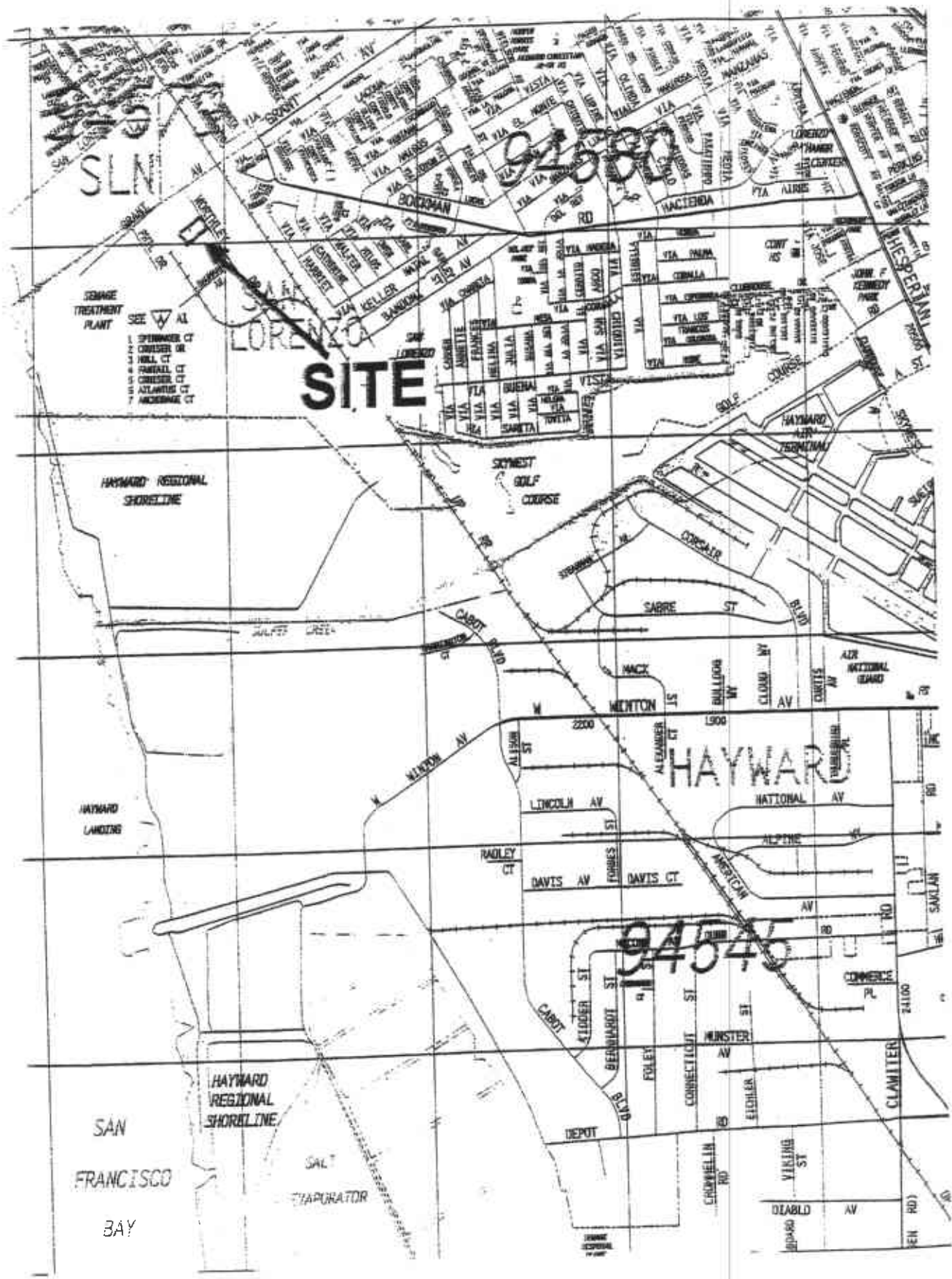
Bennett T. Halsted  
Project Manager



Samuel H. Halsted PE  
C.E. 14095



## FIGURES



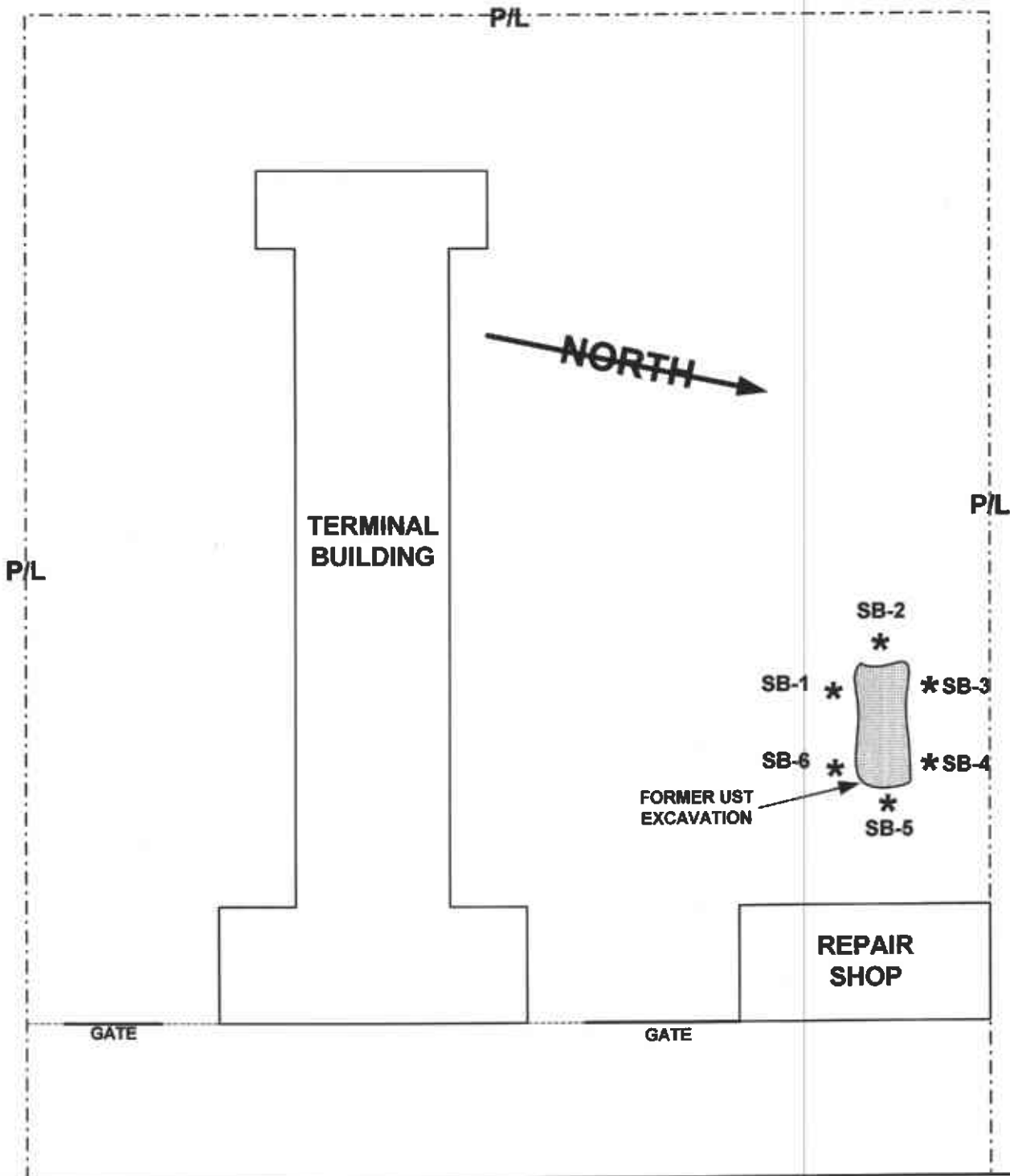
# VICINITY MAP

15651 Worthley Dr. San Lorenzo, CA

DATE 3/26/00

SCALE: 1"=1900'

BY:



WORTHLEY DR.

\* PROPOSED BORING LOCATIONS

|  |               |                 |
|--|---------------|-----------------|
| <b>SITE PLAN</b>                                 |               |                 |
| <i>15651 Worthley Dr., San Lorenzo, CA</i>       |               |                 |
| DATE 10/24/03                                    | SCALE: 1"=40' | BY:             |
| <i>Environmental Restoration Services</i>        |               | <b>FIGURE 2</b> |
| <i>500 Santa Cruz Ave., Menlo Park, CA 94025</i> |               |                 |