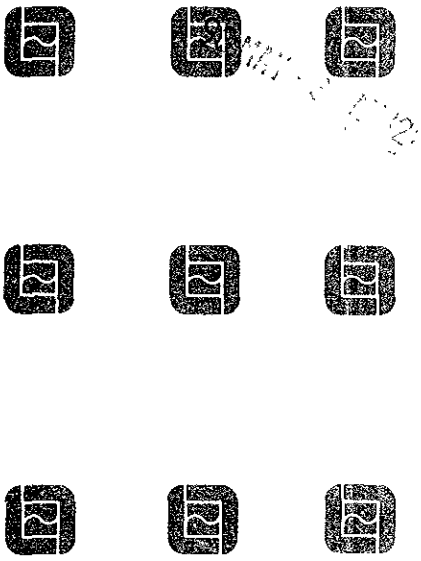


Work Plan to Install
One Ground-Water Monitoring Well
and Conduct Quarterly Monitoring
Bay Area Warehouse Property
Emeryville, California

April 30, 1993
1649.13

Prepared for
Catellus Development Corporation
201 Mission Street
San Francisco, California

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

April 30, 1993 LF 1649.13

Ms. Susan Hugo
Alameda County Health Care Services Agency
80 Swan Way, Suite 200
Oakland, California 94621

Subject: Work Plan to Install One Ground-Water Monitoring Well and Conduct Quarterly Monitoring, Bay Area Warehouse Property, Emeryville, California

Dear Susan:

Enclosed is a work plan to install one ground-water monitoring well and conduct quarterly monitoring at the Bay Area Warehouse (BAW) Property, located at the Yerba Buena Project Site in Emeryville, California. This work plan has been prepared on behalf of Catellus Development Corporation ("Catellus"), contractor for the redevelopment project at the East Baybridge/Yerba Buena Project Site.

As we discussed in our meeting on April 14, 1993, this work is being conducted in accordance with your October 13, 1992 letter to Mr. Charles Wellnitz of BAW, the owner and operator of the gasoline underground storage tank (UST) formerly located at the BAW property. Your October 13, 1992 letter to Mr. Wellnitz directed BAW to conduct a ground-water investigation at the BAW property to assess the possible effect of petroleum hydrocarbons from the former UST on shallow ground water in the vicinity of the tank excavation. Because BAW has failed and refused to perform any such investigation, Catellus is compelled at this time to proceed with installation of the monitoring well.

The work plan describes the proposed investigation and outlines a quarterly monitoring program for the BAW property, which will begin in the second quarter of 1993 (April through June), pending written approval of this work plan from the Alameda Health Care Services Agency. After four quarters of monitoring, site data will be evaluated to assess whether additional monitoring is appropriate for the property.

1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500
Fax (510) 652-2246

Other offices in Irvine, CA; Sacramento/Roseville, CA; Tallahassee, FL; Honolulu, HI

Please call me or Cindy Barclay if you have any questions or comments concerning this work plan.

Sincerely,

Cynthia Barclay for

Jenifer J. Beatty
Project Hydrogeologist

cc: Lester Feldman, RWQCB
Kimberly Brandt, Catellus
Pat Cashman, Catellus

CONTENTS

LIST OF FIGURES

April 30, 1993 LF 1649.13

WORK PLAN TO INSTALL ONE MONITORING WELL AND CONDUCT QUARTERLY MONITORING FORMER BAY AREA WAREHOUSE PROPERTY EMERYVILLE, CALIFORNIA

1.0 INTRODUCTION

This work plan describes the tasks necessary to install one additional ground-water monitoring well and conduct quarterly ground-water monitoring at the former Bay Area Warehouse (BAW) property, located in Emeryville, California (Figures 1 and 2). This work plan has been prepared on behalf of Catellus Development Corporation ("Catellus"), contractor for the redevelopment project at the East Baybridge/Yerba Buena Project Site.

2.0 PREVIOUS INVESTIGATIONS

On November 20, 1991, a gasoline underground storage tank (UST) was removed from the BAW property by consultants working on BAW's behalf. Levine·Fricke was present to observe the UST's removal and has reviewed the December 1991 "Report of Findings—Underground Storage Tank Removal," prepared by the consultants for BAW and submitted to the Alameda Health Care Services Agency (ACHA).

Results presented in that report indicated that benzene was not detected in any soil samples collected by BAW from the UST excavation, and that total petroleum hydrocarbons (TPH) as gasoline (TPHg) concentrations were 3 parts per million (ppm) or less. Results for the grab ground-water sample collected from the UST excavation by BAW indicated the presence of benzene and TPHg at concentrations of 0.24 ppm and 8.8 ppm, respectively.

On October 13, 1992, the ACHA sent a letter to Mr. Charles Wellnitz of BAW, the owner and generator of the UST formerly located at the property, directing BAW to conduct a ground-water investigation at the BAW property to assess the possible effect of petroleum hydrocarbons from the former UST on shallow ground water in the vicinity of the tank excavation. Because BAW has failed and refused to perform any such investigation, Catellus is compelled at this time to proceed with installation of the monitoring well.

3.0 PROPOSED SCOPE OF WORK

To evaluate the impact, if any, of petroleum hydrocarbons from the former UST on shallow ground water in the vicinity, monitoring well LF-32 will be installed downgradient from and within 10 feet of the former UST location and monitored periodically, as described below.

Task 1: Well Installation and Development

The proposed location of monitoring well LF-32 is shown on Figure 2. Field methods to be used during installation and development are presented below.

Borehole Drilling

Before drilling begins, the appropriate permits will be obtained from the Alameda County Flood Control and Water Conservation District, Zone 7. Drilling will be conducted under the supervision of a California Registered Geologist. All downhole drilling and sampling equipment will be steam cleaned before use. A licensed well-drilling contractor will drill the borehole for the monitoring well using a truck-mounted drilling rig equipped with 8-inch outside-diameter hollow-stem augers. The anticipated total depth of the borehole is 20 to 25 feet below ground surface.

Soil Sampling

Soil samples will be collected for lithologic description at 2.5-foot-depth intervals by driving a brass-tube-lined split-spoon sampler ahead of the auger into undisturbed soil. Soil samples will be field screened with a hand-held organic vapor meter (OVM) and described using the Unified Soil Classification System. Lithologic descriptions will be recorded in the field on borehole log forms. One soil sample will be selected for chemical analysis from just above the ground-water interface. To preserve the soil sample for possible chemical analysis, the ends of the brass tube will be covered with aluminum foil or Teflon tape, capped with tight-fitting plastic end caps, and appropriately labeled. The soil sample will be placed in an ice-chilled cooler for transportation to the analytical laboratory under strict chain-of-custody protocols.

A minimum of one soil sample will be submitted for analysis for TPHg and benzene, toluene, ethylbenzene, and xylene (BTEX) using modified EPA Methods 8015/8020; TPH as diesel (TPHd) using EPA Method 3510; and organic lead.

Well Construction

Monitoring well LF-32 will be constructed of flush-threaded, 2-inch-diameter polyvinyl chloride (PVC) casing with factory-made slotted well screen. The length of slotted and PVC casings will be selected based on sediments observed during drilling. Using the previously collected water-level and lithologic data for the adjacent Bashland property, we anticipate that the length of the well screen will be 10 feet, with 0.02-inch-wide slots.

The well casing will be placed in the completed borehole through the hollow-stem auger. A filter pack consisting of appropriately graded sand will be poured into the annular space between the hollow-stem auger and the slotted PVC well casing as the auger is gradually removed from the borehole. The filter pack will extend approximately 2 feet above the top of the slotted PVC casing. Prehydrated bentonite slurry will be placed above the sand pack to isolate the perforated interval from material above and prevent the entrance of grout into the sand pack. A cement-bentonite grout will then be placed above the bentonite to the land surface to seal the remainder of the borehole interval from surface-water infiltration. The well will be completed above grade with a locking cap and a steel field monument set in concrete to protect the well from surface water and damage. The elevation of the newly installed monitoring well will be surveyed to the nearest 0.01-foot by a licensed surveyor.

Well Development

Well LF-32 will be developed after installation by purging the well to remove sediment from around the screened interval and enhance hydraulic communication with the surrounding formation. The well will be purged using a centrifugal pump or clean Teflon bailer. Approximately 10 well casing volumes of ground water will be removed from the well during well development. Parameters such as pH, temperature, specific conductance, quantity, and clarity of water withdrawn will be measured and recorded during this process.

Reporting

A report describing well installation activities will be prepared following completion of field work. It is anticipated that this report can be combined with the first quarterly report, tentatively scheduled for submittal to the ACHA by July 30, 1993.

Task 2: Periodic Monitoring

Quarterly monitoring of proposed well LF-32 will be conducted in conjunction with existing wells located in other areas of the Yerba Buena Project Site to assess regional ground-water flow direction and quality. Proposed well LF-32 will be monitored for a minimum of one year. Following one year of quarterly monitoring, site data will be re-evaluated to assess the appropriateness of additional monitoring for the BAW property.

Quarterly Monitoring

A quarterly ground-water monitoring program will be initiated beginning with the second quarter of 1993 (April through June). The program will consist of the collection of water-level measurements and ground-water samples for chemical analysis on a quarterly basis. For quality assurance/quality control, a primary and a duplicate ground-water sample will be collected for chemical analysis during each monitoring event. The duplicate sample will be submitted to the analytical laboratory on a hold basis pending laboratory results.

Ground-water samples will be submitted to a state-certified laboratory for analysis for TPHg and BTEX using modified EPA Methods 8015/8020 and TPHd using EPA Method 3510. Ground-water samples collected during the first round of sampling will additionally be analyzed for organic lead.

Ground-Water Sampling Methodology

Water-Level Measurements. Following the first quarter of monitoring, depth to water will be measured in well LF-32 in conjunction with water-level measurements for all existing wells at the Yerba Buena Project Site using an electric water-level sounding probe to the nearest 0.01 foot, relative to the top of the PVC well casing. These data will be presented on tables and figures included in the quarterly reports.

Sampling Procedures. The well will be purged using a submersible or centrifugal pump. Approximately three to five well casing volumes of water will be removed from the well before a water sample is collected. Specific conductance, pH, and temperature will be measured during this purging process to aid in evaluating overall ground-water quality. These

parameters will be recorded in the field on water-quality sampling forms. Samples will be collected after these parameters have stabilized to within 15 percent of previous measurements.

If the well cannot sustain a yield (i.e., the well pumps dry), it will be allowed to recover either to 80 percent of the original, static water level, or for a period of two hours from being pumped dry. A ground-water sample will then be collected.

Ground-water samples will be collected using a clean Teflon bailer. Samples collected for TPHg/BTEX analyses will be placed into laboratory-supplied, 40-milliliter glass vials preserved with hydrochloric acid. The glass vials will be filled to capacity, capped, and checked for trapped air bubbles. If an air bubble is observed, the vial will be discarded and a new vial filled with additional water from the well. Samples collected for TPHd analysis will be poured into laboratory-supplied 1-liter amber bottles. Samples will be placed in an ice-chilled cooler immediately after collection for transportation under chain-of-custody protocols to a state-certified laboratory for appropriate chemical analysis.

Quarterly Reporting

A report presenting monitoring results will be prepared and submitted quarterly to the ACHA and the RWQCB on the last day of the month following the quarter. These reports will include the following:

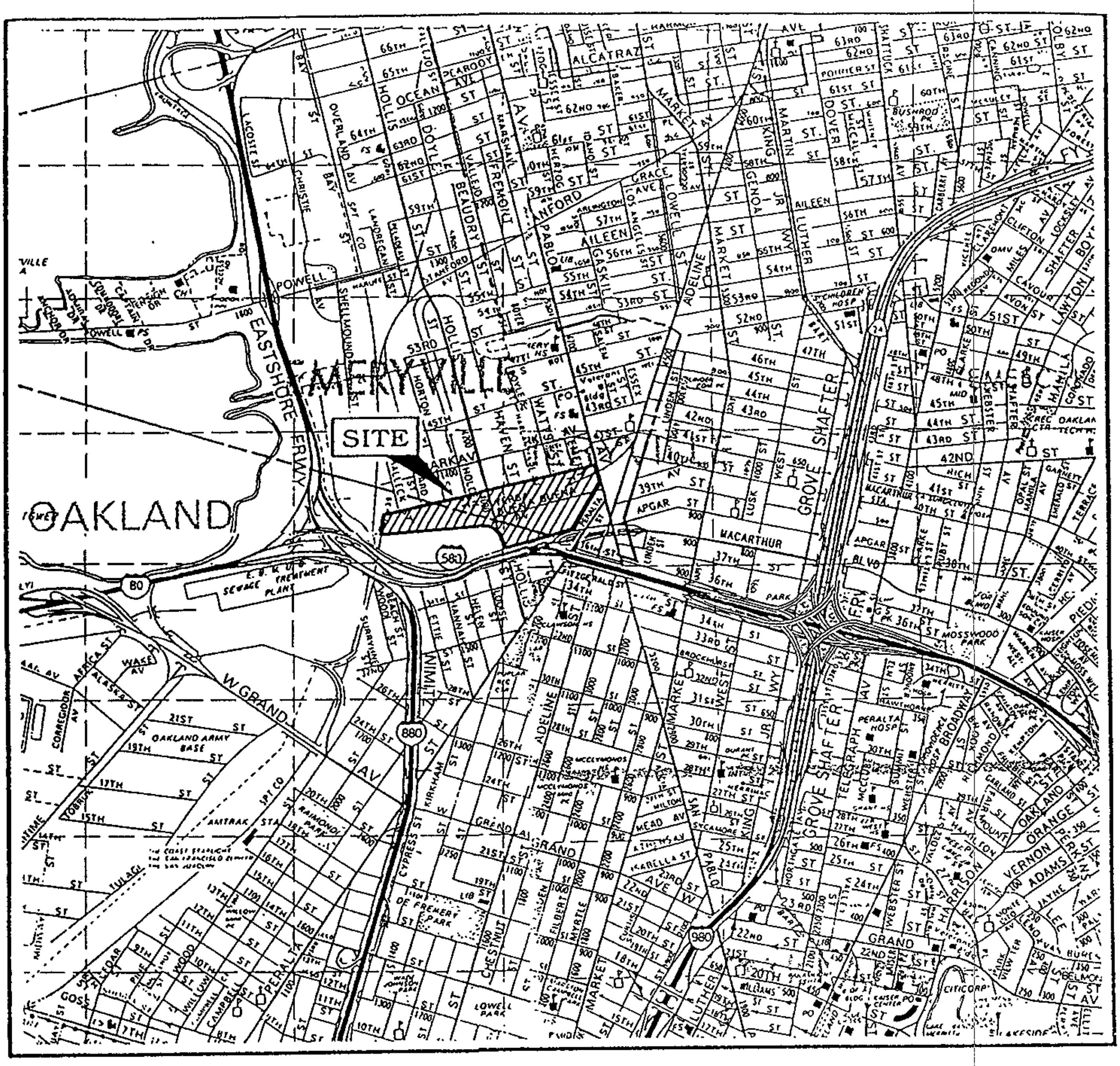
- a discussion of ground-water elevation data collected at the BAW property and a ground-water elevation map for the Yerba Buena Project Site
- a discussion of ground-water quality data collected for the BAW property during the quarterly period
- tables presenting ground-water elevation data and chemical analysis results

In addition, a discussion documenting construction of well LF-32, illustrated with figures, will be included in the first quarterly report, tentatively scheduled for submittal by July 30, 1993.

After one year of quarterly monitoring, hydrogeologic data for the BAW property will be evaluated to review site water-quality data trends and to assess the appropriateness of additional monitoring for the BAW property.

4.0 SCHEDULE

It is anticipated that well LF-32 will be installed in May 1993 and that periodic monitoring will begin in the second quarter 1993 (April through June), pending receipt of written approval of the work plan from the ACHA.



MAP SOURCE.
Alameda & Contra Costa Counties,
Thomas Bros map, 1990 Edition

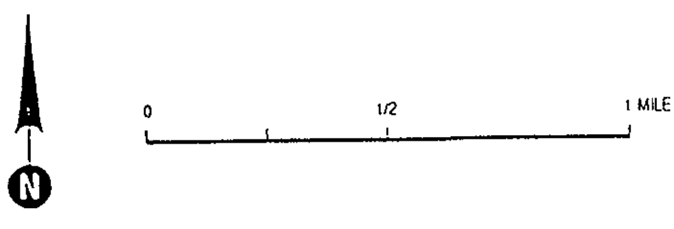
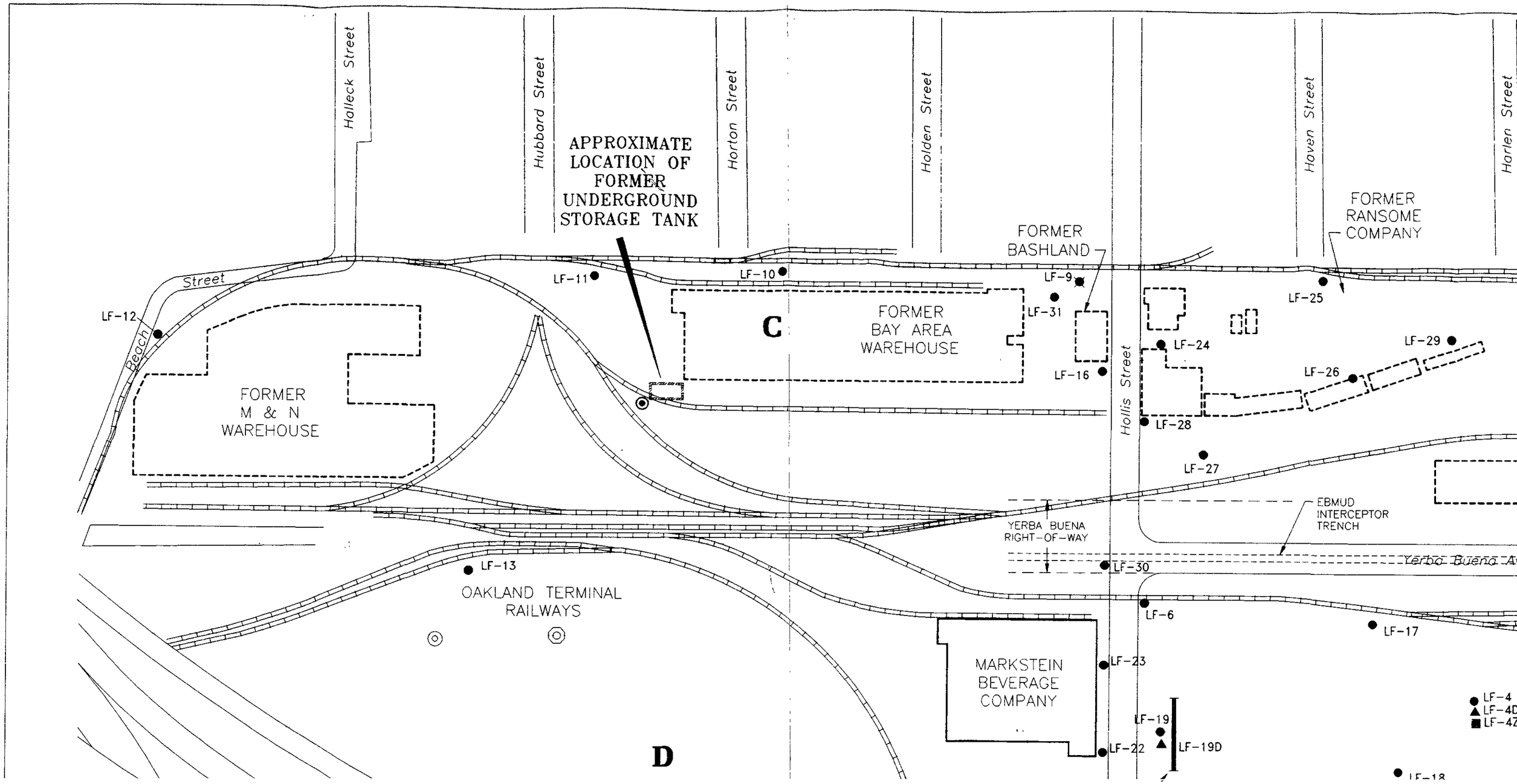


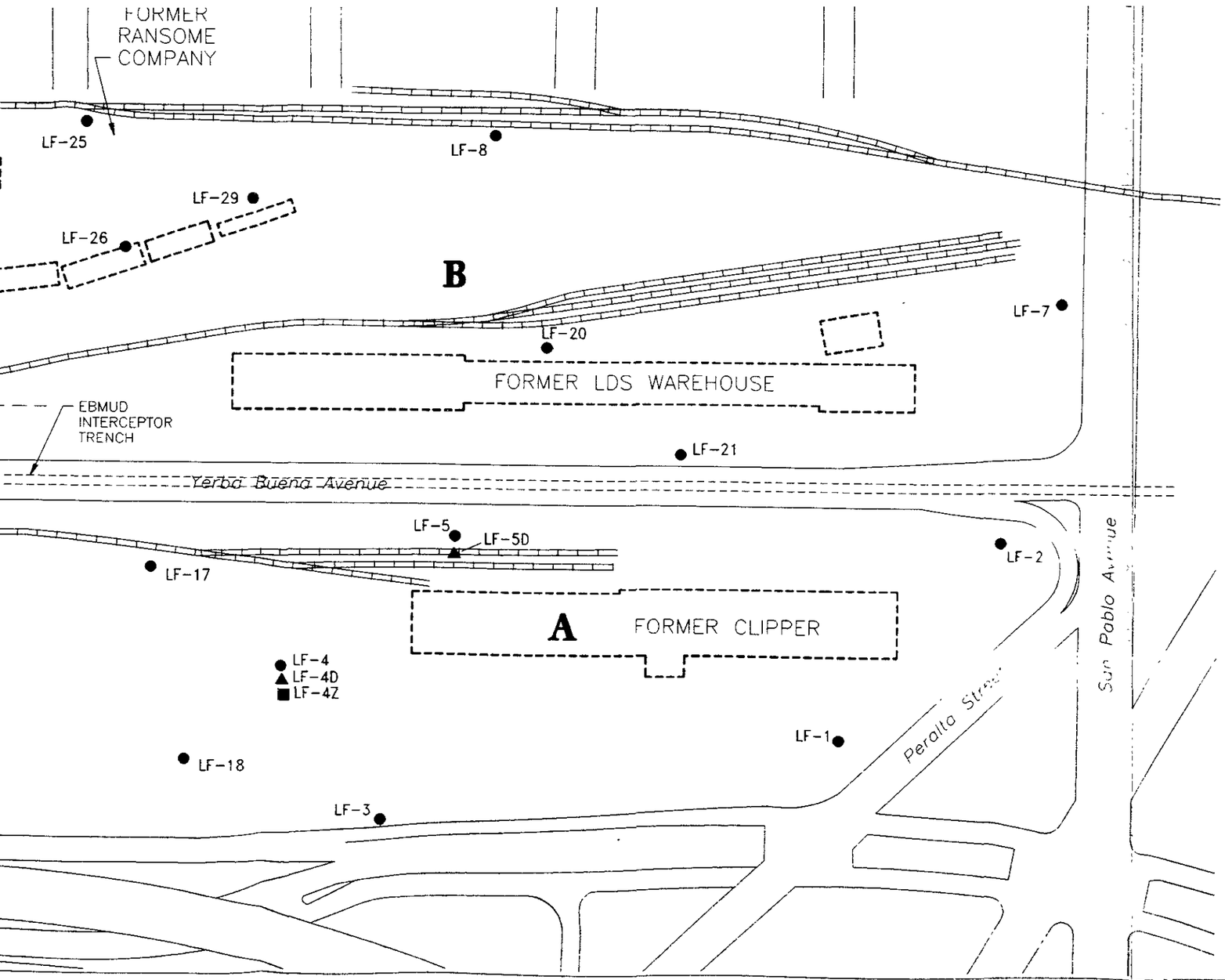
Figure 1 : SITE LOCATION MAP
YERBA BUENA PROJECT SITE

Project No. 1649

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

1649/V S-SITE91-IVI


Halleck Street
Hubbard Street
Horton Street
Holden Street
Haven Street
Harlen Street
APPROXIMATE LOCATION OF FORMER UNDERGROUND STORAGE TANK
FORMER BASHLAND
FORMER RANSOME COMPANY
Beach Street
LF-12
LF-11
LF-10
LF-9
LF-31
LF-25
C
FORMER BAY AREA WAREHOUSE
LF-16
LF-24
LF-29
LF-26
FORMER M & N WAREHOUSE
Hollis Street
LF-28
LF-27
EBMUD INTERCEPTOR TRENCH
YERBA BUENA RIGHT-OF-WAY
Yerba Buena Av
LF-30
LF-13
OAKLAND TERMINAL RAILWAYS
LF-6
LF-17
MARKSTEIN BEVERAGE COMPANY
LF-23
LF-4
LF-4D
LF-4Z
LF-19
LF-22
LF-19D
D



DEEPER (62 FEET) MONITORING WELL LOCATION

ABANDONED WELL

LOCATION OF FORMER BUSINESSES

PROPOSED LOCATION OF MONITORING WELL LF-32

0 150 300 FEET

Figure 2 :
SITE PLAN AND
PROPOSED WELL LOCATION
YERBA BUENA PROJECT SITE
EMERYVILLE, OAKLAND

Project No. 1649.13 **LEVINE·FRICKE**
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS