Work Plan to Install, Develop, and Sample One Monitoring Well West of the Fuel Station Located at 4000 San Pablo Avenue 40th Street Extention Right-of-Way Emeryville, California

January 27, 1994
1649.15

Prepared for
Catellus Development Corporation
201 Mission Street, Suite 250
San Francisco, California 94105

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

January 31, 1994 1649.15

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

Subject: Work Plan to Install, Develop, and Sample One Monitoring Well West of the Fuel Station Located at 4000 San Pablo Avenue, 40th Street Right-of-Way, Emeryville, California

Dear Ms. Hugo:

On behalf of Catellus Development Corporation, Levine•Fricke has prepared the enclosed work plan to install, develop, and sample one monitoring well (LF-4) in conjunction with environmental investigations of the fuel station area located in the 40th Street right-of-way in Emeryville, California. This work was requested by representatives of the Alameda County Health Care Services Agency (ACHA) in a meeting on January 21, 1993, with representatives of the City of Emeryville, Catellus Development Corporation, and Levine•Fricke.

Well LF-4 was installed on Friday, January 28, 1994, in accordance with your verbal approval on Thursday, January 27, 1994. We anticipate that the well will be developed and sampled on Tuesday, February 1, and that a letter report presenting the results of sampling can be submitted to the ACHA in early March 1994.

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

Sincerely,

Jenifer Beatty

Jenifer Beatty
Project Hydrogeologist

cc: Richard Hiett, RWQCB
Kimberly Brandt, Catellus
Pat Cashman, Catellus

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WORK PLAN TO INSTALL, DEVELOP, AND SAMPLE ONE MONITORING WELL WEST OF THE FUEL STATION LOCATED AT 4000 SAN PABLO AVENUE, 40TH STREET EXTENTION RIGHT-OF-WAY EMERYVILLE, CALIFORNIA

INTRODUCTION

This work plan describes the tasks necessary to install, develop, and sample one monitoring well to be located west of the fuel station located at 4000 San Pablo Avenue in Emeryville, California. This work was requested by representatives of the Alameda County Health Care Services Agency (ACHA) in a meeting on January 21, 1993, with representatives of the City of Emeryville, Catellus Development Corporation, and Levine·Fricke.

The objective of the proposed work is to assess the lateral extent of petroleum-affected ground water in the vicinity of the fuel station. To meet this objective, it is proposed that monitoring well LF-4 will be installed in the sidewalk along the northern side of 40th Street, west of and across San Pablo Avenue from, the fuel station located at 4000 San Pablo Avenue (Figure 1).

PREVIOUS INVESTIGATIONS

Levine·Fricke conducted a Phase II soil and ground-water investigation on behalf of Catellus Development Corporation at the fuel station in August 1993. The investigation included the installation of 3 ground-water monitoring wells and 11 soil borings. Analytical results for soil and ground-water samples collected during the investigation indicated that soil and shallow ground water beneath the fuel station area have been affected by petroleum hydrocarbons apparently released from several sources at the station (Levine·Fricke, Inc. 1994).

SCOPE OF WORK

The proposed scope of work consists of the following tasks:

Task 1: Installation, Development, and Sampling of One Monitoring Well
Task 2: Data Evaluation and Report Preparation

These tasks are described below.

Task 1: Installation, Development, and Sampling of One Monitoring Well

One shallow (less than 25 feet deep) ground-water monitoring well will be installed at 4000 San Pablo Avenue, approximately 150 feet west (downgradient) of well LF-1, which is located along the western property boundary, to assess the extent of petroleum-affected ground water in the vicinity of the fuel station. The proposed location for well LF-4 is shown on Figure 1. Field methods to be used during installation and development are presented below.

Monitoring Well Installation

A monitoring well permit will be obtained from the Alameda County Flood Control and Water Conservation District, Zone 7, before the well is installed.

Drilling activities will be conducted under the supervision of a Levine·Fricke California Registered Geologist. The borehole for the well will be drilled by a licensed well drilling contractor using a truck-mounted drilling rig. The well boring will be advanced using 8-inch-diameter hollow augers. Soil samples will be collected at approximately 2.5-foot intervals for lithologic description and possible laboratory analysis. One soil sample collected will be submitted for laboratory analysis for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene, toluene, ethylbenzene, and xylenes (BTEX). The well will be constructed of 2-inch-diameter PVC casing with 0.020-inch factory-slotted screen. It is estimated that the screened interval will be approximately 15 feet long and will extend across the top of the ground-water table.

After the well casing has been placed in the completed borehole, the well annulus will be backfilled with clean sand to a height of approximately 1 foot above the screened interval. Approximately 6 inches to 1 foot of bentonite seal will be placed on top of the sand to isolate the sand from the material above and to prevent the entrance of grout into the sand pack. A cement-bentonite grout will be placed above the bentonite seal and will extend up to the ground surface. A locking well cover will then be placed over the top of the casing to protect the integrity of the well.

All drilling and sampling equipment will be cleaned using high-pressure hot water or washed with laboratory-grade detergent (Alconox) and rinsed with distilled water before use in the boring.

The well elevation will be surveyed by a state-licensed surveyor to the nearest 0.01-foot relative to mean sea level.

Monitoring Well Development and Sampling

After the ground-water monitoring well has been installed, a Levine·Fricke hydrogeologist will develop the well by bailing, overpumping, and/or jetting to remove sediment around the well and to enhance hydraulic communication with the surrounding formation. Observations concerning specific conductance, pH, temperature, quantity, and clarity of purged water will be recorded during development. Approximately 10 well casing volumes of ground water will be removed from the well during well development.

Ground-water samples will be collected immediately following well development using a clean Teflon bailer. Laboratory supplied 40-milliliter volatile organic analysis (VOA) containers and 1-liter amber bottles will be gently filled to overflowing by pouring ground water into them directly from the Teflon bailer. Samples will be placed into an ice-chilled cooler immediately after collection for transportation to the analytical laboratory.

The ground-water samples will be submitted for analysis of TPH as gasoline and BTEX using EPA Method 8015/8020, and TPH as diesel using EPA Method 3510.

Waste Soil and Ground-Water Disposal

Waste soils will be temporarily stored in 55-gallon metal drums on the fuel station site, pending laboratory results to characterize the waste soil. Waste water from the sampling activities will also be temporarily stored in 55-gallon metal drums on the fuel station site, pending laboratory results to characterize the waste water. Disposal options will be evaluated after analytical results for soil and water samples have been received.

Task 2: Data Evaluation and Report Preparation

Levine·Fricke will prepare a letter report summarizing methods, procedures, and results of the proposed investigation. The report will contain a description of

drilling and sampling locations and depths, sampling procedures, laboratory methods, and laboratory results; an interpretation of findings; and recommendations for additional work, if warranted.

SCHEDULE

We anticipate that well LF-4 will be installed on Friday, January 28, 1993, and that field work can be completed in two to three days. We anticipate that a written report presenting investigation results can be prepared within four weeks following completion of the field work.

REFERENCES

Levine·Fricke, Inc. 1994. Phase II Investigation Results Fuel Station Area, Proposed 40th Street Right-of-Way, Emeryville, California. January 17.

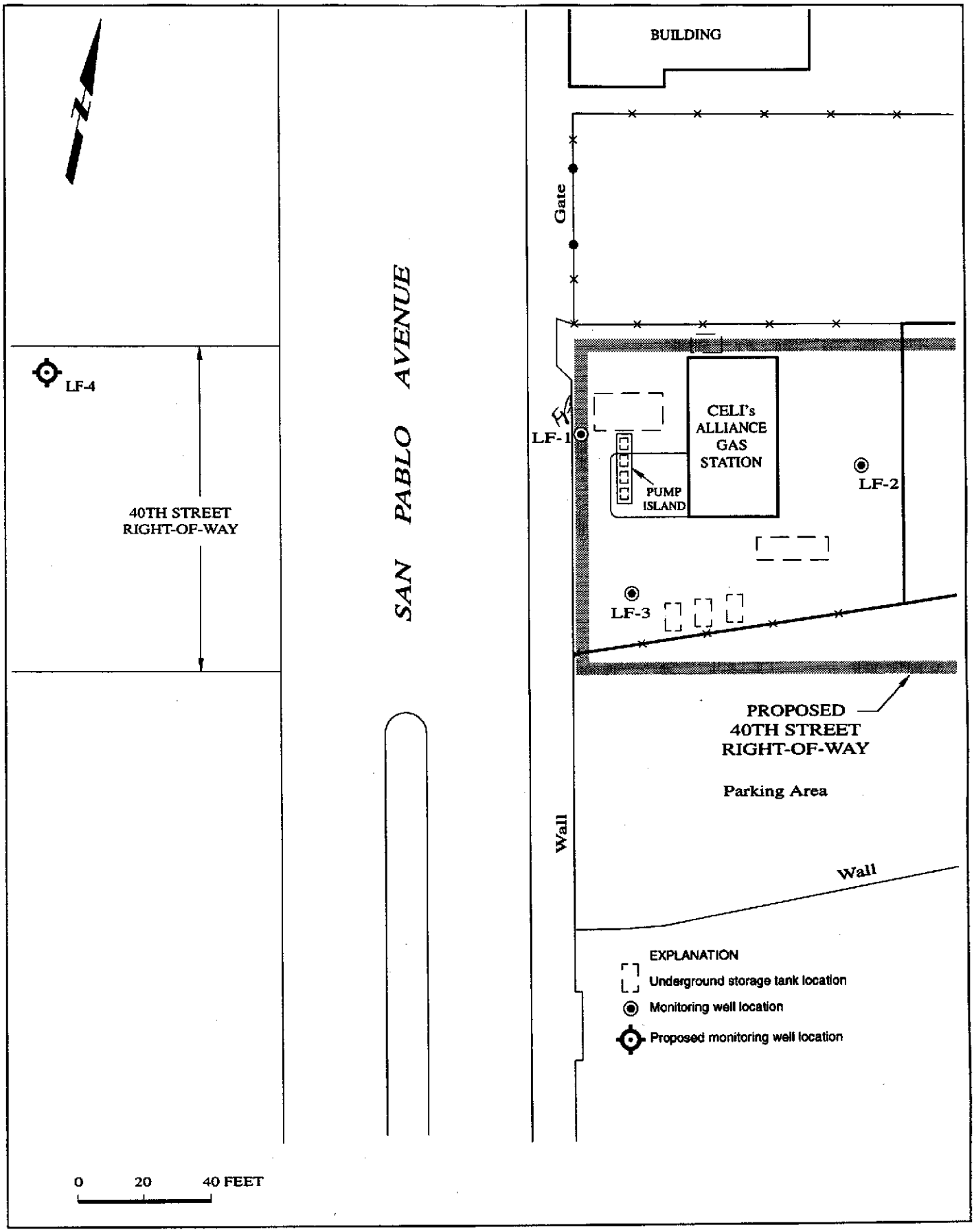

Figure 1 : EXISTING AND PROPOSED MONITORING WELL LOCATIONS