

ALCO
HAZMAT

95 FEB 17 PM 2: 51

SECOR
International Incorporated

February 14, 1995

ST ID 4058

Ms. Susan Hugo
Hazardous Materials Inspector
Alameda County Department of Health Services
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502-6577

WORK PLAN FOR GROUNDWATER MONITORING WELL INSTALLATION, CITY OF EMERYVILLE FIRE STATION, 4331 SAN PABLO AVENUE, EMERYVILLE, CALIFORNIA

Dear Ms. Hugo:

SECOR International Incorporated (*SECOR*) is pleased to submit this Work Plan for installation of an on-site groundwater monitoring well at the City of Emeryville Fire Station located at 4331 San Pablo Avenue in Emeryville, California (the Site, see Figure 1, Site Location Map). This Work Plan addresses drilling, well installation, soil and groundwater sampling, and reporting activities. This Work Plan is submitted to the Alameda County Department of Health Services (ACDHS) by *SECOR* on behalf of the City of Emeryville.

The installation of this monitoring well was requested by the ACDHS in a letter dated October 18, 1994. Based on the telephone conversation between *SECOR* and ACDHS on February 7, 1995, the confirmed groundwater flow direction was determined to be to the south-southwest, and groundwater ranged in depth from approximately six to eleven feet below grade. The groundwater monitoring well will be installed within ten feet of the former UST in the confirmed down gradient direction.

INTRODUCTION

The Site is located in a mixed residential and light commercial area in the northwest portion of the City of Emeryville and in the northwest portion of Alameda County, California. The Site is bounded to the east by San Pablo Avenue (Figure 2).

The Site consists of two single story buildings, one concrete-lined sump, one satellite dish tower, and adjacent parking areas for automobiles. The Site is asphalt-covered with the exception of an approximate 36-foot (ft.) by 23-ft. concrete pad located adjacent to the east of the main building. The former UST was located in the southwest portion of the Site.

SECOR supervised and documented the removal of one 1,000-gallon UST, associated equipment, and underground piping from the Site on July 26, 1994. *SECOR* collected three soil samples during UST removal activities for chemical analyses. The analytical results indicated the presence of petroleum

DRILL.WP
50100-003-02

hydrocarbons in the soil samples analyzed. Detailed results of that investigation are presented in *SECOR's Summary Report for Tank Removal and Soil Excavation, City of Emeryville Fire Station*, dated August 17, 1994.

PRELIMINARY FIELD ACTIVITIES

Following approval of this Work Plan and issuance of a well construction permit by the Zone 7 Water Agency, *SECOR* will proceed with preliminary field activities. The existing Site-specific Health and Safety Plan (HASP) will be modified to address this new scope of work. The monitoring well location will be cleared using a professional utility location company and Underground Services Alert (USA) will be notified prior to the start of any intrusive activities.

DRILLING AND SOIL SAMPLING

One soil boring will each be advanced to a maximum depth of 25 feet below ground surface (bgs) using hollow-stem auger drilling techniques at the location shown on Figure 2. During advancement of the boring, soil samples will be collected at a minimum of five-foot intervals using a modified California split-spoon sampler. Soil encountered will be logged by a *SECOR* geologist according to the Unified Soil Classification System (USCS). Soil samples will be screened in the field for the presence of volatile organic compounds (VOCs) using a Photoionization Detector (PID). Soil samples selected for chemical analysis will be based on PID readings and lithologic conditions. Representative samples for chemical analyses will be secured in brass tubes with the ends covered with teflon tape and plastic end caps and placed in a cooler containing ice for transportation to the analytical laboratory. Soil generated during drilling activities will be stockpiled on and covered with visqueen on-site.

A minimum of one soil sample will be analyzed by a California-state certified testing laboratory for total petroleum hydrocarbons as gasoline (TPHg), and as diesel (TPHd), and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Methods 5030/8015 modified and 8020, respectively. *Pb in soil/water*

GROUNDWATER MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

One groundwater monitoring well will be installed in the soil boring following drilling and sampling activities. The groundwater monitoring well will be constructed with two-inch diameter, flush threaded, Schedule 40 PVC well casing and screen. Monitoring well materials will be installed through the hollow stem of the augers. Approximately 10 to 15 feet of 0.020-inch machine-slotted well screen will be extended from the base of the wellbore and finished with blank casing to ground surface. A filter sand will be placed adjacent to the well screen to a height of one foot above the screened interval. One foot of bentonite pellets will be placed above the filter sand and hydrated. The remaining annular space will be filled with a grout mixture (5% bentonite) to the ground surface. The well will be completed at grade in a traffic rated well box with a locking water-tight well cap.

Following monitoring well installation, the well will be developed by alternatively surging the screened interval of the well with a vented surge block and bailing the well with a PVC bailer. *SECOR* will attempt to remove a minimum of ten casing volumes of groundwater from the well. During well development, evacuated water will be monitored for pH, temperature, electrical conductivity, and visually

inspected for turbidity and color. Following well development, a groundwater sample will be collected from the well using a disposable PVC bailer. The sample will be decanted into laboratory-supplied glassware and placed in a cooler containing ice for transport to the analytical laboratory. Groundwater generated during well development activities will be stored in 55-gallon drums on-site. Additionally, *SECOR* will purge and sample the monitoring well on a quarterly basis (every three months) for three subsequent quarters. During quarterly sampling, *SECOR* will attempt to purge the monitoring well of at least three casing volumes of groundwater. Groundwater parameters will be measured during purging activities. Groundwater samples will be analyzed by EPA Methods 5030/8015 modified and 8020 for TPHg, TPHd, and BTEX compounds, respectively.

TECHNICAL REPORT

SECOR will compile and interpret the information collected from the field investigation and laboratory analysis described above. *SECOR* will then prepare a Technical Report presenting the methodology and findings of the investigation. The report will present an assessment of the subsurface concentrations of petroleum hydrocarbons in the soil and groundwater in the downgradient direction of the UST and provide recommendations for additional work, if warranted.

SCHEDULE

SECOR is prepared to begin work immediately upon obtaining approval of this Work Plan from the ACDHS. Following receipt of the monitoring well construction permit, we estimate that well installation activities will require three weeks to complete. This timeline includes preliminary field activities, scheduling subcontractors, and implementation of the field tasks. Laboratory analyses will require approximately two weeks from the submittal of the samples. A Technical Report documenting these activities will be submitted to the ACDHS within four weeks from receipt of all analytical data from the laboratory.

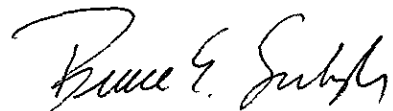
Please do not hesitate to contact us at (415) 882-1548 with any questions or comments.

Sincerely,

SECOR International Incorporated



Daniel E. Madsen
Project Manager



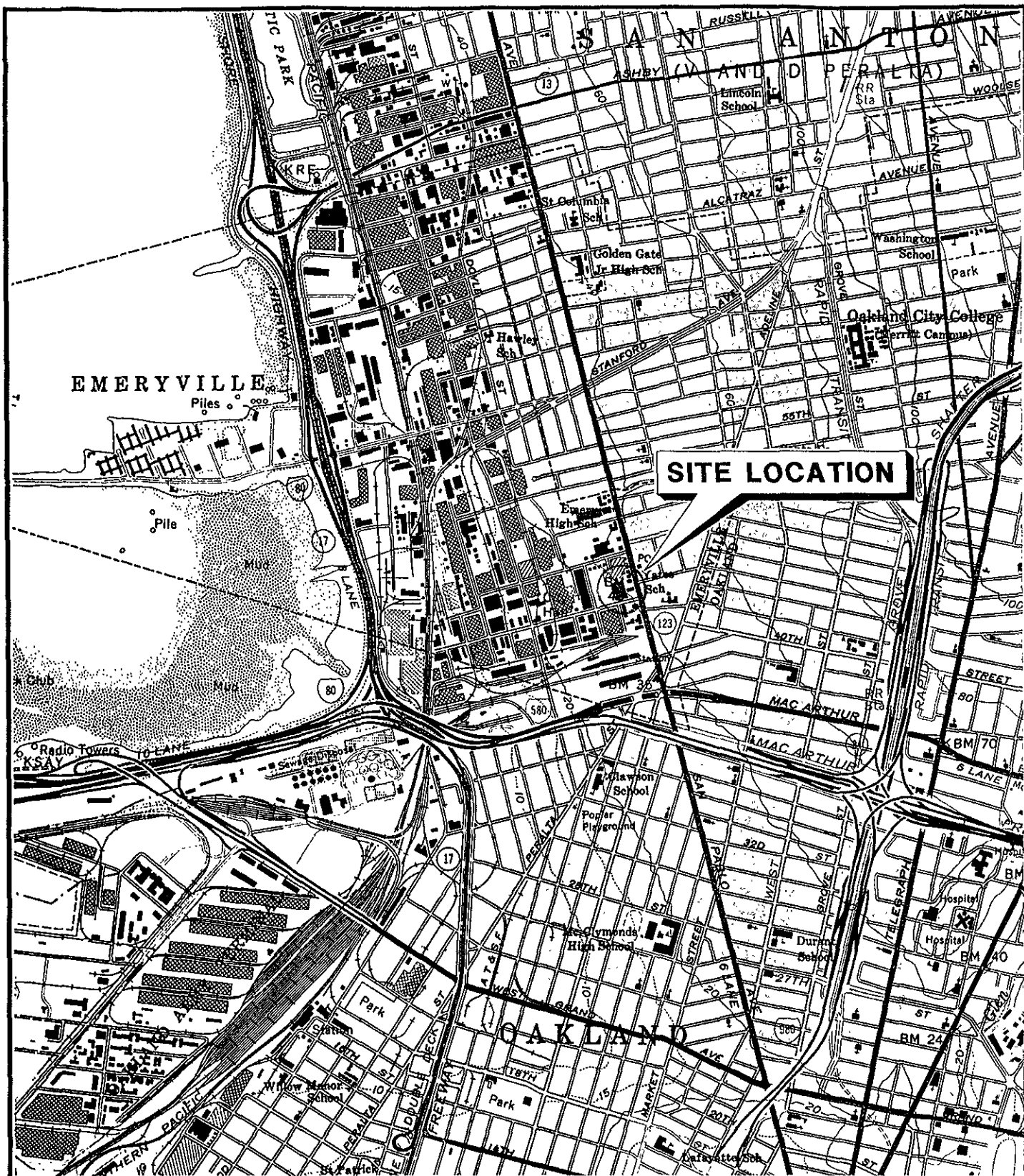
Bruce E. Scarborough, R.G.
Principal Geologist

cc: Mr. Juan Arreguin, City of Emeryville

Attachments:

Figure 1 - Site Location Map

Figure 2 - Site Plan with Proposed Groundwater Monitoring Well Location



SOURCE: BASE MAP FROM U.S.G.S. OAKLAND, WEST CA QUADRANGLE. 7.5 MINUTE SERIES TOPOGRAPHIC, PHOTOREVISED 1980.



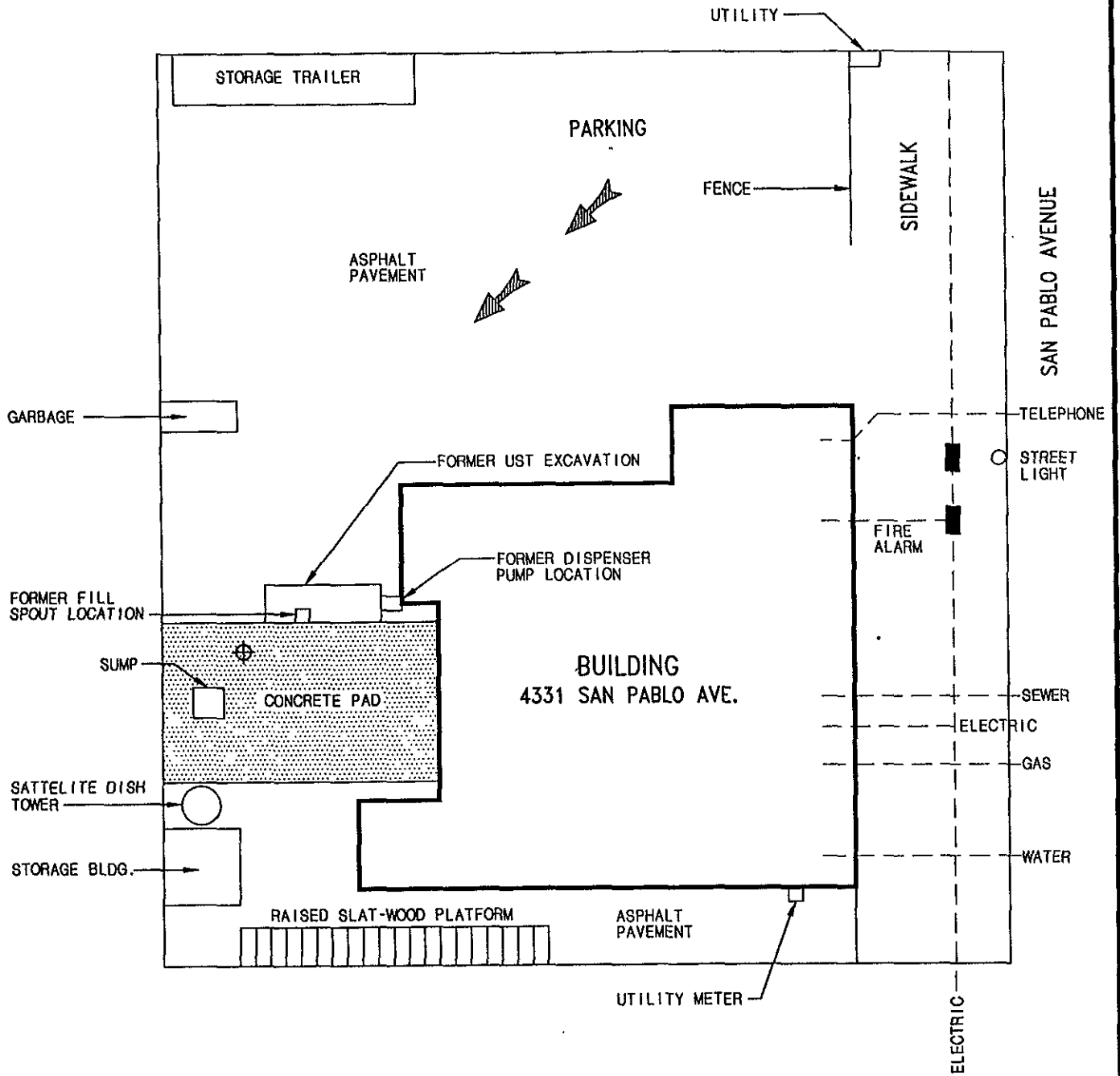
199408.050818 \JOBS\EMERY\LOC

SECOR
INTERNATIONAL
INCORPORATED

DRAWN	CCR
APPR	DEM
DATE	04AUG94
JOB NO	50100-003-02

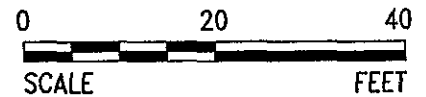
FIGURE 1
CITY OF EMERYVILLE
4331 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA
SITE LOCATION MAP

199407.281516 1\JOBS\EMERY\SITE



LEGEND:

- ⊕ PROPOSED GROUNDWATER MONITORING WELL
- ↘ GROUNDWATER FLOW DIRECTION



SECOR
INTERNATIONAL
INCORPORATED

DRAWN	CCR
APPR	DEM
DATE	13FEB95
JOB NO.	50100-003-02

FIGURE 2
CITY OF EMERYVILLE
4331 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

SITE PLAN