ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction

June 19, 1997

Approved workplan → 7/2/97

Ms. Madhulla Logan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: 1353 E. 14th Street, Oakland, California

Dear Ms. Logan:

This letter is a proposed workplan for your review and approval for the installation of a single groundwater monitoring well and subsequent groundwater monitoring at the above referenced site. The purpose of the investigation is to monitor solvent concentrations in the groundwater. All Environmental, Inc. (AEI) is providing environmental engineering consulting and construction services to Mr. Norman Foss, and is submitting this letter on his behalf.

Site Description and Background

The subject property currently supports the operation of Style Center Cleaners, a dry cleaning facility. The property has reportedly contained a dry cleaning facility for the last 50 years. A closed-loop dry cleaning machine was installed approximately 5 years ago by the current tenant. The floor of the building is wooden with a two foot crawl space separating the floor from the ground. A concrete pad foundation supports the current dry cleaning machine. A small driveway runs the length of the dry cleaning building on the south (Figure 1).

On August 26, 1996, Ms. Madhulla Logan of the ACHCSA requested a soil and groundwater investigation be performed on the property to determine if the on-site dry cleaning facility was a source of solvent contamination which was found in the groundwater at an adjacent site. Solvents were present in groundwater samples collected from a well at concentrations ranging from 14 µg/l to 44 µg/l. The well, referred to as MW-2, was installed at the neighboring property to investigate petroleum hydrocarbon contamination at the site.

On November 7, 1996, AEI submitted a workplan for a Phase II Soil and Groundwater Investigation to determine whether or not the dry cleaning facility was the source of the solvent contamination in the groundwater.

All Environmental, Inc. (AEI) performed a subsurface investigation at the property on December 13, 1996. The investigation included the advancement of five soil borings (BH-1, BH-2, BH-3, BH-4 and BH-5) using a Geoprobe drilling rig.

Concentrations of tetracholorethene (PCE) were detected within all analyzed soil samples at concentrations ranging from 8.7 µg/kg to 150 µg/kg. Trichloroethene (TCE) and chloroform were detected in the soil at maximum concentrations of 0.45 µg/kg and 640 µg/kg, respectively. No other volatile halocarbons were detected above the method detection limit.

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Grab groundwater samples were collected from four of the soil borings (BH-1, BH-3, BH-4 and BH-5). PCE was detected in the groundwater samples at concentrations ranging from 22 µg/l to 1100 µg/l. Analysis of the groundwater samples collected from BH-3 and BH-5 indicated the presence of 3.0 µg/l and 0.85 µg/l trichloroethene (TCE), respectively. Chloroform was detected at a concentration of 4.8 µg/l in the groundwater sample collected from BH-3. All other volatile halocarbons were not detected above the method detection limit.

According to the analytical data, PCE concentrations within the groundwater increase in magnitude in the vicinity of the current dry cleaning machine. The highest concentration of PCE detected in the groundwater was obtained from boring BH-1, drilled nearest to the present dry cleaning machine. Concentrations of PCE decrease from 1100 µg/l to 24 µg/l, 220 µg/l and 22 µg/l approximately 10 feet east, south and west of BH-1. The PCE plume appears to extend off-site in the down gradient direction. Quarterly sampling data from the adjacent site indicated that MW-2, located approximately 30 feet east of the dry cleaning machine, contained solvent at concentrations ranging from 17 µg/l to 44 µg/l. Solvents were not detected in groundwater from an additional well, located approximately 40 feet south of the dry cleaning machine on the adjacent property.

Due to the presence of PCE, TCE and chloroform in the groundwater, ACHCSA requested the installation of a groundwater monitoring well in the vicinity of the dry cleaning machine. In addition, ACHCSA requested that all sewer lines, starting from the dry cleaning area be located.

On June 5, 1997, Mr. Simon Taylor of Foresite performed a utility survey of the property. The location of the sewer lines are indicated on Figure 1.

The following Scope of Work describes activities for the installation of a single groundwater monitoring well and the subsequent monitoring of the well and two off-site wells.

Scope of Work

Soil Boring Advancement

AEI proposes to advance one soil boring using a hollow stem auger drilling rig. The boring will be advanced near boring BH-1 at the location shown on Figure 1 to a depth of approximately 20 feet bgs. The soil boring will be continuously logged on-site by a geologist using the Unified Soil Classification System. Undisturbed soil samples will be taken at 5 foot intervals, starting at a 5 foot depth, with a hammer-driven California Modified split spoon sampler. The sampler will be advanced ahead of the auger tip by successive hammer blows. The samples will be collected for visual classification and chemical analysis in two-inch diameter stainless steel tubes. A total of two soil samples from each boring will be analyzed at a state certified laboratory. The soil samples selected for chemical testing will be determined by the geologist on-site at the time of sampling. Soil samples obtained during drilling will be screened in the field with a portable organic vapor meter.

The soil samples will be secured using teflon tape and plastic caps. The samples will be put on wet ice and transported under chain of custody procedures to the AEI office. The samples will be transported to McCampbell Analytical for analysis. Two soil samples will be analyzed for Purgeable Halocarbons (EPA method 8010) with an approximate 5 day turnaround time.

Cuttings generated during drilling will be stored on-site in 55 gallon drums. On-site treatment or off-site disposal of contaminated drill cuttings is not a part of this work scope. It is likely that a licensed hauler will be contracted to transport the soils as hazardous waste, under appropriate manifests, to a local landfill facility. The costs associated with disposal of the soils will depend on the nature and degree of contamination of the soils.

Groundwater Monitoring Well Installation

The soil boring will be converted to a 2" monitoring well. The well will be constructed of 2" flush threaded Schedule 40 PVC casing, with up to 15 feet of .01" or .02" factory-slotted well screen. The top of the well screen will extend up to 3 feet above the encountered groundwater level to account for seasonal fluctuations. The well casing will be inserted through the auger to a point a few inches above the borehole terminus where it will be suspended until the well is secured within the sand pack. Sand (#2 or #3) will be poured through the auger in one- to two-foot lifts up to about two feet above the top of the perforated casing. One to two feet of bentonite pellets will be placed above the sand and activated with tap water. The seal will be finished up to the surface with tremmied cement/bentonite grout. A locking top cap and a flush-mounted watertight well cover will be installed.

The well will be developed by bailing of water into a DOT 17H drum until the water appears to be reasonably clear with a minimum of 10 well volumes removed. Well development will take place no less than 72 hours after installation of the wells.

Groundwater Monitoring

The newly installed well will be surveyed to the nearest .01 foot with respect to the off-site wells for the determination of groundwater flow direction and gradient. Groundwater level measurements will be collected from all three wells on a quarterly basis. The collection and analysis of groundwater samples from the on-site well will also occur on a quarterly basis, however collection and analysis of groundwater samples from the off-site wells will only occur semi-annually.

Prior to obtaining water samples, three to five well volumes of water will be bailed from each well. Groundwater samples will be obtained in a pre-cleaned bailer, secured in 40 ml volatile organic analysis vials, placed in a cooler with wet ice and delivered to a State certified laboratory with chain of custody documents. Water samples will be analyzed for Purgeable Halocarbons (EPA method 8010) with an approximate 5 day turnaround time.

AEI will prepare a written final report following each quarterly monitoring episode. The report will detail the findings of the sampling episodes and will include sampling data, laboratory analyses, conclusions and recommendations. Copies of the final report will be submitted to the client and all of the appropriate agencies.

Health and Safety

Prior to commencement of field activities, a site safety meeting will be held at a designated command post near the working area. Emergency procedures will be outlined at this meeting. Also, the hazards of the known or suspected chemicals of interest will be explained. Level D personal protection equipment is the anticipated maximum amount of protection needed. A site safety plan which conforms to Part 1910.120 (i) (2) of 29 CFR will be on site at all times during the performance of this project.

A working area will be established with barricades and warning tape to delineate the zone where hard hats and steel-toed shoes must be worn, and where unauthorized personnel will not be allowed. If, during drilling, air monitoring data indicates concentrations above 2 ppm in the breathing zone, half-face respirators with organic vapor cartridges will be worn.

A nearby hospital will be designated in the site safety plan as the emergency medical facility of first choice. A map with a course plotted to the hospital will be on-site.

Estimated Schedule

Upon acceptance of this workplan by the ACHCSA, work will commence within a two week period. The ACHCSA will be given adequate notification of the scheduled day of drilling. Laboratory analytical results will be obtained within two weeks of collection. The final report will be prepared and copies will be delivered to the ACHCSA. A table describing the project schedule is as follows:

Week 1:	Workplan Preparation
Week 2 & 3:	Review of Workplan by the ACHCSA
Week 4:	Drilling and Laboratory Analyses
Week 5:	Preparation of Final Report

AEI requests your approval to proceed with this project. AEI is eager to complete this work as soon as possible. Please let me know if you need additional information and please do not hesitate to call me at (510) 283-6000 if you have any questions.

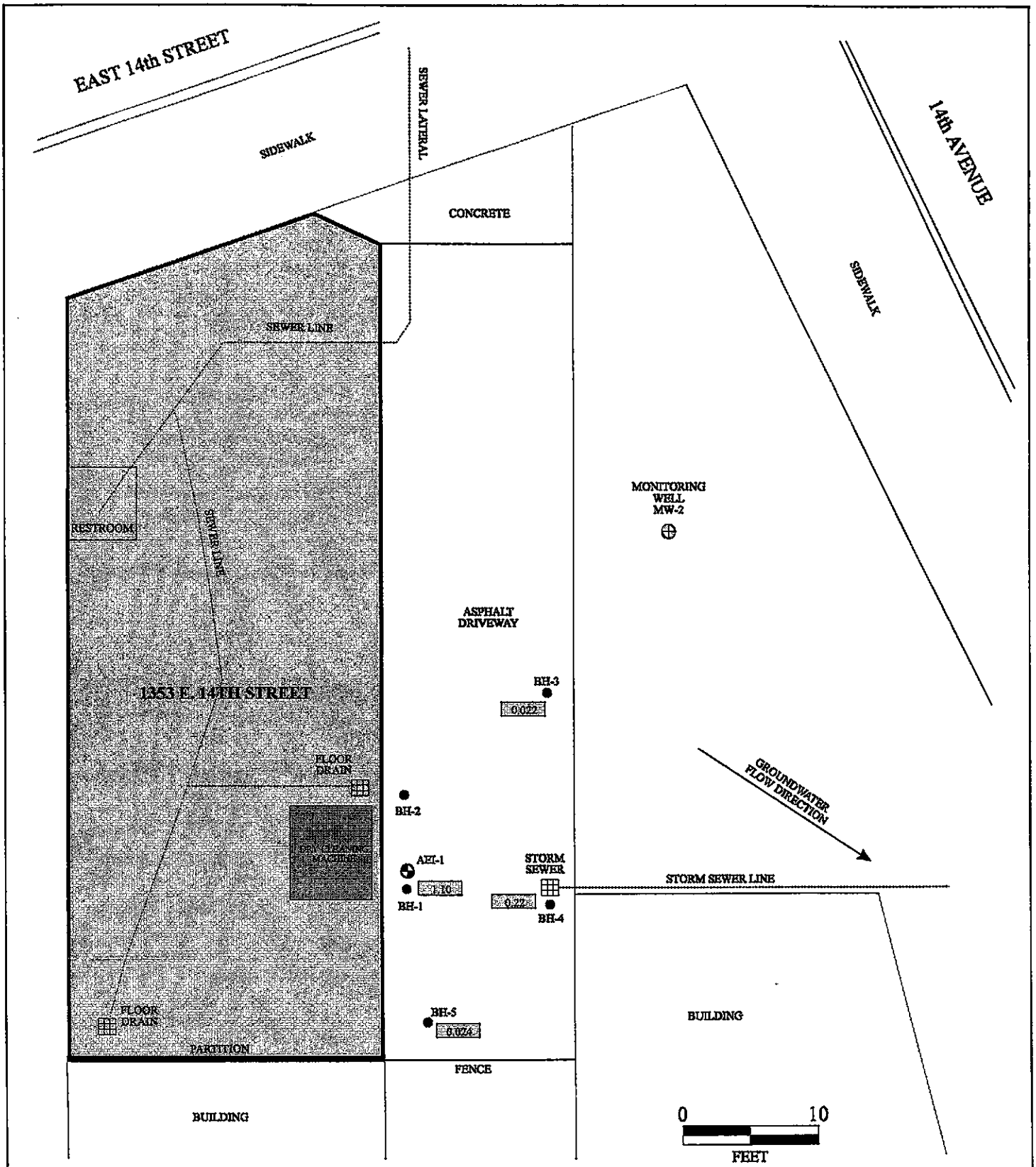
Sincerely,
ALL ENVIRONMENTAL, INC.

Jennifer Pucci
Project Manager

Joseph P. Derhake, PE, CAC
Principal

cc: Mr. Norman Foss, Foss Lampshade Studios, Inc.

Attachment



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KEY

- PROPOSED MONITORING WELL LOCATION
- CURRENT MONITORING WELL LOCATION
- SOIL BORING LOCATION ADVANCED 12/13/96
- 0.028 CONCENTRATION OF PCE IN GROUNDWATER (MG/L)

ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 10 FT	APPROVED BY: CH	DRAWN BY: J. PUCCI
DATE: 18 JUNE 97		REVISED: J. PUCCI

SITE PLAN

1353 E. 14TH STREET
OAKLAND, CALIFORNIA

DRAWING NUMBER:
FIGURE 1