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March 1, 1995

STP 4264

Ms. Susan Hugo, Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Draft Workplan for Sutta Recycling Site Investigation

Dear Ms. Hugo:

Please find the enclosed draft work plan for the Sutta Recycling property (3401 Wood Street, Oakland) prepared by Environmental Solutions for Caltrans. Approximately three years ago an underground diesel tank was removed from the site, and an analysis of the groundwater in the tank excavation pit revealed a high level of diesel fuel contamination. As part of the mitigation of the Cypress freeway realignment route, your office requested Caltrans to install groundwater monitoring wells at the site and to perform quarterly monitoring of the groundwater until cleanup is complete.

The enclosed draft workplan covers the monitoring well placement, construction, and sampling proposals. Field work should begin before the end of the month, so please let me know of any additions or corrections you may have. Your timely response is appreciated.

Sincerely

Christopher Wilson

Christopher Wilson, P.E.
Environmental Engineering Branch

Enclosure

1.0 INTRODUCTION

1. Environmental Solutions, Inc. has prepared this Soil and Ground Water Investigation Work Plan for Sutta Recycling (Site) located at 3401 Wood Street, Oakland, California (Figure 1). This site has been designated by the California Department of Transportation (Caltrans) as Parcel 20 in Area 5, and is part of approximately 130 properties that Caltrans will acquire in connection with the reconstruction of the Cypress Structure on Interstate 880 which collapsed during the 1989 Loma Prieta Earthquake (Figure 1). This site investigation, part of a larger study being performed by Caltrans for the reconstruction of the Cypress Structure, involves 27 sites identified as containing potentially hazardous materials.

2. Since Caltrans is acquiring the Sutta Recycling property, the Department of Toxics and Substances Control (DTSC) requires that a Preliminary Endangerment Assessment (PEA) be performed. Environmental Solutions, Inc. will perform the PEA as part of Task Order 04-192211-05 of Contract Number 53U495. The purpose of this Work Plan is to collect data in order to perform the PEA. This will be accomplished by conducting a field investigation to assess the presence of chemicals in the soil and ground water (if ground water is encountered during drilling) in areas which may have been impacted by chemicals from previous site activities.

3. The analytical data obtained from the soil and ground water samples collected during this investigation will be used to provide health and safety information to workers, to properly dispose of soil excavated during construction activities, and to develop a PEA. The following chapters discuss the site history, field investigation procedures, analytical program, and health and safety plan.

2.0 SITE DESCRIPTION

1. The Site is located at 3401 Wood Street, Oakland, California, in a developed industrial area (Figure 1). The property contained a vacant warehouse, which has now been demolished, and a paved area.

2.1 SITE HISTORY AND PREVIOUS WORK

1. The site history for Sutta Recycling, which is presented in Appendix A, includes an agency file review, a site ownership/title search, and an aerial photograph review. A summary of the site history is presented below.

2. On the basis of a title search and aerial photograph review performed by Environmental Solutions, Inc., and information provided by Caltrans, the Site appears to have been vacant until 1951. From 1951 to 1979, the Site was utilized by the State of California Department of Public Works as the San Francisco Bay Bridge-East Bay Maintenance Paint Yard. From 1966 to 1979, the Site was owned by Mr. Wayne Downs. In 1979, Wells Fargo Bank, N.A., was appointed trustee of the Wayne Downs Trust. From 1979 until 1988, the property was used as a building supply company, and known as the Downs Building Supply Company. In 1989, the Sutta Company occupied the Site, operating a paper waste management company and warehouse facility until 1994, when the property was purchased by Caltrans in connection with the Cypress Reconstruction Project.

3. The Site is listed on one of the regulatory agency data bases reviewed pertaining to hazardous material/waste issues at specific sites in the vicinity of Sutta Recycling. The Site is listed on the Cal-Sites/Data Base list as Preliminary Endangerment Assessment Required, Medium Priority (PEARM). The site ownership/title search

did show environmental concerns because of the presence of the paint yard. The aerial photograph review did show evidence of numerous large trucks stored or parked at the Site. The Sanborn fire insurance maps did not show environmental concerns.

4. In 1992, Crosby & Overton, Inc.[1] was contracted by Wells Fargo Trust Real Estate to excavate and remove a 1,000-gallon underground storage tank (UST) located at the Site (Figure 2). Approximately 42 cubic yards of soil were excavated and transported to a Class I disposal facility. After the UST was removed, soil samples and a grab ground water sample were collected from the tank excavation. Soil samples collected from the sides of the diesel tank excavation showed the presence of Total Petroleum Hydrocarbons (TPH) as diesel at a concentration of 86 milligrams per kilogram (mg/kg). The grab ground water sample showed the presence of TPH as diesel at a concentration of 88,000 milligrams per liter (mg/l). Additional soil excavation was performed and confirmation soil samples did not show the presence of TPH as diesel at or above the laboratories detection limit.

5. In 1992, Geo/Resource Consultants, Inc. (Geo/Resource)[2] drilled 4 soils borings and installed 2 ground water monitoring wells at the Site. One monitoring well was installed and two soil borings were drilled around the former UST location, and one monitoring well was installed and two soil borings were drilled adjacent to the former warehouse where a proposed freeway footing will be located (Figure 2). Soil samples were collected during drilling, and ground water samples were collected from the two monitoring wells. Analytical results showed the presence

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(1) Crosby & Overton, Inc., letter to Ms. Dvora Kotschedoff, Wells Fargo Bank Trust, regarding UST removal at 3401 Wood Street, Oakland, California.

(2) Geo/Resource Consultants, Inc. *Site Investigation Report-Area 5,* prepared for the Department of Transportation, T.O. Number: 04-192201-01, Highway 880, Cypress Reconstruction, Oakland, California. August 1992.

of Total Recoverable Petroleum Hydrocarbons (TRPH), toluene, ethylbenzene and xylenes in the soil near the former UST, at maximum concentrations of 210 milligrams per kilograms (mg/kg), 90 micrograms per kilogram (ug/kg), 180 ug/kg, and 700 ug/kg, respectively. TRPH was also detected in soil samples collected in the vicinity of the proposed footing location at a concentration of 270 mg/kg. Lead and selenium were detected at concentrations above 10 times their respective Soluble Threshold Limit Concentration (STLC) values. Waste Extraction Tests (WET) performed on two soil samples collected from the former UST location showed concentrations below the respective STLC values for lead and selenium. Ground water samples collected from the two monitoring wells showed concentrations of several metals above their respective Maximum Contaminant Levels (MCLs) as set by the State of California Department of Health Services Summary of California Drinking Water Standards for 1994. Geo/Resource concluded that the elevated metal concentrations were due to suspended solids in the unfiltered ground water samples.

2.2 GEOLOGIC CONDITIONS AND THE OCCURRENCE OF GROUND WATER

1. According to Geo/Resource, the site is underlain by brown to gray silty sands, clays, and gravel mixtures. The soils encountered were interpreted by Geo/Resource to be artificial fill to a depth of approximately five feet below ground surface (ft bgs), where native clays were encountered. Ground water was encountered by Geo/Resource during drilling at a depth of approximately 5 ft bgs.

2. On the basis of general topography and proximity to the San Francisco Bay, the general direction of ground water flow at the vicinity of the Site appears to be

toward the west/southwest[3]. However, local variations in ground water flow direction may exist in this area.

DRAFT

(3) Oakland West, California 7.5 minute Quadrangle Map, U. S. Geological Survey 1959, photo revised 1980.

3.0 SCOPE OF WORK

1. On the basis of information obtained by Environmental Solutions, Inc. during the records review and review of previous site investigations performed by Geo/Resource (see Section 2.1), additional information is needed to assess the presence and extent of contaminants in the soil and ground water in order to perform a PEA for the Site. Therefore, 11 soil borings are proposed to be drilled at the property to depths of approximately 5, 8 or 10 ft bgs. In order to assess the ground water gradient and flow direction in this area, three of the borings will be converted to two-inch diameter ground water monitoring wells (Table 1), as requested by the Alameda County Department of Environmental Health (Figure 3).

2. The locations of the soil borings are based on the following criteria: (1) where the former warehouse was located, (2) areas used for vehicle parking, and (3) in the vicinity of the former UST. Borings B-1 through B-3 will be located in the vicinity of the former warehouse, which was torn down after Geo/Resource's investigation in 1992 (Figure 3). Borings B-4 and B-7 will be located in proposed footing locations for the realigned Cypress freeway construction. Borings B-5 to B-8 are randomly placed in the former truck parking area. Sample collection depths are based on the following: In Borings B-1, B-4, and B-7, soil samples will be collected at depths of 1, 4 and 8 ft bgs. Because these borings are situated where proposed footings will be located, an 8-foot sample will be collected to assess if contamination has migrated into soils below the water table. In Borings B-2, B-3, B-5, B-6, and B-8, soil samples will be collected at depths of 1 and 4 ft bgs, an eight-foot sample will only be collected from these borings if ground water is not encountered at approximately 5 ft bgs. If analytical results indicate the presence of contamination at these locations, additional borings may be required to fully assess the vertical and

lateral extent of contamination. The rationale for the selection of boring locations is presented below.

3. Available analytical data for the Site indicates that the ground water has not been adequately characterized at the locations discussed above. Therefore, grab ground water samples will be collected from each boring using the Hydropunch® sampling technique. Borings located in the vicinity of the former UST will be converted to ground water monitoring wells (Figure 3).

3.1 SOIL BORING LOCATIONS AND PROTOCOL

1. Proposed boring locations are shown on Figure 3. Prior to commencing with drilling activities, appropriate drilling permits will be obtained from the Alameda County Flood Control and Water Conservation District, Zone 7. A geophysical investigation will be performed at the Site to clear proposed boring locations for underground utilities. The soil borings will be advanced using a truck-mounted hollow stem auger rig. A licensed drilling subcontractor will perform the drilling. The soil samples and cuttings will be logged for lithologic classification using the Unified Soil Classification System (USCS) and Munsell Color standards. An organic vapor meter (OVM) will be used to take readings on selected soil samples, and from worker breathing zones to monitor conditions during drilling. The borings will be grouted to the surface via tremie pipe, upon completion. The grout will consist of portland cement with 5 percent bentonite.

2. Drilling and sampling tools will be decontaminated at the site by either a high-pressure hot water wash, or alconox wash with deionized water rinse, before and between each use. Decontamination water and soil cuttings generated during drilling activities will be contained and stored on the drilling site in labeled, reconditioned, Department of Transportation (DOT) Y1.2/100 (formerly 17-H),

55-gallon drums. A sample drum label is presented in Appendix B. The drums will be stored in a fenced-in area located on the drilling site pending disposal.

3.2 MONITORING WELL LOCATIONS AND PROTOCOL

1. The proposed locations of the three ground water monitoring wells are shown on Figure 3. Prior to commencing drilling activities, well installation permits will be obtained form the Alameda County Health Department. The soil borings will be converted to ground water monitoring wells by installing two-inch diameter schedule 40 polyvinyl chloride (PVC) casing through the hollow stem augers. The bottom 8 feet of the casing will be composed of 0.010 inch slotted screen. Monterey #2/12 sand will be poured through the augers as they are pulled from the ground. The sand will be installed into the annular space to a depth of approximately one foot above the top of the screened interval. Bentonite pellets will be poured through the auger to form an approximate 8-inch thick layer on top of the sand. The pellets will be hydrated with deionized water to form a sanitary seal. The remaining annular space to the surface will be filled with a 5 percent bentonite grout mixture. The Alameda County Health Department will be notified prior to sealing the wells so an inspector may be present during the grouting activities. At least 24 hours after the grout has set, the well will be developed by surging the well to set the filter pack, and then pumping or bailing at least ten wet casing volumes from the well. The purged ground water will be placed in drums and stored onsite pending disposal options.

3.3 SAMPLING PLAN

1. The soil and Hydropunch® sampling procedures are presented in Appendix B and are described briefly below.

2. The soil samples, collected in stainless steel tubes, will be covered with nonadhesive teflon tape, and capped with an inert plastic cap. No adhesive tape is to be used on the sample containers. Field identification of soil samples will be recorded on a boring log form (Appendix B). The log form will contain the lithologic description, blow counts as described in Appendix B, Soil and Ground Water Sample Collection Procedures, sample identification number, OVM readings, first encountered depth to ground water, noticeable hydrocarbon odors, and other pertinent information. The soil samples will be labeled and placed in a cooler with dry ice and transported under Chain-of-Custody documentation to a state certified analytical laboratory. A standard two-week turn-around-time will be requested. The soil samples will be identified by the boring number and the depth (in feet) at which the sample was collected (i.e., B-4-8).

3. Ground water samples will be collected from each boring using a Hydropunch® sampling tool. If soil conditions are such that collecting a ground water sample with a Hydropunch® is not possible, a one-inch PVC or stainless steel bailer sampler will be used. The bailers will have a bottom check valve, and the ground water sample will be released into clean, laboratory-supplied containers. A nylon rope, used to lower the bailer down the borehole, will be changed between boring locations. In order to reduce the loss of volatile constituents, samples for Volatile Organic Compounds (VOC) analysis will be dispensed from the sampler using a disposable VOC sampler into precleaned and prechilled laboratory-provided containers. Ground water collected for the remaining analyses will be decanted from the bailer into laboratory supplied sterile sample containers. In order to collect a sufficient amount of water to perform analyses being requested, the boreholes may need to be left open for a short time period (no more than two hours) to allow a sufficient amount of ground water to collect in the open borehole. Samples will be collected in order of volatilization: i.e., VOCs, semivolatile organic compounds (SVOCs), TPH as

gasoline and diesel, TRPH, and metals. The sample containers will be labeled (sample number, date and time sampled, job number and description, collector's initials, and analysis requested) and placed in a cooler with blue ice to a temperature of approximately 4°C and transported under Chain-of-Custody documentation to a state certified analytical laboratory. The laboratory will filter and preserve samples submitted for metals analysis prior to the analysis being performed. The ground water samples will be identified by the boring number and the letter "W" to identify it as a water sample (i.e., B-3-W).

4. Sample identification numbers will be recorded on Chain-of-Custody forms (Appendix B). The Chain-of-Custody will have the appropriate analysis indicated for each sample listed, the date, time, and location of each sample, the field geologist who collected the samples, and the requested turn around time. The Chain-of-Custody form will be signed by the field geologist when relinquished, signed by the courier picking up the samples, and signed again by the laboratory when they receive the samples. The field geologist will retain one copy of the triplicate Chain-of-Custody form.

3.4 HEALTH AND SAFETY

1. A site Health and Safety Plan has been prepared for this project, and is presented in Appendix C.

3.5 ANALYTICAL PROGRAM

1. The soil and ground water samples will be analyzed by state certified hazardous materials testing laboratory. The analytical program for the samples collected includes:

   - EPA Method 418.1-Total Recoverable Petroleum Hydrocarbons (TRPH)

- EPA modified Method 8015-Total Petroleum Hydrocarbons as gasoline (TPH-G)
- EPA modified Method 8015-Total Petroleum Hydrocarbons as diesel (TPH-D)
- EPA Method 6010-Metals (laboratory filtered and preserved)
- EPA Method 8240-Volatile Organic Compounds (VOCs)
- EPA Method 8250/8270-Semi-Volatile Organic Compounds (SVOCs)
- 22 CCR 667000 Waste Extraction Test (WET)
- EPA Method 1311-Toxicity Characteristic Leaching Procedure (TCLP) for VOCs, SVOCs, and inorganic elements.

2. Table 2 presents the analytical procedures for soil and ground water samples. It is estimated that a total of 28 soil samples and 11 ground water samples will be sent in for analysis of selected tests listed above. Table 3 presents the soil and ground water analytical program.

3. If concentrations of a metal exceed 10 times its STLC value, a WET may be performed at the request of Caltrans. A Toxicity Characteristic Leachate Procedure (TCLP) test may be performed on selected samples in which total inorganic elements concentrations are at or above 20 times the STLC value. The WET or TCLP tests will be performed after Caltrans has reviewed the data and requested which samples will undergo these tests. Upon request, representative chromatograms for TRPH, TPH-g, TPH-d, VOCs, and SVOCs will be obtained from the analytical laboratory.

3.6 QUALITY ASSURANCE/QUALITY CONTROL

1. Quality Assurance/Quality Control (QA/QC) will be performed by the analytical laboratory for each method of analysis with specificity for every appropriate analyte requested and/or representative analytes listed in the test method's QA/QC. QA/QC data will be reported in summary form for samples submitted. QA/QC procedures specified by each test method will include the following:

- One method blank for every ten samples, batch of samples or type of matrix, whichever is more frequent;
- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever is more frequent;
- One spiked sample for every ten samples, batch of samples or type of matrix, whichever is more frequent, with spike made at ten times the detection limit or at the analyte level;
- One quality control sample analyzed with every ten samples, batch of samples or type of matrix, whichever is more frequent and;
- One equipment blank per day.

2. Ground water samples will require one laboratory prepared trip blank for each individual group of water samples transported to the laboratory. The contents of each ice chest constitutes an individual group of water samples.

3. Trip blanks, laboratory blanks, spiked samples, and duplicate sample analyses will be reported on either the laboratory testing report or the QA/QC summary report. Spiked samples will be reported as percent spike recovery.

TABLE 1

BORING LOCATION DESCRIPTIONS

BORING IDENTIFICATION	LOCATION	DESCRIPTION
B-1	Warehouse	Former Warehouse Foundation
B-2	Warehouse	Former Warehouse Foundation
B-3	Warehouse	Verify previous boring results
B-4	Footing	Freeway footing area
B-5	Parking lot	Truck parking area
B-6	Parking lot	Truck parking area
B-7	Footing	Freeway footing area
B-8	Parking lot	Truck parking area
MW-1	Former UST	Former 1000-gallon diesel UST
MW-2	Former UST	Former 1000-gallon diesel UST
MW-3	Former UST	Former 1000-gallon diesel UST

TABLE 2. ANALYTICAL PROCEDURES

PARAMETER[1]	EPA TEST METHOD[2]	CONTAINER[3]	PRESERVATIVE	MAXIMUM HOLDING TIME	
				H_20	Soil
TRPH (5/0.5 ppm)	418.1	G-1000 ml	Cool; Acidify ph <2	28 days	28 days
Total Metals (1-10/0.1-1 ppm)	6010	G, P -500 ml	Filter(laboratory); $HN0_3$ pH<2, Cool 4°C	6 months	6 months
TPH-D (2.5/0.5 ppm)	Modified 8015	G-1000 ml	Cool 4°C	14 days	14 days
TPH-G (1/0.2 ppm)	Modified 8015	VOA-40 ml (x3)	Cool 4°C	14 days	14 days
Semi-Volatile VOCs (.34-1.7/.01-.05 ppm)	8250/ 8270	G-1000 ml (x2)	Cool 4°C	7 days	14 days
VOCs (5-25/1-10 ppb)	8240	VOA-40 ml (x3)	Cool 4°C pH<2.	14 days	14 days
pH	150.2/9045	G,P-50 ml	NA	ASAP	ASAP

(1) The number in parentheses is the proposed quantitation limit for the analysis, constituents are listed by soil/water. If a metal concentration is above the TTLC value, it is classified as a hazardous waste and further testing of the samples may not be performed. If a metal concentration is less than the TTLC value but is at or above ten times the Soluble Threshold Limit Concentration (STLC) value, a Waste Extraction Test (WET) may be performed. A Toxicity Characteristic Leaching Procedure (TCLP) test may be performed on samples in which total metal concentrations are at or above 20 times the TCLP value.

(2) Procedures according to methods for chemical analysis of water and wastes, EPA-600/4-79-020.

(3) Containers for ground water collection: G = Glass; P = Polyethylene; ml = Milliliter; NA = Not Applicable; soil samples will be collected in stainless steel tubes.

TABLE 3 - SOIL AND GROUND WATER ANALYTICAL PROGRAM - SUTTA RECYCLING

BORING NUMBER	TRPH 418.1	CAM 17 6010	ANALYSIS AND EPA TEST METHOD CAM 7 6010	CHROM VI 7196	VOCS 8240	SEMI-VOCS 8270	TPH-D 8015m	TPH-G 8015m
B-1	1', 4', 8'	1', 4', 8'			1', 4', 8'		1', 4', 8'	
B-2	1', 4'	1', 4'		1', 4'		1', 4'		1', 4'
B-3	1', 4'		1', 4'	1', 4'		1', 4'		1', 4'
B-4	1', 4', 8'		1', 4', 8'		1', 4', 8'		1', 4', 8'	
B-5	1', 4'		1', 4'			1', 4'		1', 4'
B-6	1', 4'	1', 4'		1', 4'	1', 4'		1', 4'	
B-7	1', 4', 8'	1', 4', 8'		1', 4', 8'		1', 4', 8'		1', 4', 8'
B-8	1', 4'		1', 4'	1', 4'	1', 4'		1', 4'	
MW-1	1', 4', 8'		1', 4', 8'			1', 4', 8'	1', 4', 8'	
MW-2	1', 4', 8'	1', 4', 8'		1', 4', 8'	1', 4', 8'	1', 4', 8'	1', 4', 8'	
MW-3	1', 4', 8'		1', 4', 8'		1', 4', 8'	1', 4', 8'	add	
Ground water	B1 - B8		B1 - B8		B1 - B8	B1 - B8		
MW - ground water*	MW-1 - MW-3		MW-1 - MW-3		MW-1 - MW-3	MW-1 - MW-3	MW-1 - MW-3	MW-1 - MW-3

TRPH = Total Recoverable Petroleum Hydrocarbons
CAM 17 = Sb, As, Ba, Be, Cd, Cr (total), Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V, Zn
CAM 7 = As, Ba, Cd, Ni, Pb, Se
Chrom VI = Hexavalent chromium
VOCS = Volatile Organic Compounds
SEMI-VOCS = Semi-Volatile Organic Compounds
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
1', 4', 8' = Sample depths in ft bgs
* Monitoring Wells will be sampled for two quarters after initial installation and sampling

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95-903/REV.2/95

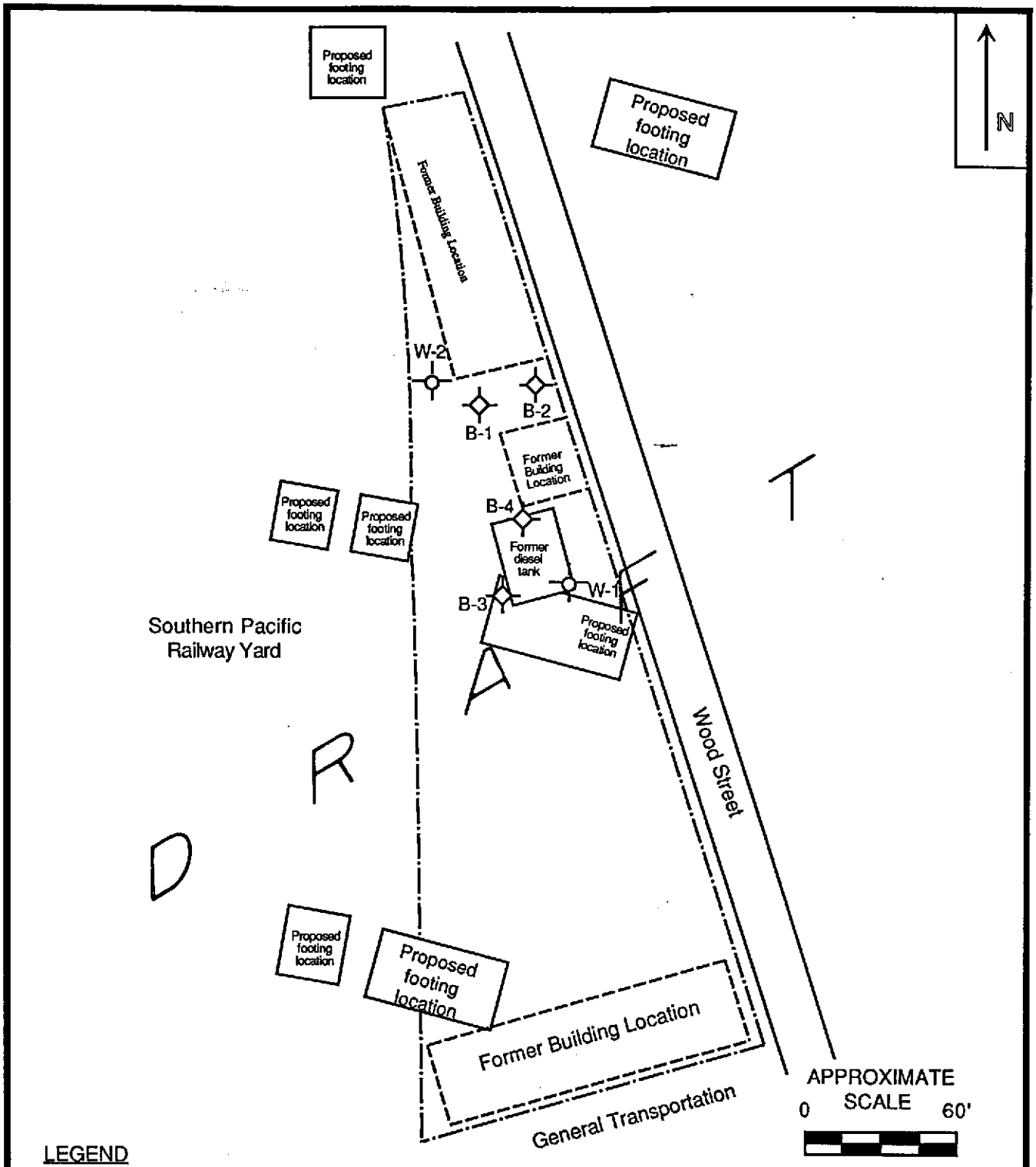

Figure 2

SITE MAP

PRELIMINARY ENDANGERMENT ASSESSMENT
SUTTA RECYCLING 3401 WOOD STREET
CYPRESS RECONSTRUCTION OAKLAND,CALIFORNIA

ENVIRONMENTAL SOLUTIONS, INC.

95-903/REV.2/95

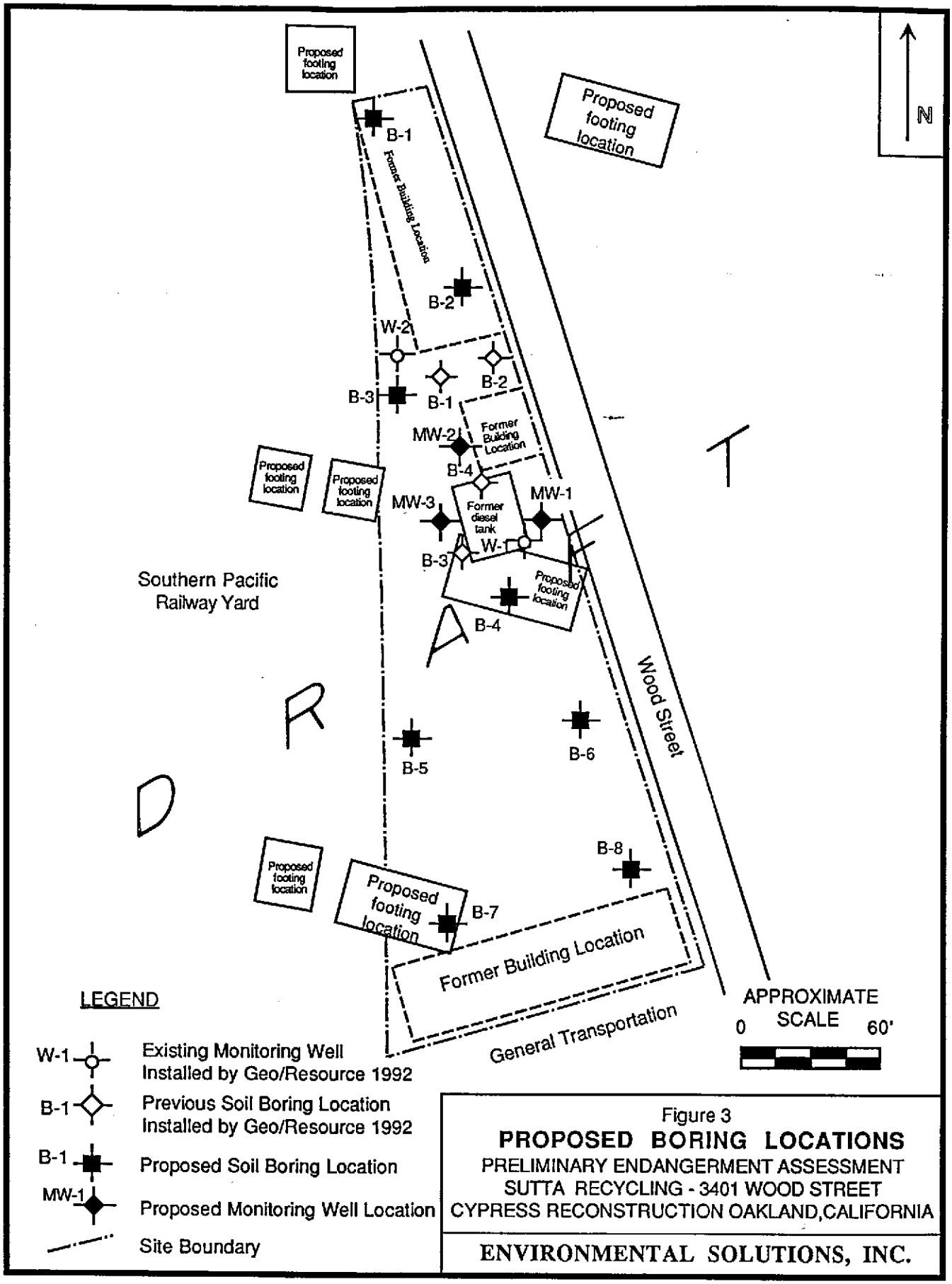

Figure 3

PROPOSED BORING LOCATIONS

PRELIMINARY ENDANGERMENT ASSESSMENT
SUTTA RECYCLING - 3401 WOOD STREET
CYPRESS RECONSTRUCTION OAKLAND,CALIFORNIA

ENVIRONMENTAL SOLUTIONS, INC.