

January 15, 1996

Mr. Dale Klettke  
Alameda County Health Agency  
Division of Environmental Protection  
1131 Harbor Bay Parkway  
Alameda, CA 94502

Re: Environmental Investigation Work Plan  
490 43rd Street, Oakland, California  
(Blumert Trust)

Dear Mr. Klettke:

Enclosed, please find one copy of the Work Plan for additional site investigation for the above-referenced property. The requested changes expressed in your letter to Mr. Jeffrey Hirsch at Wells Fargo Bank, dated January 9, 1996, were added for clarification. The project will go out for competitive bid based on this finalized Work Plan.

If you have any questions, please contact me at (510) 638-8400.

Sincerely,



David DeMent, RG  
Senior Geologist

cc: Mr. Jeffrey Hirsch, Wells Fargo Bank  
Mr. Ken Cheitlin, McShane, Schnack & Cheitlin

Enclosure

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**WORK PLAN  
INVESTIGATION ACTIVITIES**


**PROJECT SITE  
490 43RD STREET  
OAKLAND, CALIFORNIA**

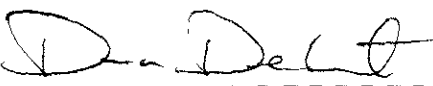
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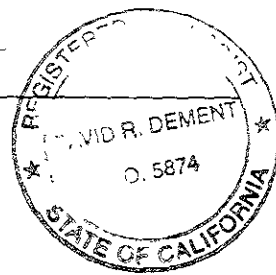
Prepared for:

Mr. Jeffrey Hirsch  
Wells Fargo Bank  
525 Market Street, 18th Floor  
San Francisco, CA 94105

January 15, 1996

Prepared by:   
Misty Kaltreider  
Project Geologist

Reviewed by:   
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**WORK PLAN  
INVESTIGATION ACTIVITIES  
PROJECT SITE  
490 43RD STREET, OAKLAND**

## **1.0 INTRODUCTION**

This Work Plan has been prepared by ACC Environmental Consultants, Inc. (ACC) at the request of Wells Fargo Bank on behalf of the Blumert Trust, for work to be performed at the site located at 490 43rd Street, Oakland, California (Figure 1). This Work Plan was prepared to address a request of the Alameda County Department of Environmental Health (ACDEH) for additional site investigation and delineation of impacted groundwater. The finalized Work Plan will include protocols for soil sampling in boreholes and during the construction of groundwater monitoring wells, well construction, and collecting groundwater samples in boreholes and monitoring wells.

The site is located at the northeast corner of Telegraph Avenue and 43rd Street, Oakland, California. The property is relatively flat, at an elevation of approximately 90 feet above mean sea level. The confirmed groundwater flow direction is southwest.

## **2.0 BACKGROUND**

The facility formerly operated one 1,000-gallon gasoline underground storage tank (UST) and one 350-gallon paint thinner UST, which were removed December 11, 1991 (Figure 1). Laboratory analysis of soil samples collected under the gasoline tank indicated up to 220 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg) and benzene, toluene, ethyl benzene, and xylenes (BTEX) up to 22 ppm. Laboratory analysis of soil samples collected under the paint thinner tank indicated up to 25 ppm Total Petroleum Hydrocarbons as paint thinner (TPH as paint thinner). Groundwater was observed in the excavation at approximately 12.5 feet below ground surface (bgs).

The former tank pit was overexcavated on March 31, 1992 to remove additional impacted soil. Laboratory analysis of soil samples collected in excavation sidewalls indicated up to 720 ppm TPHg, 30 ppm BTEX, and 190 ppm TPH as paint thinner.

Three groundwater monitoring wells were installed on April 12, 1993 and periodically monitored since this time. Samples from the three existing groundwater monitoring wells have revealed TPHg concentrations ranging from 170-2,100 ppb in well MW-1, 11,000-18,000 ppb in MW-2, and 1,500-14,000 ppb in MW-3. TPH as paint thinner concentrations have ranged from 65-1,200 ppb in well MW-1, 670-11,000 ppb in MW-2, and 480-8,700 ppb in MW-3.

Two exploratory soil borings were drilled and sampled on June 1, 1994, designated EB1 and EB2. TPHg and TPH as paint thinner was detected in EB2 at 10-12 feet bgs. Grab groundwater samples from EB1 and EB2 revealed TPHg at 3,400 ppb and 9,200 ppb respectively, and TPH as paint thinner at 7,000 ppb and 3,700 ppb respectively.

### 3.0 SCOPE OF WORK

To further evaluate the extent of hydrocarbon impact to soil and groundwater, the following scope of work is proposed:

- Obtain all necessary permits to drill exploratory soil borings in public right-of-ways and alert Underground Services Alert of proposed field activity as required;
- Drill eight additional exploratory soil borings to evaluate the extent of impacted soil and groundwater; collect a minimum of one soil sample from two of the borings (immediately adjacent to the former USTs) and grab groundwater samples from six of the borings (including soil samples if screening indicates volatile organics);
- Evaluate data from the soil boring investigation to help determine if additional monitoring wells are necessary to monitor groundwater conditions at the site; if an additional well (or wells) is necessary, locate each well to facilitate collecting groundwater information necessary for site characterization leading to closure; and,
- As directed, continue periodic monitoring of existing groundwater wells and any newly installed monitoring well(s) at the site for the purpose of evaluating the degree and extent of hydrocarbon migration and documenting trends in water quality.

#### 3.1 Permits

Drilling permits should be obtained from appropriate agencies prior to drilling and sampling activities and any borings drilled in public sidewalks or streets will require an excavation permit from the City of Oakland Department of Public Works. The locations of the proposed borings should be marked with white paint. The work should be scheduled upon acceptance of the Work Plan by the regulatory agencies. Underground Services Alert (USA) should be notified at least 48 hours prior to commencing work.

#### 3.2 Exploratory Soil Borings

Eight exploratory soil borings should be drilled to characterize soil and groundwater in the vicinity of the former tank excavation. Two exploratory soil borings, collecting soil samples only, will be drilled immediately adjacent to the two former USTs, and six exploratory borings, collecting grab groundwater samples will be drilled up- and downgradient of the former USTs. The attached Figure 2 illustrates the proposed boring locations. Actual boring locations may vary slightly based on field observations, utilities, or unknown physical constraints. Boring and drilling protocol during field activities should follow California State Water Control Board and local guidelines.

A Photoionization detector (PID) will be used by consultant personnel to pre-screen the soil sampled for volatile compounds. If volatile compounds are detected in the sample interval, one liner should be sealed with teflon sheeting, capped, labeled, and placed in an insulated, pre-chilled container. Chain of custody records should be initiated in the field by the consultant, updated throughout handling of the samples, and sent along with the samples to the analytical laboratory. A minimum of one soil or one grab groundwater sample from each boring should be submitted to a state-certified analytical testing laboratory for analysis of TPHg with BTEX by EPA Test Methods 8015/8020 and TPH as paint thinner by EPA Test Methods 3510/8015. One upgradient and one downgradient grab groundwater sample will be analyzed for Methyl Tertiary Butyl Ether (MTBE) by EPA Test Methods 8015/8020.

During drilling, undisturbed soil samples should be obtained for chemical analyses and geotechnical classification at three to five-foot intervals, distinct lithologic changes, and at the soil/groundwater interface. Sampling should begin at five feet below grade and be performed every three-five feet to the bottom of each boring, approximately 12 feet bgs, the anticipated depth of groundwater. Grab groundwater samples should be collected from each boring when groundwater is encountered during drilling. Drilling should be performed under the observation of a geologist, and the subsurface materials in the borings should be identified using visual and manual methods, and classified as drilling progresses according to the Unified Soil Classification System. This work should be performed under the supervision of a California Registered Geologist.

A report summarizing results of additional site investigation, recommendations, and proposed locations for one or more groundwater monitoring wells should be forwarded to the client and ACDEH for evaluation. Any disturbed surface should be restored to its prior condition.

### 3.3 Monitoring Well Installation

Additional groundwater monitoring wells may be necessary to characterize groundwater in the confirmed up- or downgradient direction of the two former USTs. This determination will be made after evaluating results of the exploratory soil boring investigation. Borings for monitoring wells will be drilled under appropriate permit, with a mobile drill rig equipped with pre-cleaned 8-inch diameter hollow stem augers by a drilling contractor with a current C-57 license, and bonded to perform this type of work in the City of Oakland.

During drilling, undisturbed soil samples should be obtained for chemical analyses and geotechnical classification at five-foot intervals, distinct lithologic changes, and at the soil/groundwater interface. Sampling should begin at five feet below grade and continue to the bottom each boring, approximately ten feet into the saturated zone. A Photoionization detector (PID) should be used by consultant personnel to pre-screen the soil to be sampled. Cuttings should be placed in capped drums, labeled and left onsite pending the analytical results. A minimum of one soil sample per boring should be submitted to a state-certified analytical testing laboratory for analysis of TPHg and BTEX using EPA Test Methods 8015/8020, and TPH as paint thinner using EPA Test Methods 3510/8015.

The total depths of the monitoring well(s) will be contingent upon lithology and the depth to groundwater. It is currently anticipated that the total depth of the wells should be approximately 20-25 feet bgs. The well installations should be conducted in a manner consistent with ACDEH and Regional Water Quality Control Board requirements. The well construction specifications should be determined by field conditions and to best meet the ACDEH and the Regional Water Quality Control Board specifications.

Soil cuttings generated during drilling will be placed in steel, Department of Transportation (DOT) - approved drums. Drums will be labeled as to contents, suspected contaminants, date container filled, expected removal date, company name and phone number of technical contact, and name of generator. Drums will be sealed and left onsite for subsequent disposal pending receipt of analytical results. Drums will be disposed of appropriately at an accepting facility after analytical results have been received.

The wells should not be developed until at least 72 hours have elapsed after completion of construction. Additionally, the wells should not be sampled until at least 24 hours have elapsed following completion of well development. When well installation is complete, the well will be developed by surging, and/or bailing, and/or pumping.

Well development generally restores natural hydraulic properties to the adjacent soils and improves hydraulic properties near the borehole so the water flows more freely in the well. Well development will continue until purged water is free of sand, silt and turbidity and improvement in water clarity is no longer observed. During development, pH, specific conductance, and temperature of the return water from the water pump should be measured. Well development will proceed until these field-measured water quality parameters have stabilized and the water appears to be at its greatest possible clarity.

Temperature, pH and specific conductance meters will be calibrated per manufacturer's guidelines. All purge water generated during the development and sampling processes should be contained onsite in labeled DOT-approved 55-gallon drums. Disposal of this purge water should be governed by the laboratory results for the associated water sample.

### 3.4 Groundwater Monitoring

Subsequent to the installation of a monitoring well, the newly installed well(s) should be surveyed by a California licensed Civil Engineer to other onsite monitoring wells, structures, and an established benchmark, with an accuracy of 0.01 foot, relative to mean sea level. Groundwater samples should be collected from existing and any newly installed well(s) at the direction of the ACDEH and submitted to an analytical laboratory for TPHg/BTEX by EPA Test Method 8015/8020. If required, groundwater samples will be analyzed for MTBE by EPA Test Method 8020.

Prior to each sampling event, the water level elevation and thickness of any free product should be measured in all the wells. Collect, store, and transport the water samples in accordance with existing regulatory guidelines.

Wells and borings will be sampled using a new, clean, disposable teflon bailer attached to new, clean string. Sample vials and bottles will be gently filled to overflowing and sealed so that no air is trapped in the vial or bottle. Once filled, samples shall be inverted and tapped to test for air bubbles. Samples will be contained in vials and bottles approved by the US EPA and the Regional Water Quality Control Board. Some analyses may require separate sample containers in accordance with EPA methods described in 40 CFR Part 136 and SW-846.

Water samples intended for volatile hydrocarbon analysis will be contained in 40-milliliter VOA vials. Water samples intended for TPH as paint thinner analysis will be stored in amber glass 1-liter bottles to reduce degradation by sunlight. Preserved sample containers will be utilized if a prolonged holding time (> 5 days) is expected prior to analysis.

Sample containers should be labeled with self-adhesive, pre-printed tags. Labels will contain the following information in waterproof ink:

- Project number (or name)
- Sample number (or name)
- Sample location (Well number, etc.)
- Date and time samples were collected
- Treatment (preservative added, filtered, etc.)
- Name of sample collector

All samples will be stored in pre-chilled insulated containers to be delivered to a state-certified laboratory for appropriate analysis. All purged water will be stored onsite in steel, DOT-approved drums. Drums will be labeled as to contents, suspected contaminants, date container filled, expected removal date, company name, contact and phone number. The drums will be left onsite for subsequent disposal pending receipt of analytical results. Drums of water will be disposed of at an accepting facility.

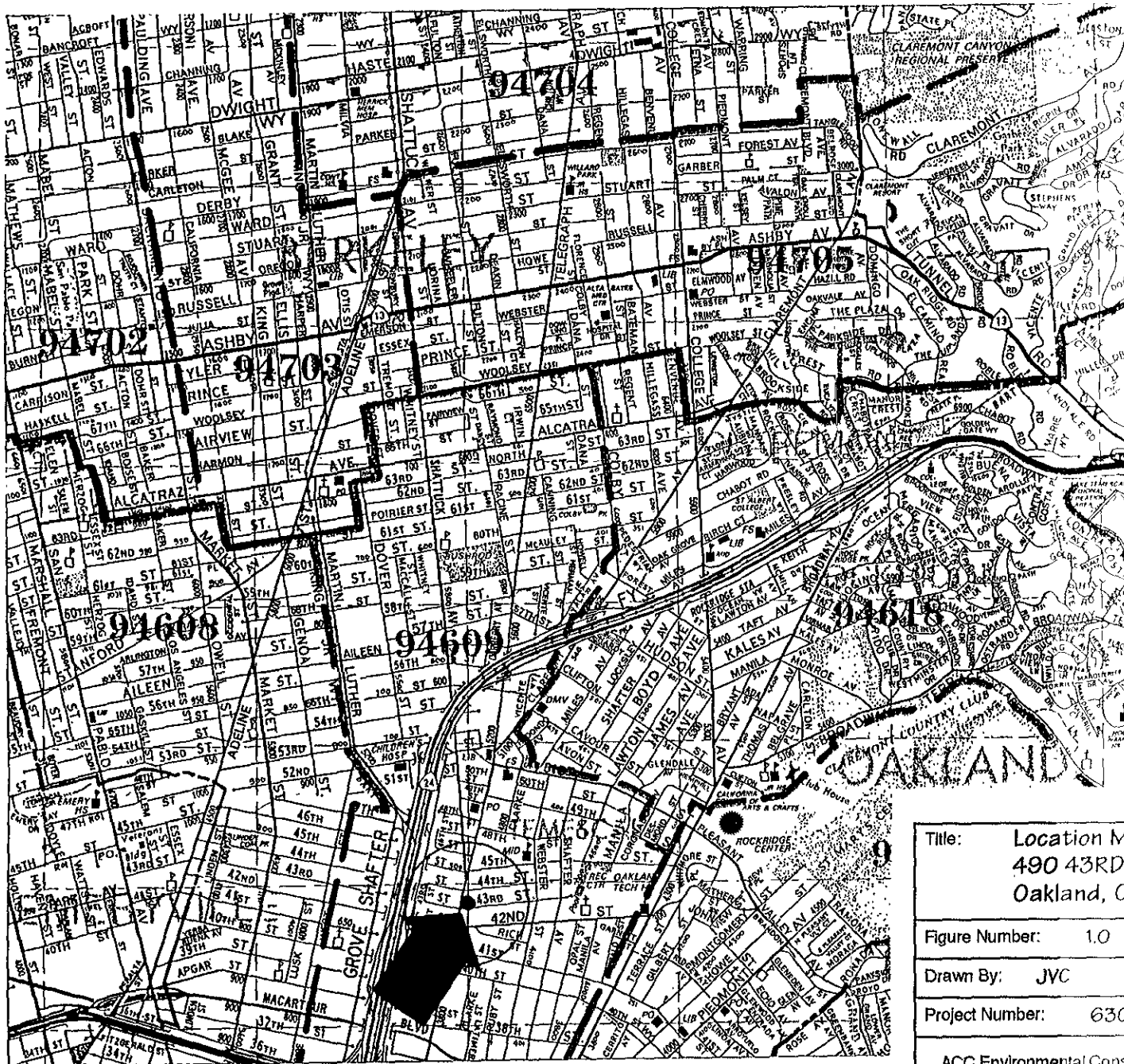
#### **4.0 HEALTH AND SAFETY PLAN**

A site-specific Health and Safety Plan which encompasses the proposed work within the area and complies with the requirements of 29 CFR Part 1910.120 should be written. A copy of the Health and Safety Plan should be kept onsite during field work operations and should be available for reference by appropriate parties during the work.

#### **5.0 TECHNICAL REPORTS**

A technical report discussing the subsurface findings, and proposed locations for any additional groundwater monitoring well installations at the site, will be submitted to Mr. Jeffrey Hirsch, Wells Fargo Bank, for review and acknowledgement. A copy of the final report will be supplied to Wells Fargo Bank for submission to the ACDEH under their cover letter. If additional groundwater monitoring wells are necessary, a separate technical report should be submitted discussing the findings of well installation. Reports should be reviewed and stamped by an appropriate registered professional.





SOURCE: THOMAS BROTHERS GUIDE

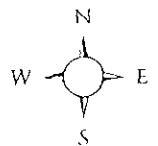
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 490 43RD Street  
 Oakland, California

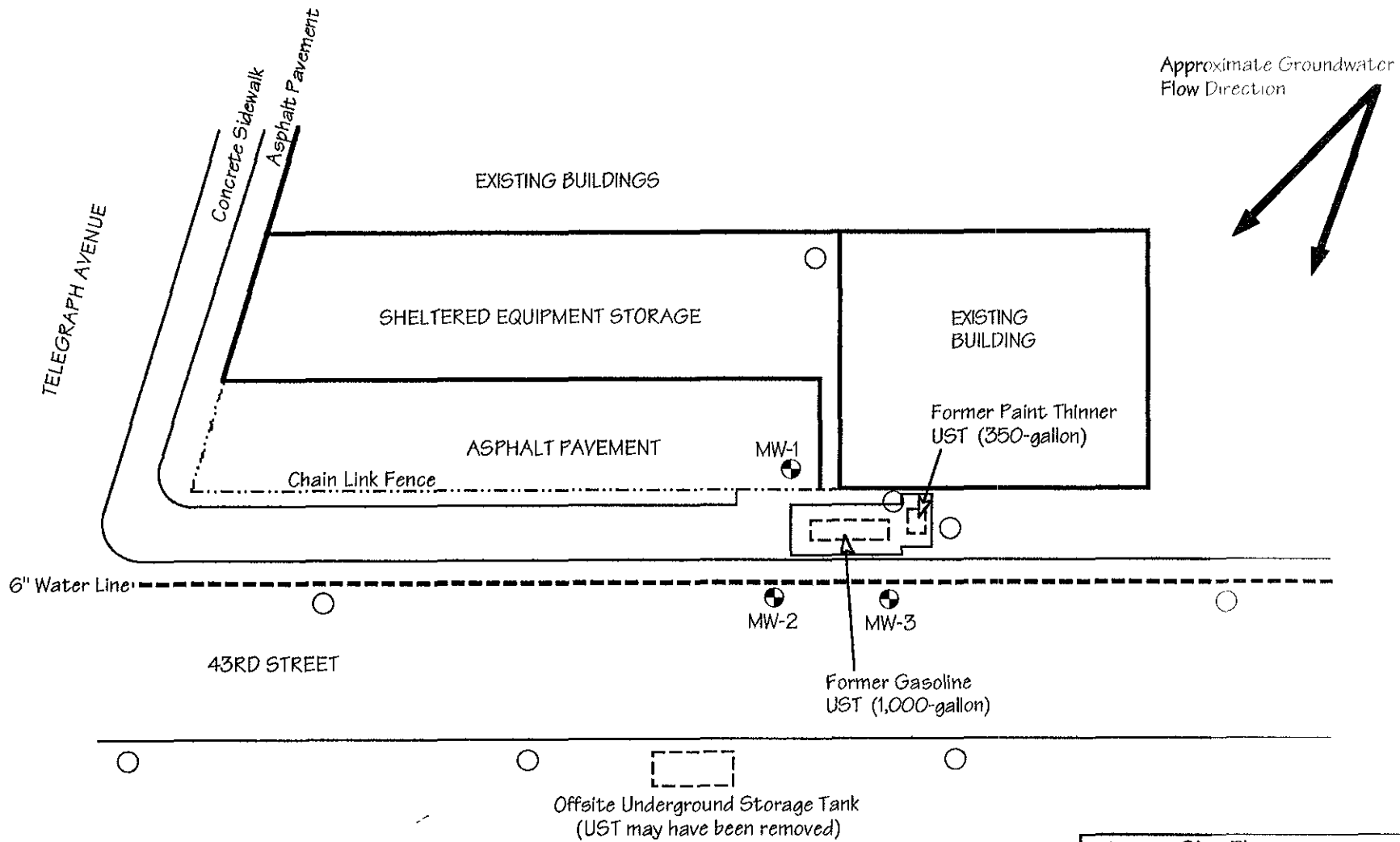
Figure Number: 1.0 Scale

Drawn By: JVC Date 12/19/95




Project Number: 6305-1.1

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## Legend

-  MW-2 Existing Monitoring Well
-  Former Underground Storage Tank
-  Proposed Boring Location

Title: <b>Site Plan</b> 490 43RD Street Oakland, California	
Figure Number: 2.0	Scale 1" = 30"
Drawn By: JVC	Date 12/19/95
Project Number: 6305-1.1	
ACC Environmental Consultants 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax (510) 638-8404	
