PRELIMINARY SITE ASSESSMENT PLAN

FOR

ALBANY FORD AND SUBARU DEALERSHIP

716 SAN PABLO AVENUE

ALBANY, CALIFORNIA

Prepared for:

Albany Ford and Subaru
716 San Pablo Avenue
Albany, California

Prepared by:

ICF Kaiser Engineers, Inc.
1800 Harrison Street, 7th Floor
Environment Group
Oakland, California 94612

January 4, 1994

ICF KAISER ENGINEERS

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January 4, 1994

ALCO HAZMAT
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Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
UST Local Oversight Program
80 Swan Way
Room 80
Oakland, CA 94621

RE: Preliminary Site Assessment Plan for Albany Ford and Subaru Dealership
718 San Pablo Avenue, Albany, California

Dear Ms. Shin,

ICF Kaiser (ICF) is pleased to submit the subject document on behalf of the Albany Ford and Subaru Dealership. Note that this document has undergone minor revisions since its original submittal August of 1993 based on your verbal comments to ICF in December. Note that a summary of the information in the tank removal report is provided in the *Preliminary Site Assessment Plan*.

If you have any questions about the proposed investigation, please telephone me at (510) 419-5409.

Sincerely,

Theresa Brandabur
Environment Group

enclosure

cc: Richard Hiett, RWQCB
Don Strough

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Charles R. Comstock CEG 1010

January 4, 1994

DISCLAIMER

This report has been prepared in keeping with accepted standards of practice for environmental audits and using ICF Kaiser Engineers, Inc. professional judgment. In most cases, it was necessary for ICF Kaiser Engineers to rely on information provided by Dealership employees, state and local regulatory agencies, and others. Efforts have been made to verify the information obtained in this manner. However, in many instances, independent verification was not possible. Therefore, some of the statements made in this report could be different if any of this information is determined to be false or otherwise inaccurate.

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1.0 INTRODUCTION

This report presents a proposal to install groundwater monitoring wells and obtain soil samples at the former Albany Ford and Subaru auto repair and dealership located at 716 San Pablo Avenue, in Albany, California. The objectives for installing groundwater monitoring wells are to accurately determine the local groundwater gradient and determine the apparent extent groundwater contamination beneath the site resulting from five previously removed underground storage tanks. The third objective is to determine the extent of soil contamination from the leaking underground storage tanks. The fourth objective is to determine geochemical parameters for vadose zone bioremediation and treatment to be implemented in Phase II remedial activities.

According to the Hazardous Materials Report completed by Mr. Kevin Tinsley, of the Alameda County Department of Environmental Health, Underground Storage Tank (UST) Local Oversight Program, five tanks were removed April 6, 1993 by Subsurface Environmental Corporation of El Cerrito, California: two 300-gallon waste oil tanks, two 300-gallon coolant tanks, and one 550-gallon waste oil tank (formerly an unleaded gasoline tank). All five tanks were corroded, had numerous holes, and were leaking. Prior to the removal of the tanks, approximately 450 gallons of product was removed from the tanks. Visible soil contamination was excavated to the extent possible.

2.0 FACILITY SETTING

2.1 Site Location and Hydrogeologic Setting

The Albany Ford and Subaru Dealership is located at 716 San Pablo Avenue, one block north of Solano Avenue, and two blocks south of the El Cerrito-Albany border and El Cerrito Creek. The site is located in an area of small businesses and residential housing. Operations at the Dealership have moved approximately one mile south to 1000 San Pablo, Avenue, leaving the site vacant. Immediately adjacent, and north of the former Ford Dealership is the fully operational Albany Body Shop. Three other businesses exist within one block of Albany Ford which contain underground and/or above ground fuel tanks. It is not known whether these operations affect site conditions at Albany Ford.

The site is located within the East Bay Plain in the north-central portion of the Berkeley Alluvial Plain (Hickenbottom and Muir, 1988). The active Hayward Fault is situated approximately two miles east of the site. Helley, et al (1979), mapped the site area as older Quaternary age alluvium deposits composed of a heterogeneous mixture of poorly consolidated to unconsolidated clay, silt, sand, and gravel. Boring logs from sites within a one-half mile radius of the site suggest a soil profile primarily of silty to gravelly clay and silt, interbedded with continuous and discontinuous layers of clayey to sandy gravel and clayey sand. The nearest stream, El Cerrito Creek, is located two blocks to the north of the site. El Cerrito Creek flows west-northwest toward the San Francisco Bay, located within one mile and directly west of the site. The local topography slopes gently downward to the north, toward El Cerrito Creek. The north-south trending Albany Hill, located four blocks west of the site, is the nearest topographic high in the vicinity of the site, separates the site from the San Francisco Bay. Groundwater monitoring records from wells located at 501 San Pablo Avenue 400 San Pablo Avenue in Albany (1-2 blocks north of the site, respectively, indicate a groundwater gradient which flows in a northerly direction toward El Cerrito Creek.

2.2 Previous Sampling Results

Two 300-gallon waste oil tanks, two 300-gallon coolant tanks, and one 550-gallon waste oil tank (formerly an unleaded gasoline tank) were removed by Subsurface Environmental Corporation of El Cerrito, California on April 6, 1993. All five tanks were corroded, had numerous holes, and were leaking. Contamination was discovered in the soil beneath all five tanks removed. High concentrations of oil and grease, diesel and gasoline was detected beneath Tank D, Tank C, and Tank B (Figure 2).

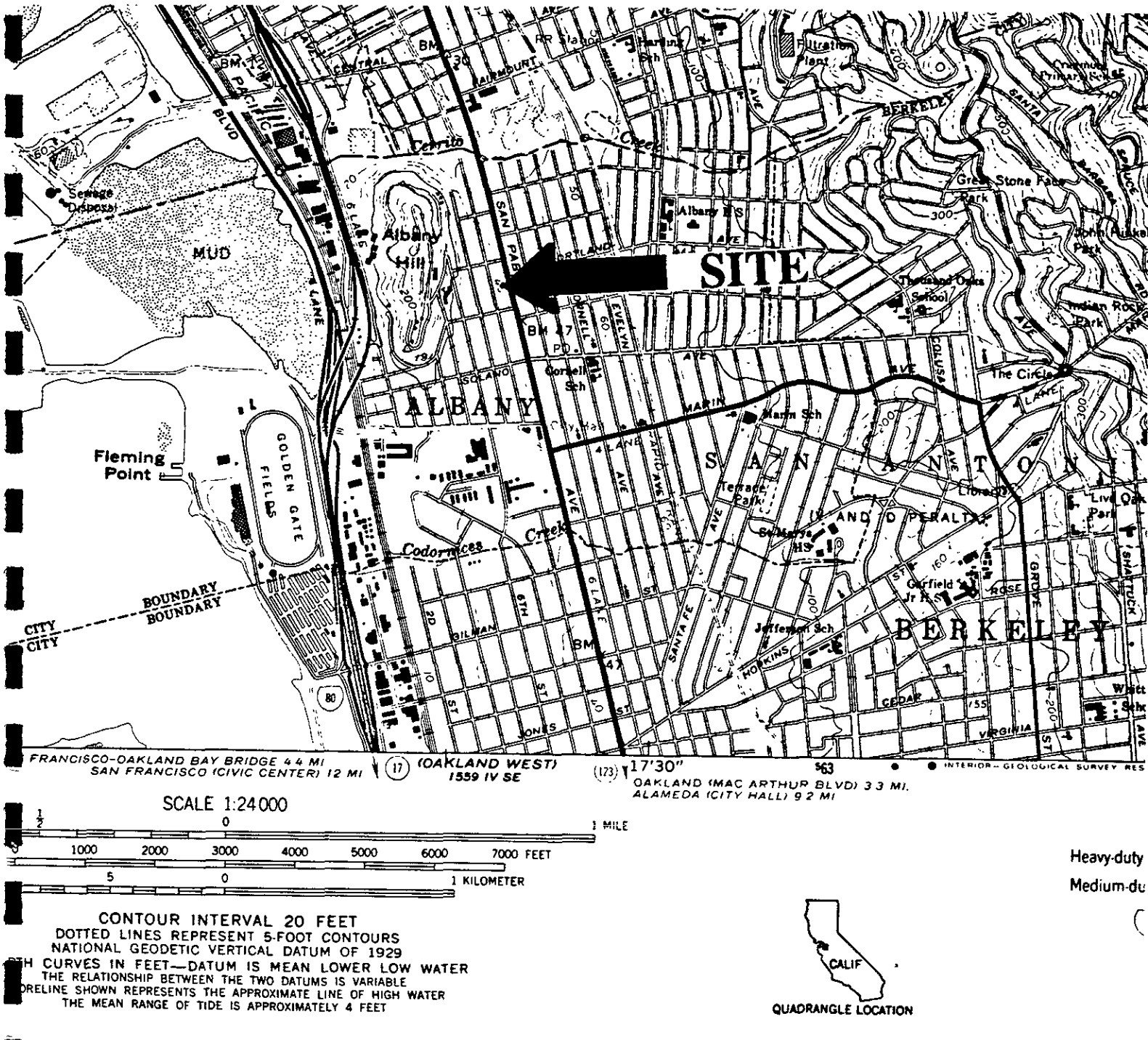

Figure 1 - Site Location

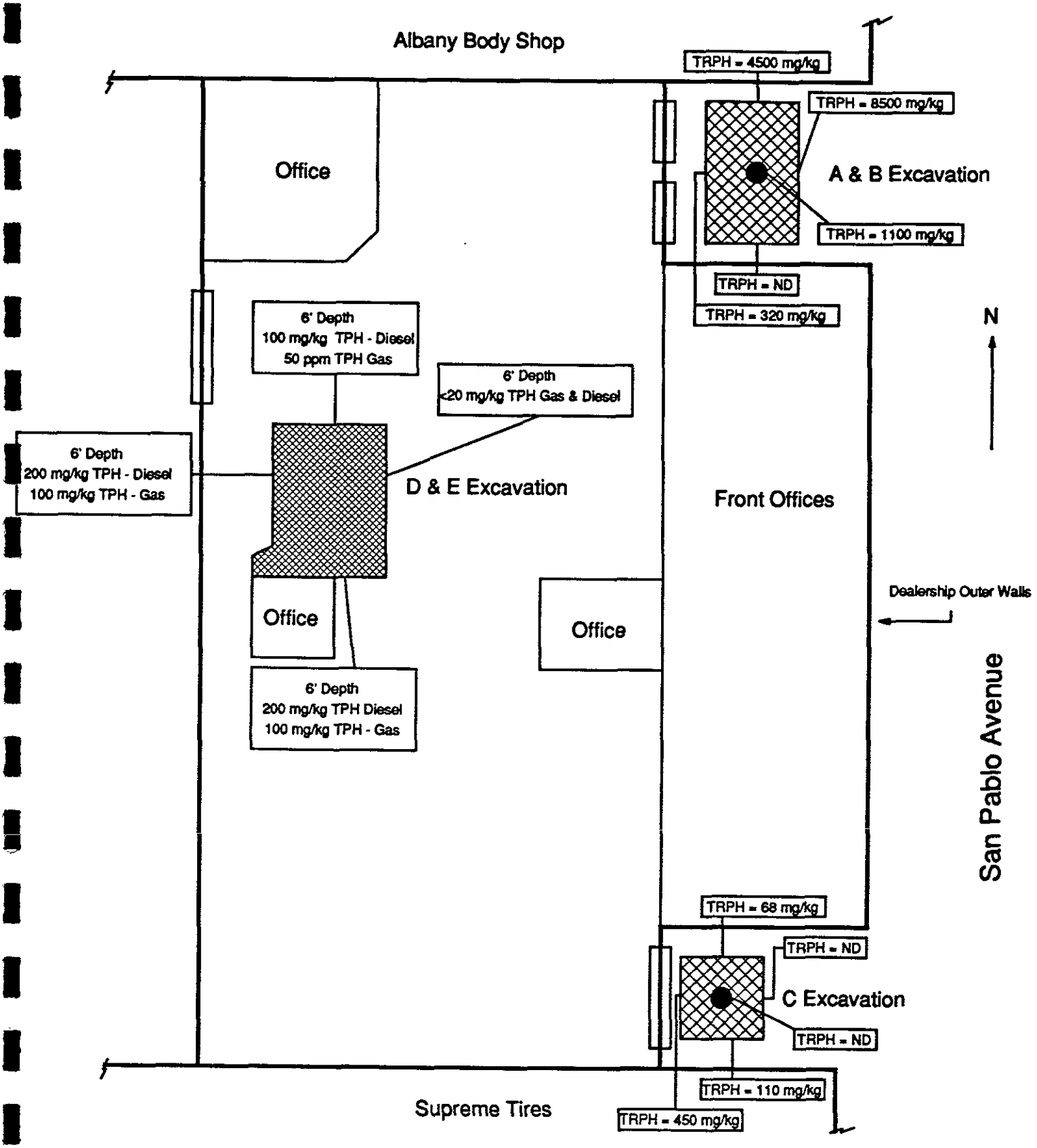

Figure 2 - Soil Excavation Results

Analytical results indicate that Tank A and Tank E have the least amount of detected contamination. Over-excavation and sampling of all tank pits was performed by Subsurface Environmental Corporation July 7-29, 1993. Initial sampling results are summarized below:

Tank Pit A: Analytical results indicated Tank Pit A may be considered closed and may be resurfaced whenever possible. This was confirmed by the Alameda County Department of Health.

Tank Pit B: Heavy contamination was detected on the east, west, and north sidewalls of Tank Pit B. The north sidewall of Tank Pit B borders the northern building wall, and the northern property boundary. Further over-excavation will not occur because of the nearby presence of load-bearing walls. Soil samples will be obtained from borings drilled around this pit to determine the extent of the soil contamination.

Tank Pit C: Contamination was detected on the north, west, and south sidewalls of Tank Pit C. The south sidewall, however, borders the southern property boundary. Further over-excavation will not occur because of the nearby presence of load-bearing walls. Soil samples will be obtained from borings drilled around this pit to determine the extent of the soil contamination.

Tank Pit D: Contamination was detected on all sidewalls and at the base of excavation. Over-excavation and removal of soil was required. Excavation was terminated when field results indicated that no significant progress was being made and that load-bearing walls would require shoring.

Tank Pit E: Contamination was detected on all sidewalls and at the base of excavation. Over-excavation and removal of soil is required. Excavation was terminated when field results indicated that no significant progress was being made and that load-bearing walls would require shoring.

A complete summary of the data, including laboratory reports, will be provided in the Tank Removal Report to be supplied by Subsurface Environmental.

3.0 MONITORING AND SAMPLING

3.1 Rationale For Monitoring Well Installation

ICF Kaiser Engineers proposes to install a minimum of three groundwater monitoring wells at Albany Ford and Subaru. Rationale for Phase I groundwater monitoring will be to accurately determine the local groundwater gradient beneath the site and to determine the apparent extent of groundwater contamination beneath the site. Initial rounds of sampling will also be used to determine geochemical parameters for vadose zone bioremediation and treatment, to be implemented in Phase II remedial activities.

The nearest stream, El Cerrito Creek, is located two blocks to the north of the site. El Cerrito Creek flows west-northwest toward the San Francisco Bay, located within one mile and directly west of the site. The north-south trending Albany Hill, located four blocks west of the site, is the nearest topographic high in the vicinity of the site, and separates the site from the San Francisco Bay. The local topography slopes gently downward and away from Albany Hill and toward El Cerrito Creek. Based on groundwater information in the vicinity of the site, and upon the local topography, the groundwater gradient has been inferred by ICF Kaiser Engineers to be flowing in a northerly direction, toward El Cerrito Creek. One of the monitoring wells will be installed within 10 feet of the inferred downgradient direction, or to the north from a tank excavation where initial analytical results displayed detected soils contamination. The downgradient monitoring well will be located in the vicinity of tank excavation "DE."

One monitoring well will be in the projected upgradient direction (north of tank excavation D & E), one is proposed in the southeastern corner of the property, on the sidewalk. The remaining monitoring well will be proposed in the vicinity of one of the remaining tank excavations, located at the northeast corner of the property.

If ICF Kaiser Engineers's inference regarding the groundwater gradient is correct, the proposed downgradient monitoring well will be utilized for groundwater sample collection. In the event that the groundwater gradient is other than indicated based on available information, an additional groundwater monitoring well will be installed within 10 feet from one of the former tank locations, as per Alameda County requirements.

3.2 Monitoring Well Installation and Construction

The services of a qualified drilling subcontractor are required for the installation of all monitoring wells at the Albany Ford site. Proposed well locations are shown on Figure 3. Monitoring wells will be constructed of 4-inch diameter Schedule 40 polyvinyl chloride (PVC) flush-threaded casing. Well screen will consist of 10 feet of flush-threaded 4-inch diameter, 20 slot for all wells (Actual slot size will be determined by sieve analysis in the field). The borings will be drilled with a hollow stem auger with an outer diameter of 12 inches. The monitoring wells will be constructed in compliance with Alameda County and State of California regulations and will be installed under the supervision of a geologist registered in the State of California. All wells will be screened in the shallow groundwater, or perched water-bearing zone if encountered. The screened interval will extend approximately 5-feet above the top of the water-bearing zone. The sand pack will be completed approximately 3-feet above the top of the screen. A two-foot seal consisting of bentonite chips will be placed above the sand pack and hydrated in place by the driller. Cement-bentonite grout mixture will be used to seal the monitoring well casing and will extend from the bentonite seal to approximately one foot below ground surface. A flush-mounted, traffic rated Cristy box will be concreted to surface above the well casing. A 6-inch locking cap and padlock will be used to protect the well and prevent vandalism. General designs for the wells are shown on Figure 4.

All wells will be drilled using a hollow stem auger. A 2.5-inch diameter California-modified split spoon sampler, with 6-inch brass or stainless steel sleeves will be driven ahead of the auger to collect lithologic and analytical samples. The number of blow counts will be recorded in the lithologic logs. Samples will be collected at a depth of 4-5 feet below ground surface, and at succeeding five foot intervals until termination. Soil cuttings will be placed on clean viscuene, lithologically logged according to the Unified Soil Classification System, and stored on-site until proper disposal can be determined. Each monitoring well will be developed using a 4-inch surge block until the physical properties of pH, electrical conductivity, and temperature have stabilized, to where readings do not vary by more than 10% of each other, and a turbidity measurement of less than five Nephelometric Turbidity Units (NTUs) has been attained.

The driller will be responsible for decontaminating the auger flights, and split spoons by steam cleaning before use at each drilling location. Decontamination of split spoon samplers and liners will consist of washing in a non-phosphate, Liquinox wash and scrubbing all loose dirt off of the samplers with a stiff bristled brush. This will be followed by a tap-water rinse and lastly by a distilled water rinse. Samplers and liners will be allowed to air dry prior to use. All decontamination water will be contained in drums and temporarily stored on-site until analyses determines proper disposal.

3.3 Groundwater Sampling

Groundwater monitoring wells will be sampled one week after development and then each well that demonstrated groundwater contamination will be sampled on a quarterly basis, as per Alameda County requirements. Prior to purging and sampling of any well in which analytical samples will be collected, free product and groundwater levels from all wells will be measured to within 0.01 inch and recorded in a field log. The volume of water present in each well will then be calculated and recorded in the field log. Groundwater levels will be measured in all wells, regardless of analytical results every month for three months and then quarterly.

In order to obtain a groundwater sample representative of aquifer conditions, stagnant water will be purged from each well by pumping a minimum of 3, and a maximum of 5 well volumes from each well. All purge water will be stored on-site until sampling analyses determines proper disposal. Groundwater sampling will not commence until the physical properties of pH, electrical conductivity, and temperature have stabilized, to where readings do not vary by more than 10% of each other. Physical parameters will be measured following the removal of each successive well volume and recorded in the field log book.

Free product will be collected using a transparent bailer. Groundwater samples will be collected using a decontaminated 2-inch Teflon bailer. Sample material will be emptied directly into the sample containers, which will then be immediately placed in a cooler or ice chest. Sample for the analysis of volatile organic compounds (VOCs) will be preserved with 2-4 drops of hydrochloric acid prior to sampling. Samples for metals analysis will be filtered in the field and preserved by adding nitric acid to lower the pH to < 2 following sample collection. All groundwater samples will be preserved using either blue ice or double-bagged ice. Loose ice will not be utilized. Samples will be kept on ice until they are delivered to the laboratory, within 48 hours of collection. Samples will be accompanied by a Chain-of-Custody form, signed by the sampler upon relinquishing the samples to the laboratory or overnight carrier.

3.4 Rationale For Analyses

Soil samples will be collected at five foot intervals during monitoring well installation. Both soil and groundwater samples will be analyzed to determine the extent of contamination beneath the site and to determine geochemical parameters for vadose zone bioremediation. The extent of contamination caused by the leaking USTs will be determined by sampling the soil and groundwater for Total Petroleum Hydrocarbons as diesel and gasoline (TPH-D and TPH-G) by EPA method 8015 modified per LUFT;

Benzene, Toluene, Ethyl-benzene,and Xylene (BTEX) by EPA method 8020; Chlorinated Volatile Organic Compounds (VOCs) by EPA method 8240, and for metals by EPA methods 6010/7000. In addition, the dissolved oxygen of the water will be analyzed in the field. Geochemical properties will be analyzed for the purposes of conducting possible vadose zone bioremediation during Phase II of remedial activities at Albany Ford. Indigenous soil bacterial content, soil pH, TPH greater than Carbon 20, oxygen uptake rate, and oxygen content in soil will all be analyzed by appropriate methods to determine the limitations of the native soil to perform bioremediation. In-situ bioremediation is being proposed because the neighboring structures limit the amount of soil which may removed at the northeast and southeast corners of the property.

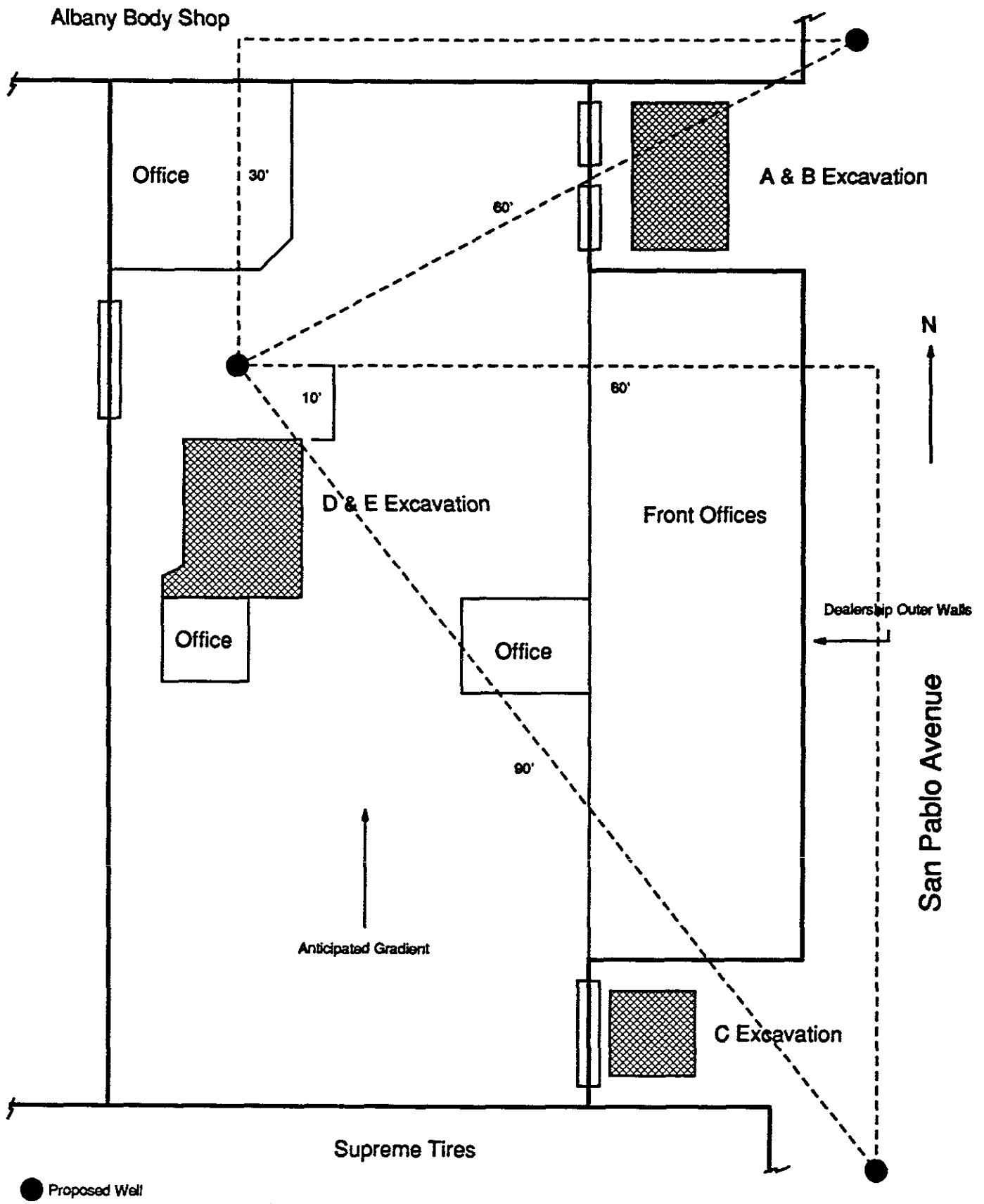

Figure 3 - Proposed Well Locations

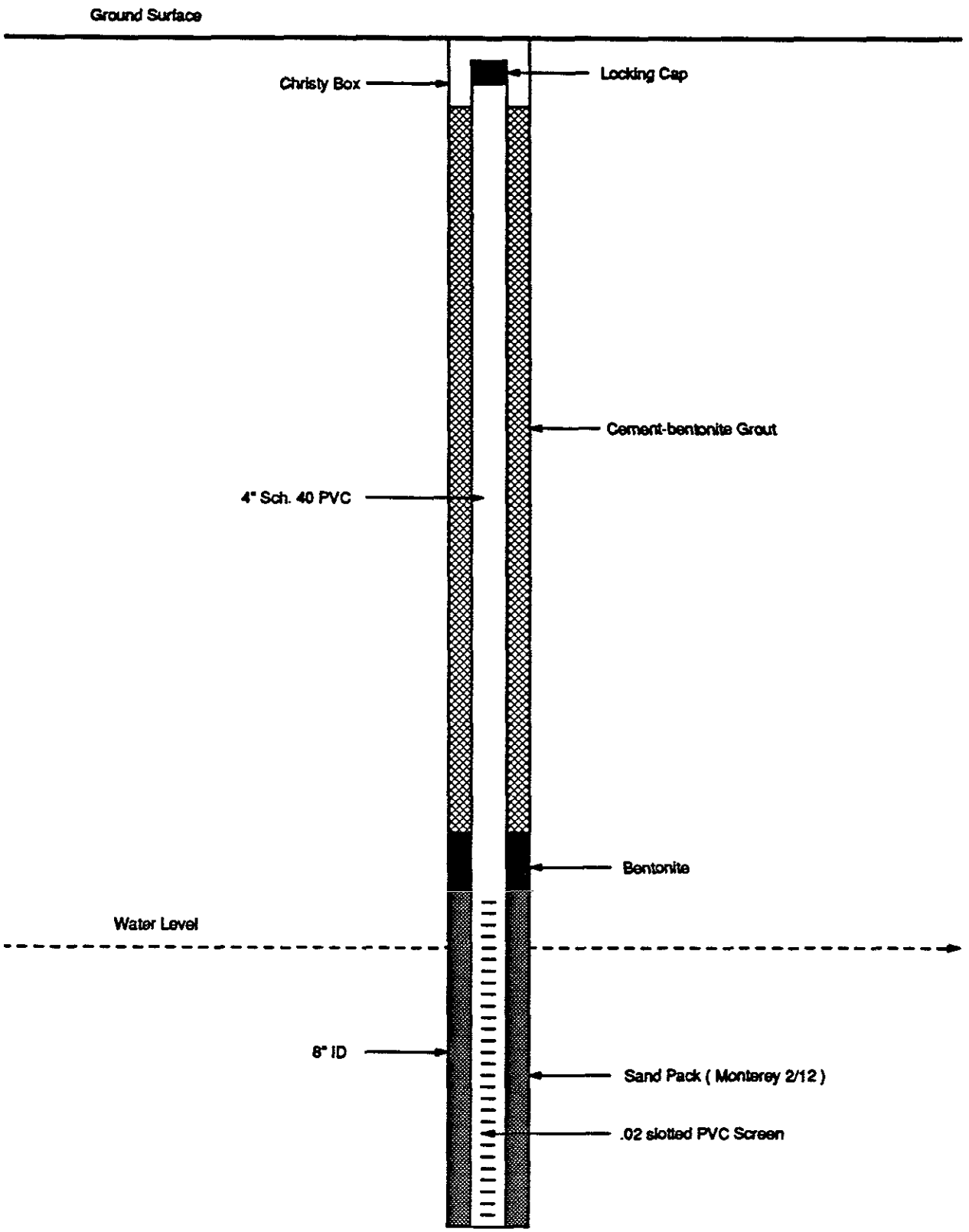

Figure 4 - General Well Construction Diagram

3.5 Rationale For Soil Borings

ICF Kaiser Engineers proposes to drill soil borings around each tank excavation at Albany Ford and Subaru to determine the lateral and vertical extent of contamination. Borings will be drilled 10 feet out from each excavation sidewall to a depth of 15 feet or until groundwater is contacted. Borings will continue 10' outward from the previous boring until non-detects are encountered. Samples will be collected at depths of 5' and 15'.

3.6 Rationale for Analyses

Soil samples will be collected at the 5' and 15'. Soil samples will be analyzed to determine the extent of contamination for vadose zone bioremediation. The extent of contamination caused by the leaking USTs will be determined by sampling for Total Petroleum Hydrocarbons as diesel and gasoline (TPH-D and TPH-G) by EPA 8015 modified; Benzene, Toluene, Ethyl-benzene,and Xylene (BTEX) by EPA method 8020; and Chlorinated Volatile Organic Compounds (VOCs). An on-site laboratory will be used for the borings to allow for instant determination of sampling extent. Because a mobile laboratory equipped for method 8240 is not available, analytical methods utilizing gas chromatography/mass spectrometry will not be used for the VOCs. ICF Kaiser Engineers proposes that EPA method 8010 be used rather than method 8240.