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GEOMATRIX

February 19, 2003
Project 8367.001

Alameda County
FEB 20 2003
Environmental Health

Ms. Donna Drogos, P.E.
Supervising Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: Work Plan – Proposed Environmental Activities and Management Strategies
1249 67th Street
Emeryville, California

Dear Ms. Drogos:

Geomatrix Consultants, Inc. (Geomatrix), has prepared this work plan on behalf of Pulte Home Corporation (Pulte) to characterize environmental conditions and develop management strategies at the 1249 67th Street site (the site; Figure 1) in Emeryville, California. Pulte is considering redeveloping the site into high-density multi-family residential housing. The primary objective of the proposed work presented herein is to collect additional soil and groundwater data to support a site-specific human health risk assessment and, if necessary, a site management plan (SMP) to manage residual chemicals at the site. This work plan has been developed based on preliminary discussions of the analytical results and proposed redevelopment plans between yourself and Geomatrix during a December 23, 2002 site visit. We understand that you will assign a case officer to oversee implementation of this work plan. This work plan presents site background, the proposed approach, scope of work and objectives, and an estimated schedule.

BACKGROUND

The site is currently occupied by the Fabco Automotive Corporation and has been used since 1918 to manufacture components for heavy-duty commercial trucks and vehicles. Geomatrix conducted a Phase I Environmental Site Assessment and a Phase II Soil and Grab Groundwater Investigation at the site[1]. Geomatrix discussed these results and the proposed redevelopment plans with you on December 23, 2002.

During the Phase II investigation, thirteen (13) soil samples were collected from seven locations and analyzed for total extractable petroleum hydrocarbons, including total petroleum hydrocarbons quantified as diesel (TPHd) and as motor oil (TPHmo), using U.S. Environmental Protection Agency (EPA) Method 8015M, arsenic and leaking underground (motor oil)

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[1] Final Phase I Environmental Site Assessment, November 2002 and Results of Phase II Soil and Grab Groundwater Investigation, January 8 and 9, 2003.

fuel tank (LUFT) metals[2] using EPA Method 6010B, and polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8270 selective ion monitoring (SIM). Grab groundwater samples were collected from nine locations and analyzed for volatile organic compounds (VOCs) using EPA Method 8260B.

Analytical results of soil samples were compared to the San Francisco Bay Area Regional Water Quality Control Board (RWQCB) Risk-Based Screening Levels (RBSLs) and naturally-occurring background concentrations from the Lawrence Berkeley National Laboratory (LBNL). Except for two samples, chemical concentrations in soil are lower than background levels and applicable screening criteria. The exceedances appear to be limited in extent. TPHd was detected in one soil sample at a concentration of 200 milligrams per kilogram (mg/kg) which slightly exceeds the residential surface soil RBSL of 100 ~~mg/kg where~~ also TCE groundwater is a current or potential source of drinking water. Benzo(a)pyrene was detected in one soil sample at a concentration of 0.19 mg/kg which slightly exceeds the residential surface soil RBSL of 0.038 mg/kg.

Analytical results of grab groundwater samples indicate that trichloroethene (TCE) is present in groundwater at concentrations up to 62 parts per billion (ppb). Cis- and trans-1,2-dichloroethene also were detected in shallow grab groundwater samples at concentrations up to 7.7 and 2.9 ppb, respectively. Results from the Phase II investigation indicate the presence of VOCs in shallow groundwater underlying the western portion of the site.

SCOPE OF WORK

Tasks to be conducted as part of this work plan include obtaining hydrogeologic information for the site and vicinity, executing a soil and groundwater sampling program, preparing a human health risk assessment (HHRA), and preparing a site management plan. Each of these tasks is described below.

Task 1: Collection of Site Hydrogeologic Information

Available hydrogeologic and chemical concentration information will be obtained from regulatory case files at the RWQCB, the City of Emeryville, and the Alameda County Health Service Agency Department of Environmental Health. This information will be used to develop a preliminary site conceptual model (SCM), which will serve as a tool to support additional site characterization approaches and risk assessment activities.

Task 2: Soil and Groundwater Sampling Program

Before implementing the field investigation, Geomatrix will notify Underground Services Alert (USA) at least two days before any planned drilling and coordinate with the property

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[2] LUFT metals include cadmium, chromium, lead, nickel, and zinc.

owner to gain access to the site and obtain records of buried utilities. Based on telephone conversations with the Alameda County Water Department and the Alameda County Department of Public Works, no permits are required to advance soil borings at the site.

Based on our review of Pulte's preliminary designs for the proposed multi-family residential housing complex, additional soil and grab groundwater samples will be collected to further assess site conditions. Preliminary plans indicate that some units will overlie areas of affected groundwater and some will be constructed with yards. The proposed sampling efforts will be conducted following building demolition and grading activities.

To support a site-specific HHRA, up to five grab groundwater will be collected from beneath the footprint of proposed housing units to further delineate the extent of VOCs in shallow groundwater. In addition, surface soil samples will be collected from up to eight locations where the proposed development includes yards and common areas (Figure 3).

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Soil borings will be advanced to a depth of between 10 and 15 feet bgs using a direct-push drill rig; the soil will be continuously cored using the Enviro-Core® sampling system. The Enviro-Core® is a dual-tube, direct-push sampling method that utilizes a small-diameter drive casing (2.6-inch outside diameter) to maintain borehole stability and limit the potential for cross-contamination of soil and groundwater samples. Continuous soil core will be collected with the Enviro-Core®'s inner sample barrel (1.6-inch inside diameter) as it is simultaneously driven with the small-diameter casing.

Soil samples will be retained from approximately 1 to 1.5 feet bgs for laboratory analysis. The soil samples will be collected in clean stainless steel liners that have been steam-cleaned or washed in a detergent-water solution and rinsed with deionized water prior to use. The liners will then be sealed with plastic end caps, Teflon® sheets, and silicone tape. Temporary well points will be installed at select boring locations using one-inch-diameter polyvinyl chloride (PVC) casing and factory-slotted screen. The casing will be retracted to allow groundwater to enter the borehole. The boreholes will be covered and sealed to allow groundwater to recharge overnight. Grab groundwater samples will be collected the following day by lowering a clean, new, disposable bailer through the casing. Groundwater samples will be decanted into 40-milliliter volatile organic analysis (VOA) vials.

gradient?

All soil and groundwater samples collected will be labeled and stored in an ice-cooled chest prior to being delivered to the analytical laboratory under Geomatrix chain-of-custody procedures. A lithologic description of each boring will be recorded on a boring log in accordance with the Unified Soil Classification System (USCS) as described in ASTM D2488-90. The description will include the USCS soil type, grain sizes and estimated percentages of each, moisture content, color according to the Munsell color charts

(Kollmorgen Instruments Corp.), plasticity for fine-grained materials, consistency, and other pertinent information.

Downhole drilling and sampling equipment will be steam-cleaned prior to use and between drilling locations. Sampling equipment will be steam-cleaned or washed using a laboratory-grade detergent and then rinsed using deionized water before each use. The soil borings will be destroyed in accordance with state and local requirements. Each soil boring will be filled with neat cement grout or cement-bentonite grout from total depth to ground surface using a tremie pipe.

All samples submitted for laboratory chemical analysis will be analyzed in accordance with approved methods by a California Department of Health Services-certified laboratory. Groundwater samples will be analyzed for VOCs using U.S. EPA Method 8260B. Soil samples will be analyzed for metals and PAHs using EPA Methods 6010 and 8270SIM, respectively.

Task 3: Human Health Risk Assessment

An HHRA will be prepared to evaluate potential human health risks associated with exposure to chemicals detected in soil and groundwater. The purpose of the HHRA is to document potential health risks to residents under future conditions and to provide a basis for risk management goals in the SMP. A report summarizing the results of the additional investigation and the HHRA will be prepared. The HHRA will address the four components of a risk assessment: data evaluation, exposure assessment, toxicity assessment, and risk characterization. The HHRA will include data summary tables, exposure assumption summary tables, and risk summary tables by chemical, media, and pathway.

Task 4: Site Management Plan

Geomatrix will prepare a SMP that documents existing environmental conditions, outlines planned development, and provides guidance for environmental management during and following development.

ESTIMATED SCHEDULE

The program presented above will be initiated upon written approval of this work plan by the County. The soil and groundwater sampling and analysis program will be completed within four weeks of approval to proceed, depending upon contractor availability. A report presenting the sampling results, the human health risk assessment, and the site management plan will be submitted to the County within six weeks of receipt of analytical results.

We appreciate your review of this work plan, and look forward to the County's written concurrence with the approach. Please call either of the undersigned if you have any questions or require additional information.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells
Elizabeth K. Wells, P.E.
Senior Engineer

Feldman
Lester Feldman
Principal Scientist and Vice President

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Attachments: Figure 1: Site Location Map
Figure 2: Grab Groundwater Analytical Results for VOCs and Proposed Sampling Locations

cc: Mr. Dennis O'Keefe, Pulte Homes
Mr. Dan Carroll, Pulte Homes

Base map from the U.S. Geological Survey, Oakland West Quadrangle, 7.5 minute series (topographic), 1959 (photo revised 1980).

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SITE LOCATION MAP
Fabco Automotive Corporation
1249 67th Street
Emeryville, California

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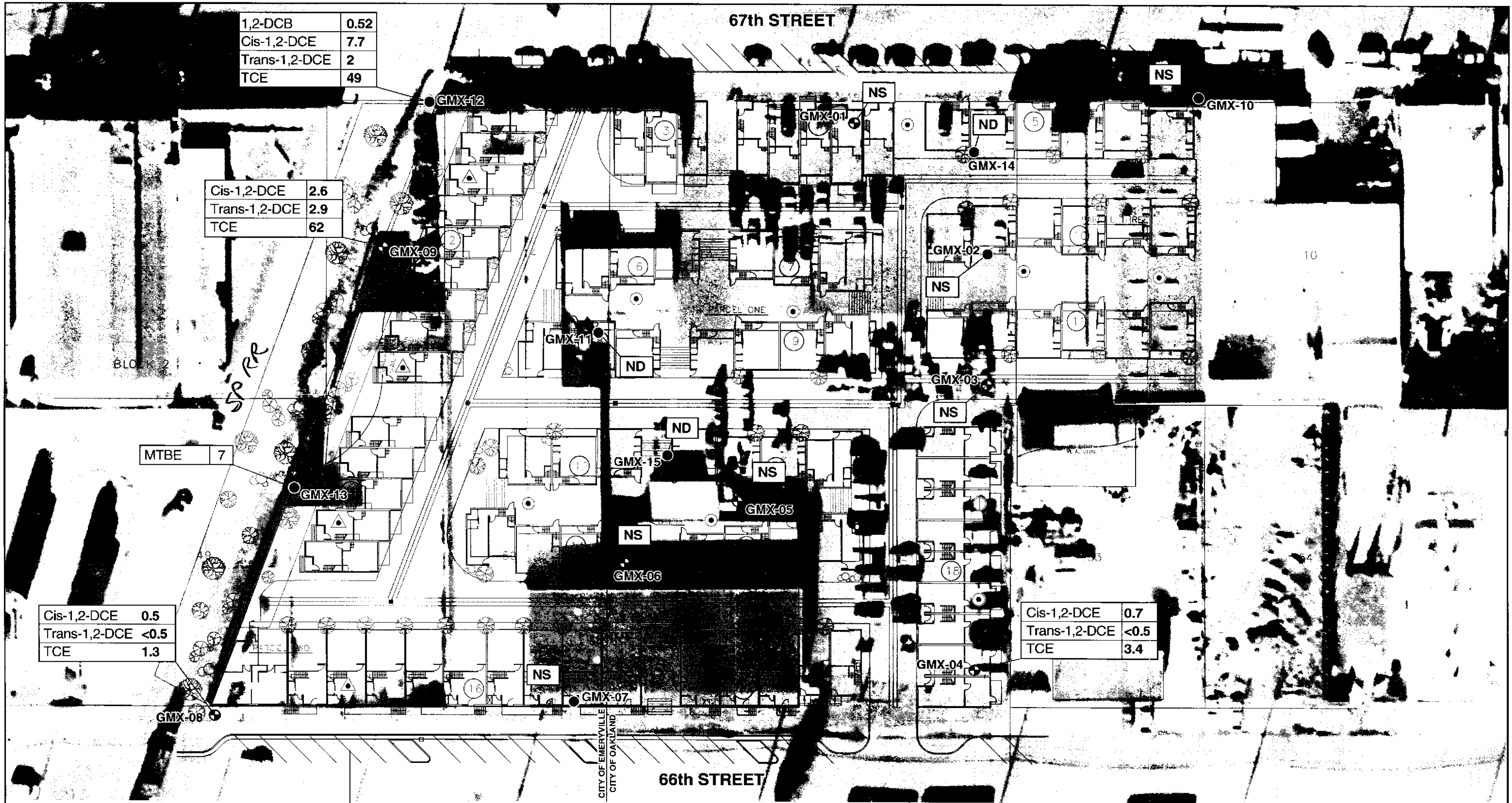

San Pablo Ave →

EXPLANATION

Notes:
1. Aerial potograph from Pacific Aerial Surveys; Proposed development plans from Pulte Home Corporation.
2. Grab groundwater analytical results in µg/L based on samples collected in November and December 2002.
3. Only detected VOC constituents are shown.

⊕	Soil and groundwater boring location
●	Boring location
VOCs	Volatile organic compounds analyzed using EPA Method 8260 B
Cis-1,2-DCE	Cis-1,2-Dichlorethene
Trans-1,2-DCE	Trans-1,2-Dichloroethene
TCE	Trichloroethene
NS	Not sampled; insufficient water in the temporary well point
ND	Not detected
⊕	Proposed soil and groundwater boring location
⊙	Proposed soil boring location
△	Proposed groundwater location

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(Dec. 1999)

GRAB GROUNDWATER ANALYTICAL RESULTS FOR VOCs AND PROPOSED SAMPLING LOCATIONS
1249 67th Street
Emeryville, California

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