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SCS ENGINEERS

February 13, 1990
File No. 313389

Mr. Verl Rothlisberger
733 Peralta
San Leandro, California 94577

Subject: Groundwater Assessment
342 - 105th Avenue
Oakland, California

Dear Mr. Rothlisberger:

SCS Engineers (SCS) are pleased to offer this proposal to conduct groundwater assessment work for Mr. Verl Rothlisberger at a site on 342 105th Avenue, Oakland, California. This proposal describes a phased program of well permitting; well drilling and completion; groundwater sampling and analysis; sampling and analysis; preparation of a report of findings, conclusions and recommendations.

SCOPE OF WORK

We understand that the site is currently a vacant parcel. Four tasks comprise a groundwater assessment as described in the paragraphs below.

Task One - Permitting, Test Boring, Wells and System Installation

Complete the permit application and obtain approval by Zone 7. As shown on Plate 1, a total of 3 borings/groundwater monitoring wells are proposed at this time. These wells will be drilled utilizing hollow-stem drilling methods by a state licensed drilling contractor under our supervision. These borings/wells are expected to be on the order 20 to 25 feet deep and will only penetrate the first ten feet groundwater-bearing strata. Soil samples will be acquired at five foot intervals or contamination sites in the zone above water for the purposes of preparing a detailed log of the soils encountered. Some selected soil samples will be retained for chemical testing. Other soil samples not tested at this time will be retained for possible future chemical testing. Flush-jointed, 4-inch PVC casing, graded sand pack, bentonite seal, surface monuments, and cement surface seals will be used.

In order to determine the approximate groundwater flow direction, the wellheads of each of the three wells will be surveyed for elevation above a known point such as a mean sea level benchmark in the area.

This number of wells is considered the minimum number needed to adequately characterize the extent of subsurface soil and groundwater contamination at this time. It is also possible that additional wells may be necessary if this current program reveals significant levels of contamination.

Task 2 - Well Development and Groundwater Sampling

All three wells will be pumped free of sediment to the maximum extent possible prior to sampling. We estimate at least 3-5 well volumes will be needed to purge the well to accomplish this. After the wells are purged, the water samples will be acquired, preserved and shipped to a state certified laboratory under chain of custody documentation. All equipment will be steam-cleaned between each well to assure sample cleanliness

Task 3 - Chemical Testing of Soil and Groundwater Samples

A maximum of 9 soil samples will be tested from the unsaturated soils above groundwater in the wells. A total of 3 water samples are proposed, one from each well. All samples will be tested by the EPA protocols for 8015 diesel, 8270/625 Priority Pollutants Hazardous Substanced List (PP/HSL) and 503E or 418.3 total oil and grease.

Task 4 - Preparation of Report of Findings, Conclusions and Recommendations for Possible Remedial Action

Once all of the field work and chemical testing is complete, a final report of this level of effort will be prepared by our staff. The report will include a summary of all activities conducted under this contract and the results of that work. Boring logs and well construction diagrams will be prepared for all borings/wells and will be signed. Chemical test results will be presented in tabular form where appropriate and the lab report forms will be provided to Verl Rothlisberger.

The implications of the results of the chemical testing and subsurface conditions encountered will be discussed in a conclusions section. Beyond the conclusions reached, recommendations will be made for future actions (or non-action) at the site.

Cost Proposal

Due to the nature of the work, it is difficult to determine the precise extent of our involvement, especially at the permit application state. In our cost estimate below, we have allowed $300 for permit fees. During site installation activities, there can be unexpected delays which can arise such as unexpected utility lines, concrete or other obstructions in the subsurface beyond our normal control. Our prices shown below therefore, are approximate but would not be exceeded if no delays, unusual field conditions or changes in the scope of our services are encountered.

	Activity Summary	SCS Labor	Contractor Materials	Total
Task #1	Prepare permit forms monitor plan to County, contractor coordination install wells/drill test borings, complete wells; analyzed soil and water samples; inspection fees	2049	3600	5649
Task #2	Develope well and take groundwater samples	1674	-	1674
Task #3	Sample analysis (Soil & Groundwater)	-	6628	6628
Task #4	Prepare Final Report and Results of Site Evaluation	1210	-	1210
		TOTAL ALL TASKS:		15,161

Project Schedule

From the time the permit application forms are started, our work will require only about three to four weeks including time for soil and water sample analyses from the chemical lab. Some delay is often experienced when approvals from the Water District are needed to begin field installation. In any case, we would expect to have the report completed within six weeks.

I trust this proposal is satisfactory and we urge you to contact this office if we can supply additional information or answer any questions. For convenience, we have prepared a contract document that we normally utilize in projects of this nature. A signed copy returned to us is sufficient notice to begin work.

Sincerely,

John P. Cummings, Ph.D., R.E.A., R.E.P.
Office Director
SCS Engineers

Kent A. Madenwald, P.E., R.E.A., R.E.P.
Project Manager
SCS Engineers

JPC/KAM/egh
Enclosure