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LUSH GEOSCIENCES

GEOLOGICAL AND ENVIRONMENTAL SERVICES

October 25, 1994
File No. 423-001

Alameda County Department of Environmental Health
Division of Hazardous Materials
1131 Harbor Bay Parkway
Alameda, Ca 94502

Attention: Juliet Shin

Subject: **REMEDIATION WORKPLAN**
Beck Roofing
21123 Meekland Ave.
Hayward, Ca.

Dear Ms. Shin

Recently the owners of the above referenced property advised us they are able to allocate limited funds toward remediation of the subject soil/groundwater contamination. For accounting reasons, the funds need to be expended before the end of this calendar year. Consequently, we have prepared this workplan to mitigate the maximum amount of soil contamination with the funds available. As a result, the scope of work described herein is not intended as complete remediation of the site, but as an initial phase of a staged project.

Background

As you are aware, an underground fuel tank was removed from the subject property circa 1991. Evidence of a fuel leak was noted when the tank was removed, and two to three hundred cubic yards of contaminated soil were also excavated from beneath and adjacent to the tank. The excavation was extended to a reported depth of 17 feet.

Subsequent investigations, performed by other consultants, indicates the groundwater, at a depth of approximately 28 feet below the surface, has been impacted. The plume appears to be contained within the property boundaries and extends 60-80 feet downgradient (to the southwest). Soil contamination was also noted in the capillary fringe, 2-3 feet above the groundwater contamination plume. Vadose soil contamination has not been clearly defined but

appears to extend at least 20-25 feet laterally beyond the former tank location. Soil underlying the former tank location (below 17 feet) contains gasoline at concentrations of approximately 500 parts per million.

Objective

As discussed above, the objective of this remedial action is to remove as much of the remaining contaminated soil as possible with the available funds. Because the budget is not adequate to excavate all of the contaminated soil, this action will be focused on removing that soil with the highest level of contamination.

Proposed Scope of Work

To accomplish the stated objective, Remedial Constructors Inc. (RCI) from Modesto California, has been contracted to excavate an area encompassing approximately 2000 square feet, to a depth of 30 feet. The excavation will be roughly centered over the former tank location.

Overlying uncontaminated soil (to a depth of approximately 15 feet), and grout backfill used in the original excavation will be removed first and stockpiled for later use as backfill. Deeper contaminated soil (below 15 feet) will then be excavated and stockpiled separately for future treatment. The contaminated soil will be stockpiled on, and covered with polyethylene sheeting. The underlying sheeting shall be supported along the perimeter with hay bales or similar material to create a "basin". The overlying sheeting will be sufficiently anchored to the bottom sheeting so as to provide positive drainage off the stockpile, and restrict the emission of volatile organic compounds to the atmosphere.

When the excavation has been completed to its full depth, clean granular rock will be imported to backfill the bottom. The uncontaminated stockpiled soil will then be re-compacted in the excavation and the area returned to its original grade.

Disposition of contaminated Soil

All of the contaminated soil that is removed will be stored on and covered with polyethylene sheeting. As weather permits the soil be aerated to volatilize petroleum contaminants. Prior to aerating, a permit will be obtained from the Bay Area Air Quality Management District and the soil will be treated in accordance with the conditions contained therein. Final disposition of the soil will be determined after contaminant concentrations have attenuated to non-detectable levels.

Confirmation Soil Sampling

Prior to backfilling the excavation, confirmation soil samples will be collected from the sidewall at representative locations immediately above the groundwater level and at other locations on the sidewall as deemed appropriate. The samples will be collected driving 2-inch diameter brass tubes into the sidewall with an AMS slide hammer. Where the sidewall cannot be accessed with the slide hammer, the excavator will remove soil from the specified location and the sample will be taken from the soil in the excavator bucket.

The samples will be immediately retrieved from the sampler in their brass liners, covered with teflon tape, capped, sealed with duct tape, labeled, and placed in refrigerated storage. They will then be submitted to a State of California certified laboratory to be analyzed for total petroleum hydrocarbons, as gasoline (modified EPA method 8015/5330), and benzene, toluene, ethylbenzene, and xylenes (EPA method 8020).

Health and Safety Protocol

The existing chain link fence on the perimeter of the boundary shall be designated as the boundary of an exclusion zone. All unauthorized personnel shall be prohibited from entering the exclusion zone while construction is in progress. Those personnel involved with the remedial activities within the exclusion zone shall be required to have received safety training in accordance with 29 CFR 1910.120, and shall posses and be certified to wear, at a minimum, a half-face air purifying respirator.

Regular air monitoring, at minimum intervals of one-half hour, shall be conducted while construction is in progress. Air monitoring shall be conducted in the breathing zone of construction personnel and at specified locations at the perimeter of the exclusion zone. A photoionizing hydrocarbon vapor meter (PID), equipped with a 10.2 ev bulb, calibrated daily to isobutylene, shall be utilized for the air monitoring. In addition, wind conditions shall be noted during air monitoring.

If continuous readings exceeding 10 ppm are recorded in the breathing zone of construction personnel, those effected will be required to wear the half-face air purifying respirator. If continuous readings exceeding 50 ppm are recorded in the breathing zone or any of the perimeter monitoring locations, excavating will be terminated, or otherwise modified to eliminate the emissions.

Report Preparation

After the remedial construction is complete, we will issue a written report describing the work completed, depicting graphically the extent of the completed excavation, and summarizing the analytic data.

Schedule

We anticipate that the remedial construction could commence within one week of approval of this workplan. The work is then expected to be complete within 10 days. After completion, 2-4 weeks are required to prepare and issue the written report.

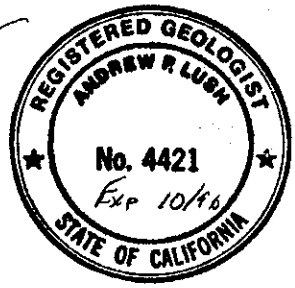
Due to the oncoming winter season, it is imperative that the work begin as soon as possible. Consequently, if additional information is required, or we may otherwise assist in expediting review of this workplan, please do not hesitate to call.

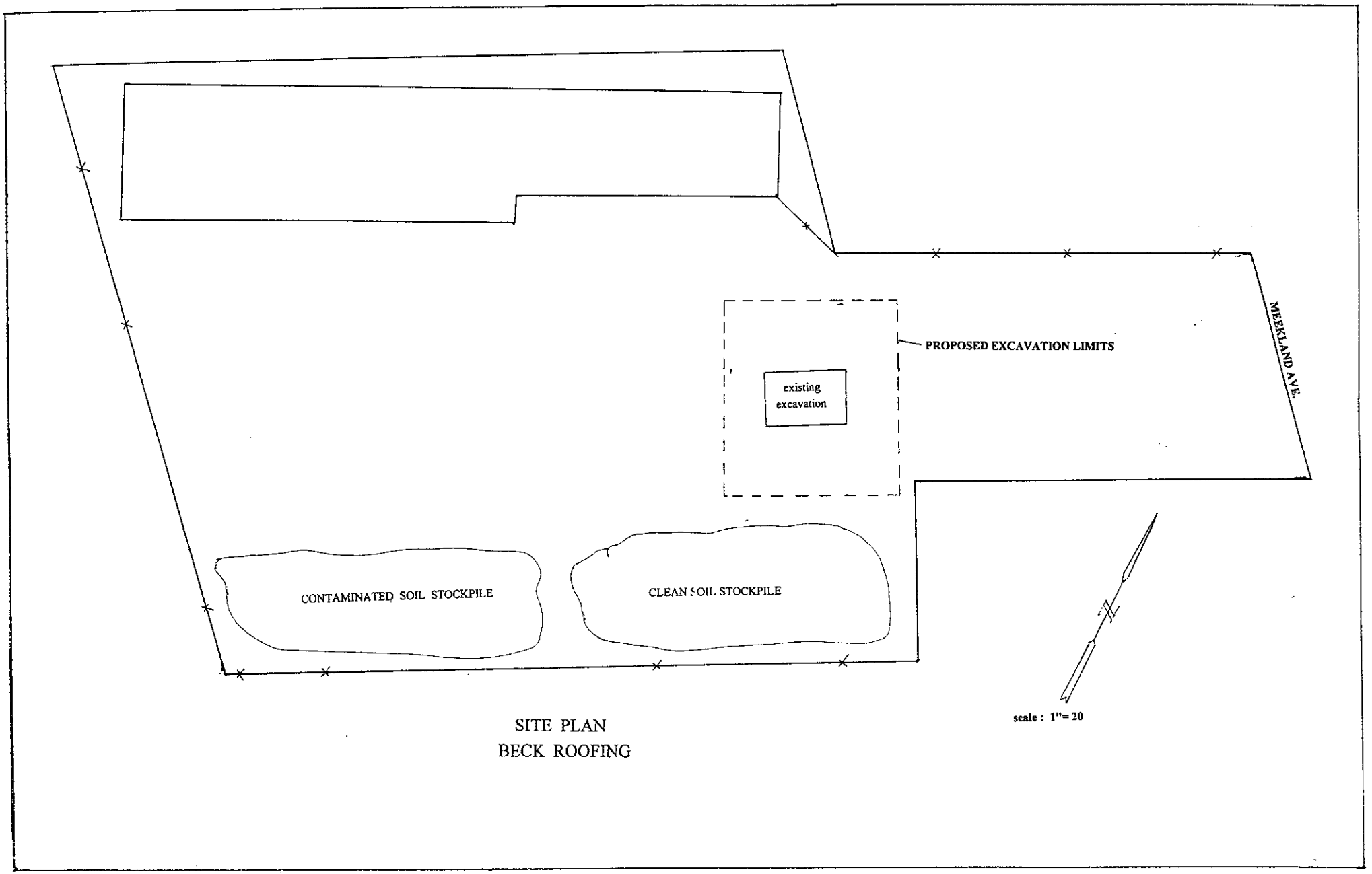
Sincerely,

LUSH GEOSCIENCES

F. William Welter
Project Manager

Andrew Lush
President
RG 4421





SITE PLAN
BECK ROOFING