May 30, 2017

Attn: Paresh Khatri
Alameda County Healthcare Services Agency
Local Oversight Program
1131 Harbor Bay Parkway
Oakland, CA 94502-65677

Work Plan for Subsurface Investigation
2330 Webster and 2315 Valdez Streets, Oakland, CA 94612

Introduction

RGA/Terracon has prepared the Work Plan presented herein for Thompson | Dorfman Partners, LLC (the Client), which is proposing to redevelop the parcels addressed as 2330 Webster Street and 2315 Valdez Street, Oakland, CA (Site). The purpose of the Work Plan is to supplement subsurface hazardous substance data previously obtained at the Site by others, and to determine whether soil gas contamination exists in the zone beneath the proposed basement floor of the planned structure.

Site Description

The subject property is currently developed with an asphalt-paved surface parking lot, and is situated on the block bounded by 24th Street to the north, Valdez Street to the east, 23rd Street to the south and Webster Street to the west. The Alameda County Assessor parcel numbers for the Site are 08-0668-04 and 08-0668-009-07, covering a total area of approximately 62,870 square feet (1.44 acres).

Subsurface Conditions

According to boring logs recorded during a 2010 subsurface investigation by Ninyo & Moore, Oakland, California, there is approximately two feet of fill material at the surface underlain by an eight to 11 foot layer of alluvial sandy silt. Beneath the sandy silt, there is a 4-8 foot thick clay layer, which likely is a semi-confining aquitard, since static groundwater level conforms with the base of the clay layer on the boring logs. Below the clay, there are variable-thickness layers of clayey sand and sandy silt to 25' below ground surface, which was the end depth of the three deepest 2010 borings

Groundwater was encountered at approximately 18 feet below ground surface in two of the borings and at 23' below ground surface in the third bore. Based on regional hydrogeologic data, groundwater flow is generally towards the southeast (Lake Merritt).

RGA/Terracon was provided with architectural drawings for the proposed structural foundation and elevator infrastructure work at the Site, and it appears that the foundation and elevator excavation depths will not exceed 15 feet below ground surface.

Proposed Investigation Overview

The goal of this Work Plan is to build upon the information obtained from the March 2010 Phase 2 Environmental Site Assessment conducted by Ninyo & Moore, and specifically to determine whether there is residual petroleum hydrocarbon contamination in the soil or groundwater adjacent to a pre-1950 service station that occupied the corner of 23rd and Webster Streets, where no known borings have previously been advanced, and to confirm the data from three borings near the center of the parcel completed during the 2010 investigation. RGA/Terracon proposes the advancement of two borings in the portion of the parking lot adjacent to the previous service station (326 23rd Street) and two borings near the center of parcel, downgradient from a previous UST site and a previous solvent storage building identified by others. The borings at the southwest quadrant of the Site and adjacent to the former UST site will be sampled for petroleum hydrocarbons, LUFT metals and TO-15 soil gases and the boring adjacent to the former solvent storage structure will be sampled for volatile organic compounds and TO-15 soil gases. Proposed locations, depths and analyses for the sampling are depicted on the attached Subsurface Investigation Plan.

Field Activities

Drilling operations will be subcontracted to Gregg Drilling Inc., Martinez, California, a C-57 licensed operator. All borings will be drilled with a direct push technology (DPT) apparatus, utilizing a truck-mounted hydraulic system to advance the 2" diameter drill stem and penetration point to the desired sample depth. All drilling equipment and sampling tools will be decontaminated prior to the field operations and before each subsequent borehole. Prior to initiation of the drilling field work, Underground Service Alert (USA) will be contacted for location of underground utilities in the public rights-of-way (Webster Street and Valdez Street) abutting the parking lot. Each boring will be hand-augered to a depth of 5' below ground surface by the driller as a back-up protocol to detect utility pipelines, conduits or vaults prior to drilling with the mechanized equipment.

Soil Sampling

Soil samples will be obtained from depths of 10', 15' and 24' to characterize the zone to the projected structural excavation depth and an additional zone extending 10' below the basement floor. For soil sampling, a four-foot long Geoprobe® sampler tube with a clear acrylic liner will be advanced into undisturbed soil. When the sample tube is retrieved, a six-inch section of the liner will be cut out from the desired depth and the ends will be sealed with Teflon® sheeting squares and plastic caps. Prior to sampling, the soil characteristics of the entire length of the sampler will be logged by a Professional Geologist in the employ of RGA/Terracon. After the sample is sealed and labeled, it will be placed into an ice chest maintained at an approximate temperature of 4°C for transport to the analytical laboratory. Sample information, including the identification number, location, depth, sample container, time of sampling, and requested analyses, will be entered on a Chain-of-Custody form as each sample is collected.

Groundwater Sampling

One groundwater sample will be obtained from each bore by driving a four-foot long Geoprobe® sampler with an inner stainless steel screened tube to a depth of 24', then retracting the outer drill stem to expose a 41" long sampling interval. The water sample will be retrieved with a single-valve PVC hand bailer or a mechanical bladder pump and disposable plastic tubing, depending on recharge rates and depth. The sample will then be decanted into containers of appropriate type and volume for the proposed analyses. After the sample is sealed and labeled, it will be placed into an ice chest maintained at an approximate temperature of 4°C for transport to the analytical laboratory. Sample information, including the identification number, location, depth, sample container, time of sampling, and requested analyses, will be entered on a Chain-of-Custody form as each sample is collected.

Groundwater is anticipated to be encountered 18-23' feet below ground surface, based on the previous subsurface investigation.

Soil Vapor Sampling

Based on the anticipated depth of groundwater and the proposed basement floor elevation, soil vapor samples will be obtained from 15' below ground surface in proposed boreholes B-6, B-7 and B-9. Sampling will comply with the Department of Toxic Substances Control (DTSC) April 2012 "Advisory for Active Soil Gas Investigations" guidance. Soil gas will be collected into a one liter, stainless steel Summa® container and analyzed for Volatile Organic Compounds (EPA Method TO-15). Environmental Screening Levels promulgated by the Regional Water Quality Control Board and found in Summary Table E (Indoor Air and Soil Gas, Vapor Intrusion Concerns), and the Soil Gas, Residential Land Use column will be used for reference and comparison.

Analytical Methods

The Contaminants of Concern (COC) at the Site, based on the known history and the analytical data from the previous Phase 2 ESA subsurface investigation, are fuel-range petroleum hydrocarbons, LUFT metals, and volatile organic compounds (VOC). The following laboratory analytical methods will be employed to detect the likely COCs:

- Total Petroleum Hydrocarbons as gasoline, diesel and motor oil, soil/water: SW8015m
- LUFT Metals, soil: SW6020
- Volatile organic compounds (VOC), soil/water: SW8260B
- Volatile organic compounds (VOC), soil gas: EPA Method TO-15

All soil and groundwater samples from this investigation will be delivered in ice chests maintained at an approximate temperature of 4°C, with chain-of-custody protocol, to McCampbell Analytical, Inc., Pittsburg, California for analysis. Water samples will be maintained in laboratory-supplied, sealed and labeled containers appropriate for the type of analysis, and soil samples will be maintained in 6" lengths of acrylic sampling liners sealed with Teflon squares and plastic caps. McCampbell Analytical is fully accredited by the State of California (CDPH ELAP #1644) to perform the listed analyses. Silica gel cleanup will be requested for all petroleum hydrocarbon analyses, and filtering will be requested for metals analysis.

Data Evaluation and Reporting

RGA/Terracon will prepare and submit a Subsurface Investigation Report that will include a narrative summary of field activities, the analytical data, data evaluation and recommendations, a sample location map, and laboratory chain-of-custody documents. Results of the laboratory analysis will be requested for expedited (24-48 hour) turnaround time. The data will be tabulated in a matrix that presents the sample identification information vertically down the left side of the table, and the requested analyses horizontally across the top of the table. The intersecting square between each data column and row will contain the analytical results. In addition, selected analytical data, namely all elevated concentrations, will be graphically identified.

The San Francisco Bay Regional Water Quality Control Board 'Environmental Screening Limit' tables [San Francisco Regional Water Quality Control Board "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" (Interim Final – Rev. February 2013)] will be utilized to evaluate soil and groundwater contaminant concentrations for human health risks, and whether further subsurface investigation is warranted.

Schedule

Drilling operations can normally be scheduled within two to three weeks following approval or conditional approval of the Work Plan by Alameda County. As noted above, laboratory analysis results will be requested for expedited turnaround, which is one to two working days after the samples are delivered to the laboratory. Upon receipt of the laboratory results, RGA/Terracon will submit the Subsurface Investigation Report to the Client and Alameda County Healthcare Services Department within five working days

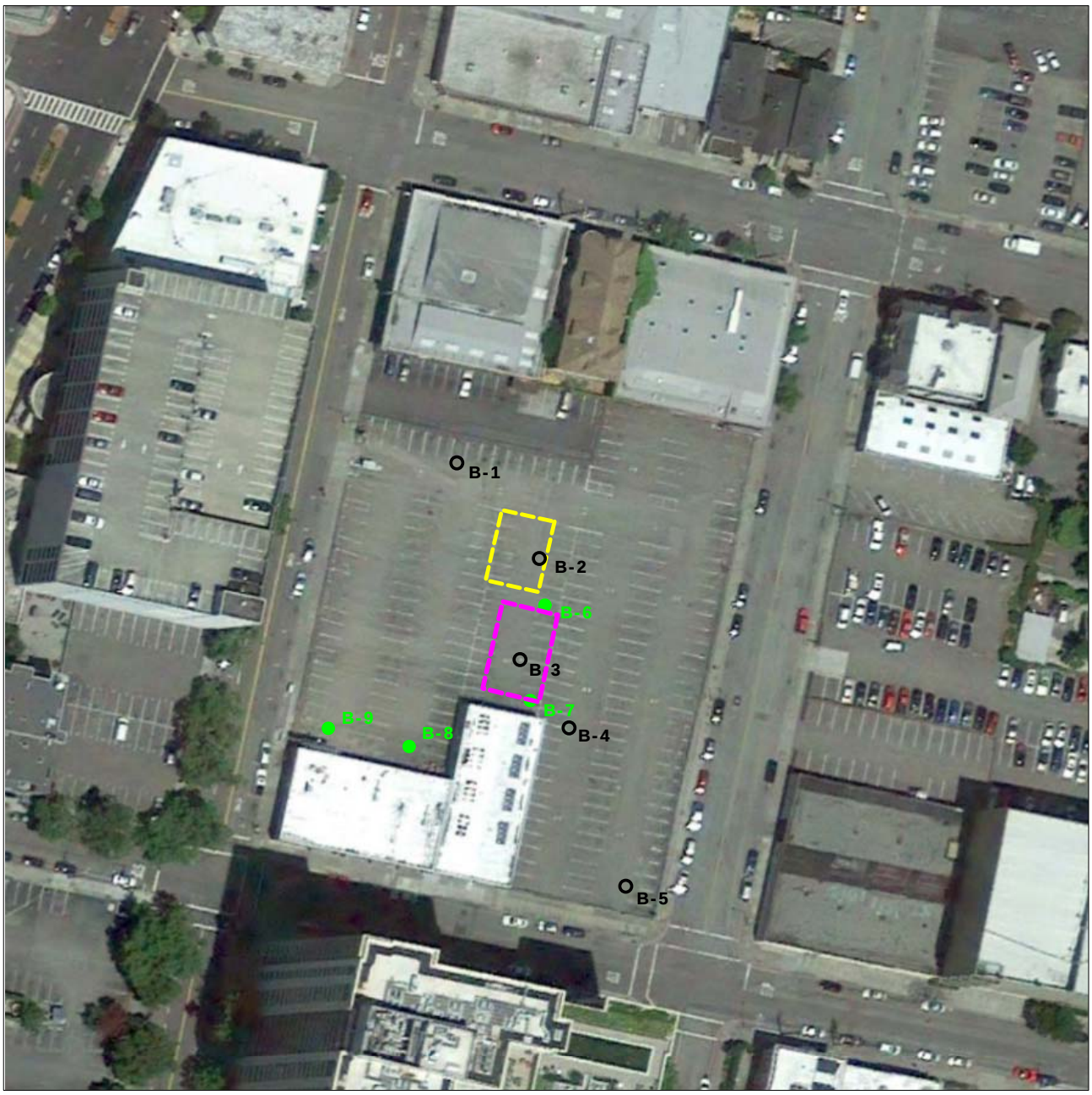
Thank you for your prompt consideration of this request. If you have any questions or need for additional information, please contact Cabe Silverhame at 415-407-5744 or cabe.silverhame@gmail.com.

Certification and Signature

I declare that the Subsurface Investigation Work Plan presented herein was prepared by me, and that I am currently certified as a Professional Geologist in the State of California.

Cabe Silverhame, PG 6201
Senior Geologist

Attachments:
Figure 1 – Subsurface Investigation Plan



LEGEND

= Former solvent storage

= Former UST location

= Proposed borehole location

= 2010 investigation borehole

SAMPLING PLAN

	BH-6	BH-7	BH-8	BH-9
-10 ft.(soil)			TPH, LUFT5	TPH, LUFT5
-15 ft.(soil)	TPH, BTEX, TO-15	VOC, TO-15		TPH, TO-15
-24 ft.(water)	TPH, BTEX	VOC	TPH	TPH

Terracon

SUBSURFACE INVESTIGATION PLAN

2330 Webster and 2315 Valdez Streets
Oakland, California 94612

PREPARED FOR: Thompson | Dorfman Partners, LLC
PROJ. MGR: Karin Schroeter **DATE: 5/30/2017**
DRAWN BY: ccs **PROJ. #: R1157291**