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By Alameda County Environmental Health 11:08 am, Jan 12, 2018

Mr. Mark Detterman
Alameda County Environmental Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California
ACEHD Case No. RO0000373, GeoTracker No. T0600102256

Dear Mr. Detterman:

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

Sincerely,
George and Frida Jaber 1989 Family Trust



Philip Jaber, Trustee

December 22, 2017
Project No. 2115-1436-01

Mr. Mark Detterman, P.G.
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Work Plan for Limited Subsurface Investigation**
Former Olympic Service Station
1436 Grant Avenue, San Lorenzo, California
LOP Case #RO0000373

Dear Mr. Detterman:

Stratus Environmental, Inc. (Stratus), on behalf of Mr. Philip Jaber and the George and Frida Jaber 1989 Family Trust, has prepared this *Work Plan for Limited Subsurface Investigation (Work Plan)* for the Former Olympic Service Station located at 1436 Grant Avenue in San Lorenzo, California (the site, see Figures 1 and 2). Alameda County Environmental Health Department (ACEHD) currently regulates an environmental case on the subject property relating to a historical release of motor vehicle fuel to the subsurface. On December 7, 2017, Stratus and ACEHD conducted a meeting to evaluate future work activities needed at the subject property to enable the agency to evaluate the environmental case for closure. At that time, ACEHD requested additional soil and soil vapor analytical data in the vicinity of a former fuel dispenser located in the northern portion of the property. To accommodate this request, Stratus is proposing to advance two soil borings (GP-10 and GP-11) to 10 feet below ground surface (bgs) using direct push methods to enable soil sample collection. Installation and sampling of two soil vapor sampling points (SV-8 and SV-9) are also proposed in this area. Details associated with the proposed work scope are described in the following subsections of this *Work Plan*.

SCOPE OF WORK

The objective of the proposed scope of work is to evaluate current concentrations of petroleum hydrocarbons in shallow soil and soil vapor near a former fuel dispenser. To accomplish this objective, Stratus is proposing the following work activities:

- Advance two (2) soil borings (GP-10 and GP-11) to approximately 10 feet bgs using direct push methods.

- Collect soil samples from approximately 4, 6, and 9 feet bgs from borings GP-10 and GP-11 to be submitted for chemical analysis.
- Install two soil vapor sampling points (SV-8 and SV-9) to approximately 5.5 feet bgs using hand tools.
- Collect soil samples from approximately 4 feet bgs at borings SV-8 and SV-9 for chemical analysis.
- Collect soil vapor samples from SV-8 and SV-9 after allowing for petroleum vapor concentrations to stabilize following installation of the soil vapor probe wells. Soil vapor samples will also be collected from SV-1, SV-2, and SV-4 through SV-7 during the same sampling event.

The proposed scope of work has been subdivided into four tasks, as outlined below. All work will be conducted under the direct supervision of a State of California Professional Geologist or Professional Engineer, and will be conducted in accordance with standards established by the California Regional Water Quality Control Board (soil borings and soil sampling) and the Department of Toxic Substances Control (soil vapor sampling).

Task 1: Pre-field Activities

Following approval of this *Work Plan* by ACEHD, the following activities will be completed:

- Obtain a drilling permit from Alameda County Public Works Agency (ACPWA).
- Retain and schedule a licensed C-57 drilling contractor.
- Update the site specific Health and Safety Plan.
- Mark boring locations and contact Underground Service Alert to locate underground utilities in the vicinity of the work site.
- Notify ACEHD, ACPWA, the Jaber's, and the facility tenant of the proposed work schedule.

Task 2: Field Activities

Task 2A: Soil Borings

A Stratus geologist will oversee a C-57 licensed drilling contractor complete the soil boring activities. A direct push drilling rig will be used to complete the advancement of borings GP-10 and GP-11. The initial 3 feet of each boring will be cleared using hand tools to reduce the possibility of damaging underground utilities. Borings GP-10 and GP-11 will then be continuously cored to approximately 10 feet bgs using a double-walled sampling system equipped with disposable acetate liners. Soil will be classified

onsite using the Unified Soil Classification System and recorded, along with other pertinent geologic information, on a boring log.

During advancement of borings GP-10 and GP-11, soil samples will be retained at approximately 4, 6, and 9 feet bgs. The bottom end of the acrylic lined soil sample section will be lined with Teflon™ sheets, capped, and sealed. At borings SV-8 and SV-9, soil will be recovered from a hand auger (4 feet bgs), and transferred to laboratory supplied soil jars. Each sample will be labeled, placed in a resealable plastic bag, and stored in an ice-chilled cooler. The samples will remain chilled until relinquished to a state-certified analytical laboratory. Chain-of-custody procedures will be followed from the time the samples are collected until the time the samples are relinquished to the laboratory.

The entire soil core (GP-10 and GP-11) will be classified onsite using the Unified Soil Classification System and recorded, along with other pertinent geologic information, on a boring log. Select sections of the soil core will also be placed and sealed in plastic bags to allow the accumulation of volatile organic compound (VOC) vapors within the airspace in the bags. A photoionization detector (PID) will be used to measure VOC concentrations from each sample in parts per million (ppm), and will be recorded on the boring log.

After advancing boreholes GP-10 and GP-11 to total depth, the borings will be backfilled to surface grade with neat cement. The ground surface will then be patched to match the surrounding area.

Task 2B: Soil Vapor Sampling Point Construction

Upon reaching the base of boreholes SV-8 and SV-9 (approximately 5.5 feet bgs), a polyethylene soil gas implant (Environmental Service Products Part No. SVPT-91, or similar) attached to 0.25-inch diameter Teflon tubing, or similar, will be installed a few inches above the base of the borehole. A filter pack of graded sand will be placed around the soil gas implant to approximately 4.5 feet bgs. Granular bentonite will be placed on top of the filter pack sand from approximately 2 to 4.5 feet bgs and hydrated with clean water. The remaining annular space will subsequently be backfilled with neat cement. A traffic-rated vault box will then be installed over the top of each soil vapor sampling point.

Task 2C: Soil Vapor Sampling

Stratus will return to the site to collect samples from SV-8 and SV-9 a minimum of one week following installation of the soil vapor sampling points. Soil vapor samples will also be collected from SV-1, SV-2, and SV-4 through SV-7. Prior to sampling, the approximate air volume situated inside of the Teflon tubing and the filter pack sand surrounding each soil vapor implant will be calculated. Stratus will use expendable

Summa Canister(s) (6-liter) to purge this ambient air. Following purging of the ambient air, a separate Summa Canister (1-liter) will be used to collect each soil gas sample. During filling of the canisters, the flowrate will be regulated to fill at a rate between 100 and 200 milliliters per minute (ml/min). During sampling, a shroud will be placed over the sampling equipment. Helium will be introduced into the atmosphere within the shroud to facilitate leak detection. Once the samples are collected, the Summa Canisters will be stored at ambient air temperature before delivery to the laboratory for chemical analysis.

Task 2D: Waste Management

Soil cuttings and wastewater generated during the field activities will be contained in DOT-approved 55-gallon steel drums. The drums will be appropriately labeled and stored at the site pending proper disposal. A licensed contractor will transport the soil and wastewater to an appropriate facility for disposal.

Task 3: Laboratory Analysis

Soil samples will be forwarded to a California state-certified laboratory for chemical analysis under strict chain-of-custody procedures. Soil samples will only be analyzed for the constituents required by the State Water Resources Control Board's 'Low Threat Closure Policy'. The soil sample analysis will thus consist of testing for benzene, ethylbenzene, and naphthalene using USEPA Method 8260. Soil analytical data will be uploaded to the State of California's GeoTracker database.

Soil vapor samples will also be forwarded to a California state-certified laboratory for chemical analysis under strict chain-of-custody. The soil gas samples will be analyzed for benzene, ethylbenzene, naphthalene, and helium (for leak detection purposes) using USEPA Method TO-15. Soil vapor analytical data will also be uploaded to GeoTracker.

Task 4: Site Assessment Report Preparation

Following completion of the additional site characterization activities, a site assessment report will be prepared. The report will include, but not be limited to, a description of the work activities performed, a scaled site plan, tabulated analytical results for soil and soil vapor samples, and certified analytical results. The report will also discuss the findings of the investigation, and provide recommendations regarding any potential data gaps remaining to allow for an evaluation of case closure. The report will be uploaded to GeoTracker upon finalization.

LIMITATIONS

This document was prepared in general accordance with accepted standards of care that existed at the time this work was performed. No other warranty, expressed or implied, is

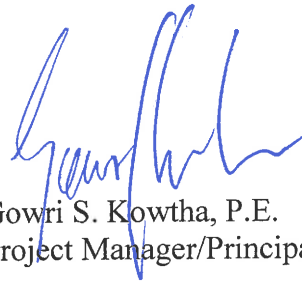
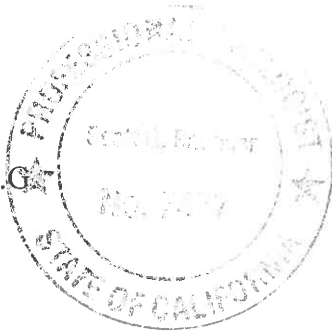
made. Conclusions and recommendations are based on field observations and data obtained from this work and previous investigations. It should be recognized that definition and evaluation of geologic conditions is a difficult and somewhat inexact science. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface conditions present. More extensive studies may be performed to reduce uncertainties. This document is solely for the use and information of our client unless otherwise noted.

If you have any questions regarding this document, or the project in general, please contact Scott Bittinger at (530) 676-2062 or Gowri Kowtha at (530) 676-6001.

Sincerely,
STRATUS ENVIRONMENTAL, INC.



Scott G. Bittinger, P.G.
Project Geologist

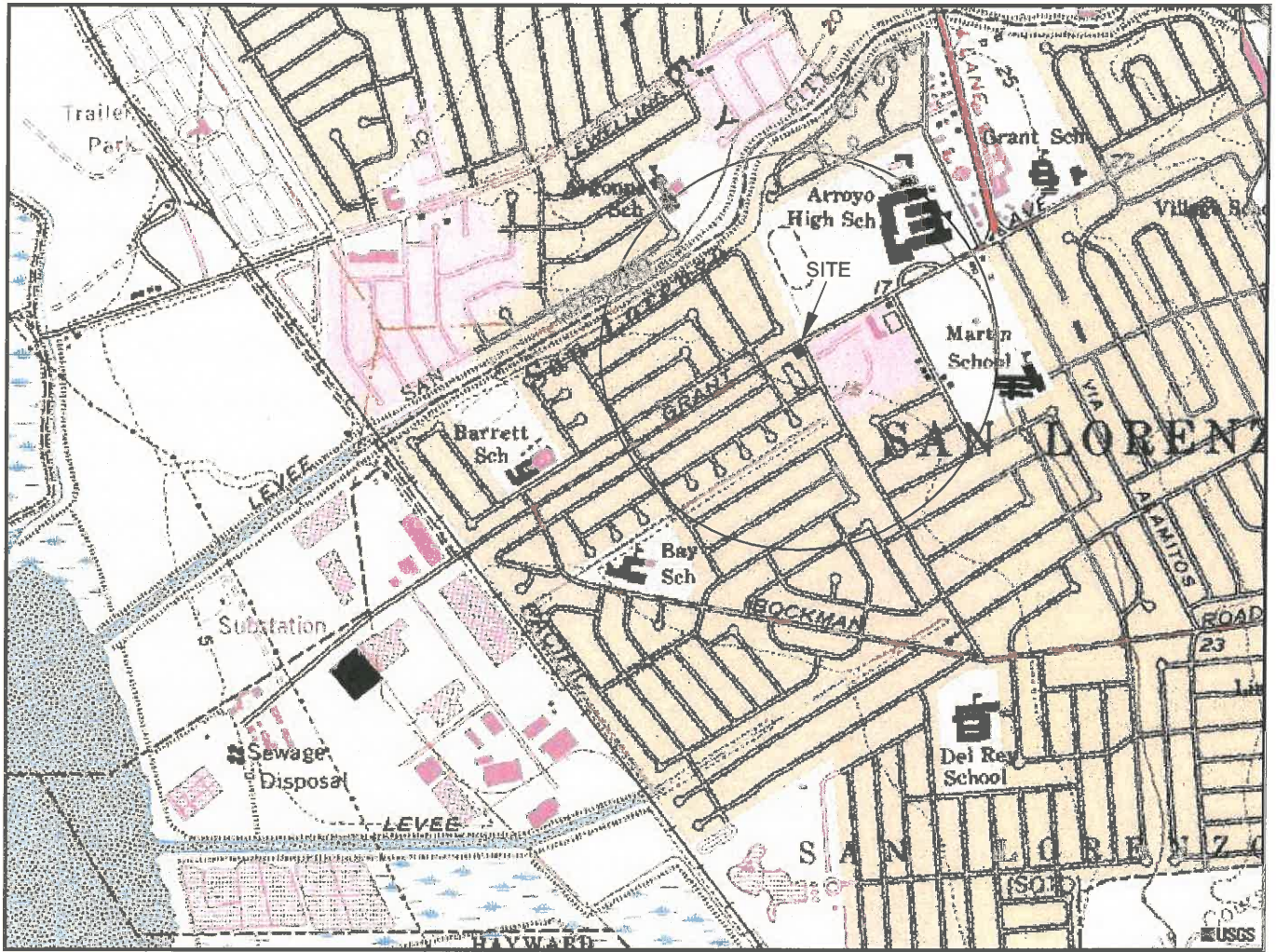


Gowri S. Kowtha, P.E.
Project Manager/Principal Engineer

ATTACHMENTS:

- | | |
|----------|-------------------|
| Figure 1 | Site Location Map |
| Figure 2 | Site Plan |

cc: Mr. Philip Jaber
Ms. Cherie McCaulou, RWQCB (via GeoTracker)



GENERAL NOTES:
 BASE MAP FROM U.S.G.S.
 SAN LORENZO, CA.
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1978



QUADRANGLE LOCATION



APPROXIMATE SCALE



STRATUS
 ENVIRONMENTAL, INC.

FORMER OLYMPIC SERVICE STATION
 1436 GRANT AVENUE
 SAN LORENZO, CALIFORNIA

FIGURE

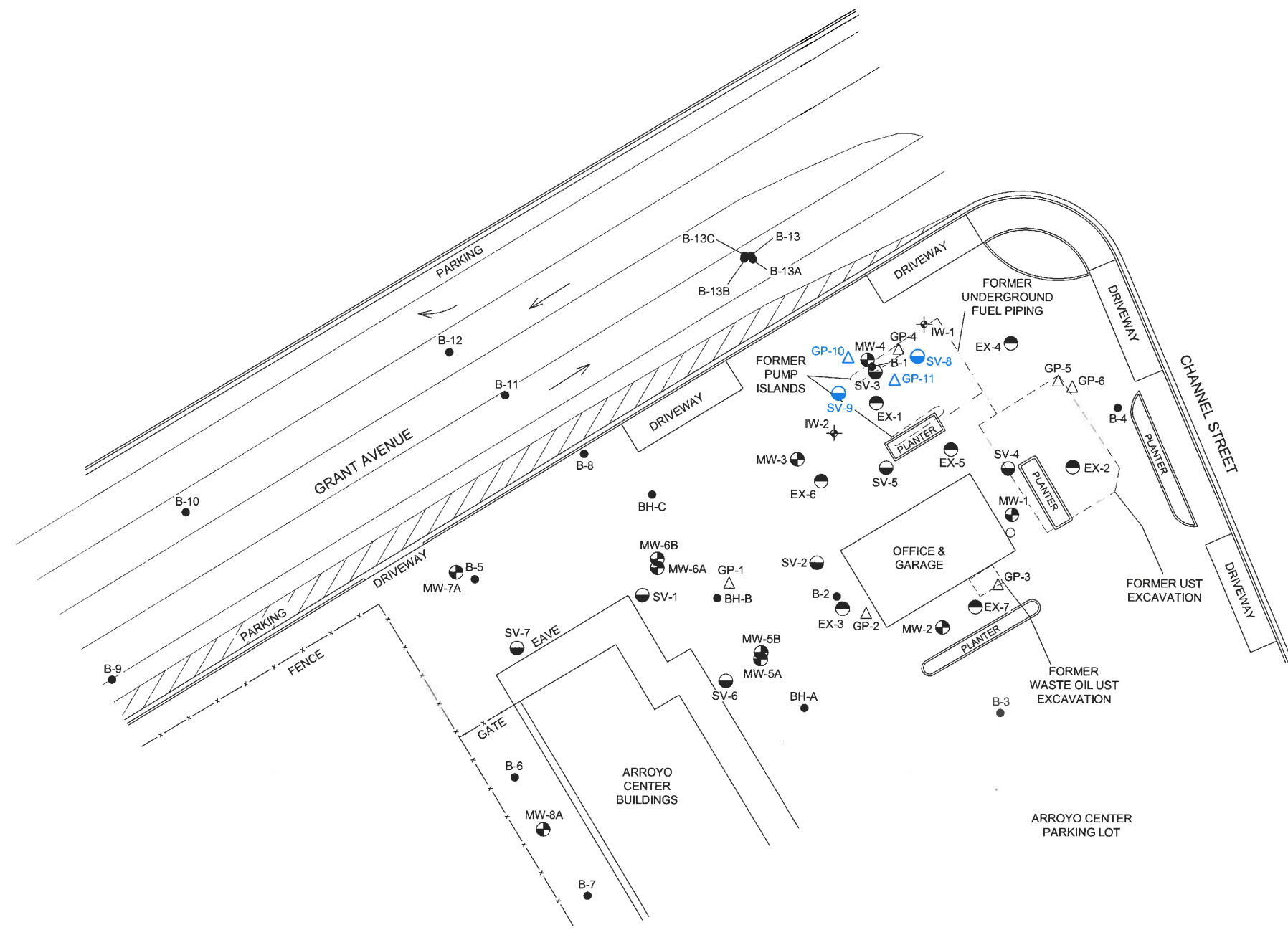
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SITE LOCATION MAP



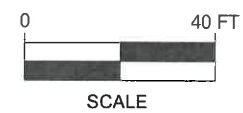
- LEGEND
- MW-1 MONITORING WELL LOCATION
 - SV-1 SOIL VAPOR PROBE LOCATION
 - EX-1 EXTRACTION WELL LOCATION
 - ⊕ IW-1 OZONE INJECTION WELL LOCATION
 - B-1 SOIL BORING LOCATION
 - △ GP-1 APPROXIMATE SOIL BORING LOCATION
 - SV-8 PROPOSED SOIL VAPOR PROBE LOCATION
 - △ GP-10 PROPOSED SOIL BORING LOCATION



BASED ON SURVEY PREPARED BY MORROW SURVEYING ON 6/15/11 & UPDATED IN JUNE 2014 & DECEMBER 2015.

STRATUS
ENVIRONMENTAL, INC.

PATH NAME: Olympic
 DRAFTER INITIALS: DMG
 DATE LAST REVISED: December 13, 2017
 FILENAME: Olympic Siteplan



FORMER OLYMPIC SERVICE STATION
 1436 GRANT AVENUE
 SAN LORENZO, CALIFORNIA

SITE PLAN

FIGURE
 2

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