CITY OF Fremont

Office of the City Manager
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December 16, 2015

RECEIVED
By Alameda County Environmental Health 1:44 pm, Dec 18, 2015

1098.007.01.001

Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Attention: Mr. Mark Detterman, PG, CEG

Transmittal
Work Plan for Supplemental Soil-Vapor Investigation
39155 and 39183 State Street, Fremont, CA

Dear Mr. Detterman:

Submitted herewith for your review is the *Work Plan for Supplemental Soil-Vapor Investigation, 39155 and 39183 State Street, Fremont, CA* prepared by PES Environmental, Inc.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document are true and correct to the best of my knowledge.

Very truly yours,

Clifford Nguyen
Urban Initiatives Manager
City of Fremont
510.284.4017
cnguyen@fremont.gov

cc: Carl Michelsen, PES Environmental, Inc.

PES Environmental, Inc.
Engineering & Environmental Services

December 15, 2015

220.003.02.001

A Report Prepared for:

SummerHill Homes
Attention: Ms. Denise Cunningham
3000 Executive Parkway, Suite 450
San Ramon, California 94583

For Submittal to Oversight Agency:

Alameda County Environmental Health
Attention: Mr. Mark Detterman, PG, CEG
1131 Harbor Bay Parkway
Alameda, California 94502

Received by: _____
Date: _____

Subject: Work Plan for Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

Dear Ms. Cunningham:

This *Work Plan for Supplemental Soil Vapor Investigation* (Work Plan) has been prepared by PES Environmental, Inc. (PES) on behalf of SummerHill Homes (SummerHill) for the vacant commercial property located at 39155 and 39183 State Street in Fremont, California (the site or subject property). The site location is shown on Plate 1, and the subject property and vicinity are shown on Plate 2. SummerHill and their partner Regis Homes Bay Area, LLC (REGIS) plan to redevelop the property with commercial retail/residential buildings with subsurface parking along the northwestern portion of the site, and slab-on-grade residential buildings to the southeast[1].

Prior subsurface investigations identified the volatile organic compound (VOC) tetrachloroethylene (PCE) in soil vapor samples collected on the site at locations adjacent to and within State Street[2]. The soil vapor appears to be the result of discharges of PCE into the sanitary sewer and/or storm drain by a prior dry cleaning establishment, Norge Cleaners, located to the northwest at 39067 State Street within the adjacent Fremont Plaza Shopping Center (Plate 2).

[1] KTGY Group, Inc., 2014. *Alternate Conceptual Site Plan, Downtown Fremont, Fremont, CA*. August 11.
[2] PES, 2015. *Report of Results, Subsurface Investigation, 39155 and 39183 State Street, Fremont, California*. February 12.

In a memorandum dated April 17, 2015, PES discussed the source of the PCE release[3]. The memorandum identified that Norge Cleaners operated a nearby dry cleaning business beginning in 1969 and ending in 1996 (27 years) and used and stored PCE during operations. Previously, it was common practice to dispose of PCE-containing waste to the sewer. Consequently, it is possible that the PCE release occurred throughout the timeframe of Norge Cleaner's operations; however, no specific dates of release have been established at this time.

The sewer lateral at the former Norge Cleaners drains to State Street. Based on a video survey of the sewer line within State Street, it was established that there are tree roots in the pipe joints, and there is an apparent sag at the location were elevated PCE concentrations were identified in soil vapor samples collected within State Street. These defects represent a preferential pathway for PCE laden wastewaters to have migrated from the sewer pipe at some point in the past into the sewer backfill and surrounding native soils. Disposal of PCE wastewater at Norge Cleaners and leakage from the sewer represents the best explanation for the presence of elevated PCE concentrations in soil vapor samples collected within State Street and on the subject property. As documented in the letter from the Alameda County Water District (ACWD) to the current property owner, the City of Fremont, the site is not considered by the ACWD to be the source of the contamination[4].

Based on the planned redevelopment of the subject property, and in response to a request during a recent meeting with the Alameda County Department of Environmental Health (ACDEH; the lead agency for the subject property), PES will conduct additional sampling within the State Street right of way, along the northeast property boundary, and within the footprint of planned elevators on the northwestern portion of the site.

A separate workplan is being prepared by PES to address excavation and removal of elevated concentrations of benzene in soil vapor and related concrete debris on the southern portion of the site. The workplan will also address procedures to locate and destroy water well number 4S/1W-33D002. The additional workplan will also be submitted to ACDEH for review and approval.

The objectives of the investigation are as follows: (1) to further evaluate the temporal changes, if any, in soil vapor concentrations in the vicinity of the sewer line that runs down the center of State Street and along the northeastern property boundary; (2) to collect soil vapor data from within the planned footprints of elevators in the two commercial retail/residential buildings; and (3) establish baseline conditions prior to development.

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[3] PES, 2015. *Source of VOCs in Soil Vapor, 39155 and 39183 State Street, Fremont, California*. April 14.

[4] ACWD, 2015. *Contamination Detected at 39144 and 39183 State Street, Fremont (ACWD Site #690)*. May 13.

PROPOSED SCOPE OF WORK

The scope of work for the investigation includes the following activities: (1) field preparation tasks; (2) collection and analysis of soil vapor samples; and (3) submittal of laboratory analytical reports.

Field Preparation Activities

The following activities will be performed prior to the commencement of field sampling activities:

- Update as necessary the Site-specific Health and Safety Plan in accordance with applicable occupational safety and health requirements;
- Obtain drilling permits from ACWD;
- Contact Underground Services Alert for public utility clearance;
- Obtain an encroachment permit from the City of Fremont for the work within State Street;
- Retain and schedule a traffic control subcontractor to perform flagging and lane closure services during sampling conducted within State Street;
- Retain and schedule drilling and laboratory subcontractors; and
- Perform utility clearances at sampling locations.

Field Investigation

Borehole drilling and sampling services will be provided by a licensed contractor possessing a valid C-57 water well contractor's license issued by the State of California, and in accordance with California Department of Water Resource Water Well Standards (Bulletin 74-90). All subsurface investigation work will be conducted under the supervision of a California-registered geologist or engineer.

Soil cuttings and decontamination fluids will be temporarily stored on-site pending characterization and proper off-site disposal. Upon completion of sampling activities, each borehole will be grouted to the surface using neat cement under the oversight of ACWD staff. A tremmie pipe will be utilized, as needed in deeper borings.

Soil vapor sampling procedures will be consistent with the most current guidance document: *Advisory - Active Soil Gas Investigations* (*Advisory*), published by the California Environmental Protection Agency (Department of Toxic Substances Control [DTSC], California Regional Water Quality Control Board – Los Angeles Region, and RWQCB – San Francisco Region), dated July 2015. Prior to sampling, PES will verify that no significant rainfall event (of greater than 0.5 inches, as described in the *Advisory*) had occurred within a 5–day period of the soil vapor sampling event.

The proposed soil vapor sampling locations are shown on Plate 2. Six (6) soil gas samples will be collected alongside the sanitary sewer utility that runs from northwest to southeast along the approximate centerline of State Street, within the sidewalk adjacent to and northeast of the subject property, or along the northwestern property boundary. The sample locations will be adjacent to prior borings locations with high PCE concentrations. The samples will be collected at a depth of approximately 5 to 8 feet below ground surface (bgs), and will attempt to coincide with the depth of the sanitary sewer (and the prior soil vapor sample) at the respective location. In addition, four (4) soil vapor samples will be collected on the northwestern portion of the subject property within the footprint of planned elevators. The soil vapor samples will be collected at a depth of approximately 13 feet below grade, to coincide with the depth of the elevator pits.

Sampling and handling procedures will be conducted in accordance with the prior work plans. Soil vapor will be obtained using a Geoprobe-type sampling device outfitted for soil vapor sample collection. Soil vapor samples will be collected by installing a 1-inch diameter, hollow, stainless-steel soil vapor probe to the required sampling depth. The probes will be equipped with a hardened, reverse-threaded steel tip. The probe will be driven using the hydraulic direct-push rig. A hydrated bentonite seal will be placed around the rods to minimize the potential for ambient air entering the sample. Upon reaching the desired depth, a continuous length of inert 1/4-inch outer diameter polypropylene Nylaflow® tubing will be inserted down the center of the probe and threaded onto the sampling port. The probe will be then raised approximately 4 inches to expose the soil vapor sampling ports.

To allow for the subsurface to equilibrate to representative conditions following probe placement with the direct-push method, a two-hour equilibration period will be allowed prior to conducting the respective purge volume test and soil vapor sampling.

Leak testing will be conducted during the collection of soil vapor samples to evaluate the integrity of the sample and the potential for atmospheric leakage of ambient air. Leak testing will be performed using 1,1-Difluoroethane (1,1-DFA) applied to a towel which will be fitted around the probe at the surface while purging.

After reaching the specified sampling depth and installing the soil gas sampling equipment as described above, soil vapor will be withdrawn from the inert tubing using a syringe connected via a three-way valve. Soil vapor samples will be analyzed by an on-site mobile laboratory (California-certified for the specified analyses) for VOCs by U.S. Environmental Protection Agency (U.S. EPA) Test Method 8260B.

REPORTING AND SCHEDULE

The results will be provided in the forthcoming vapor mitigation system design report. As required by ACWD, copies of the final laboratory analytical reports will be transmitted to ACWD within 30 days of receipt.

We trust that this is the information you require at this time. Please call either of the undersigned if you have any questions.

Yours very truly,

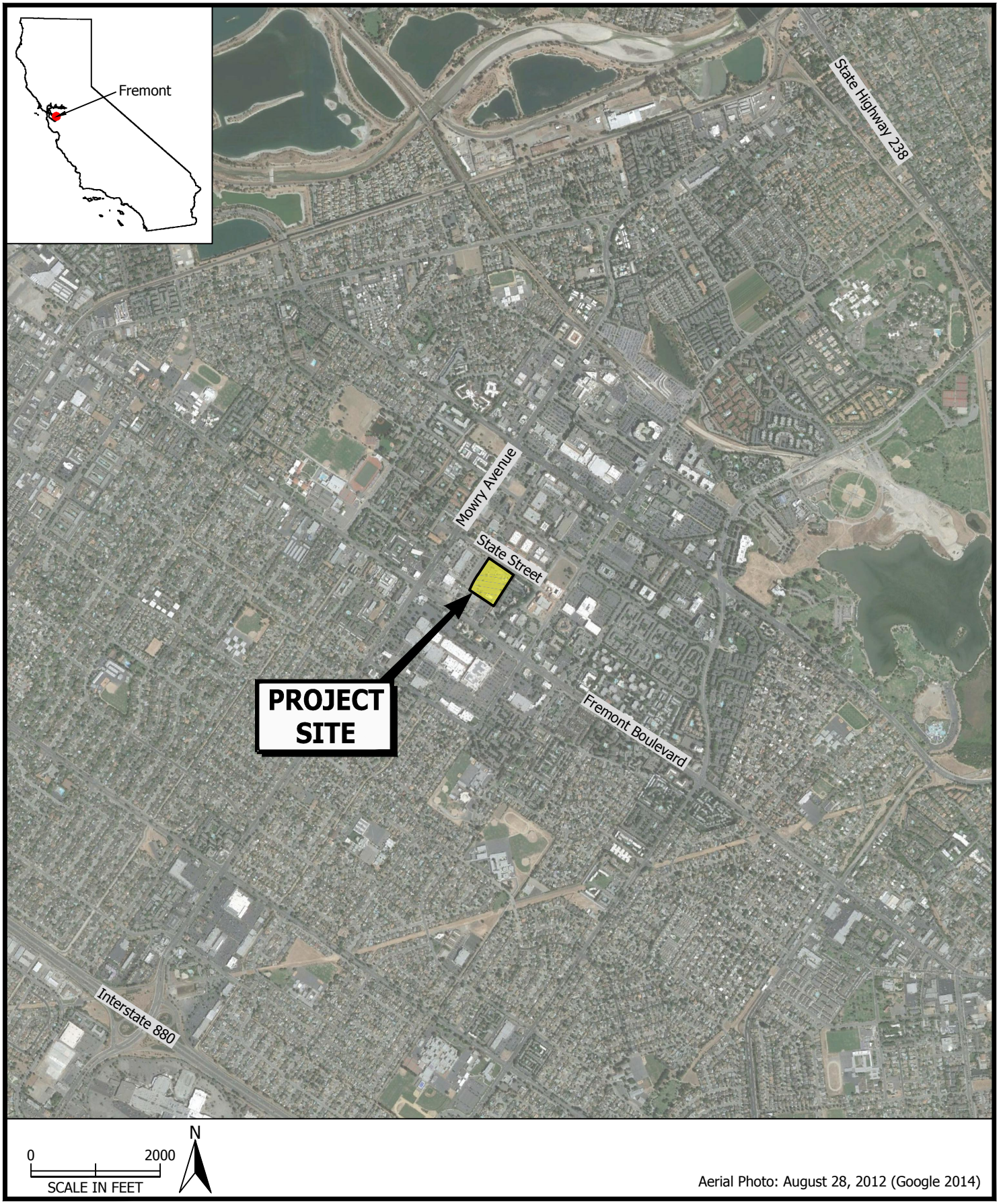
PES ENVIRONMENTAL, INC.

Justin J. Patterson
Senior Environmental Scientist

Carl J. Michelsen, P.G., C.HG.
Principal Geochemist

Attachments: Plate 1 – Site Location
Plate 2 – Site Plan and Proposed Sample Locations

PLATES



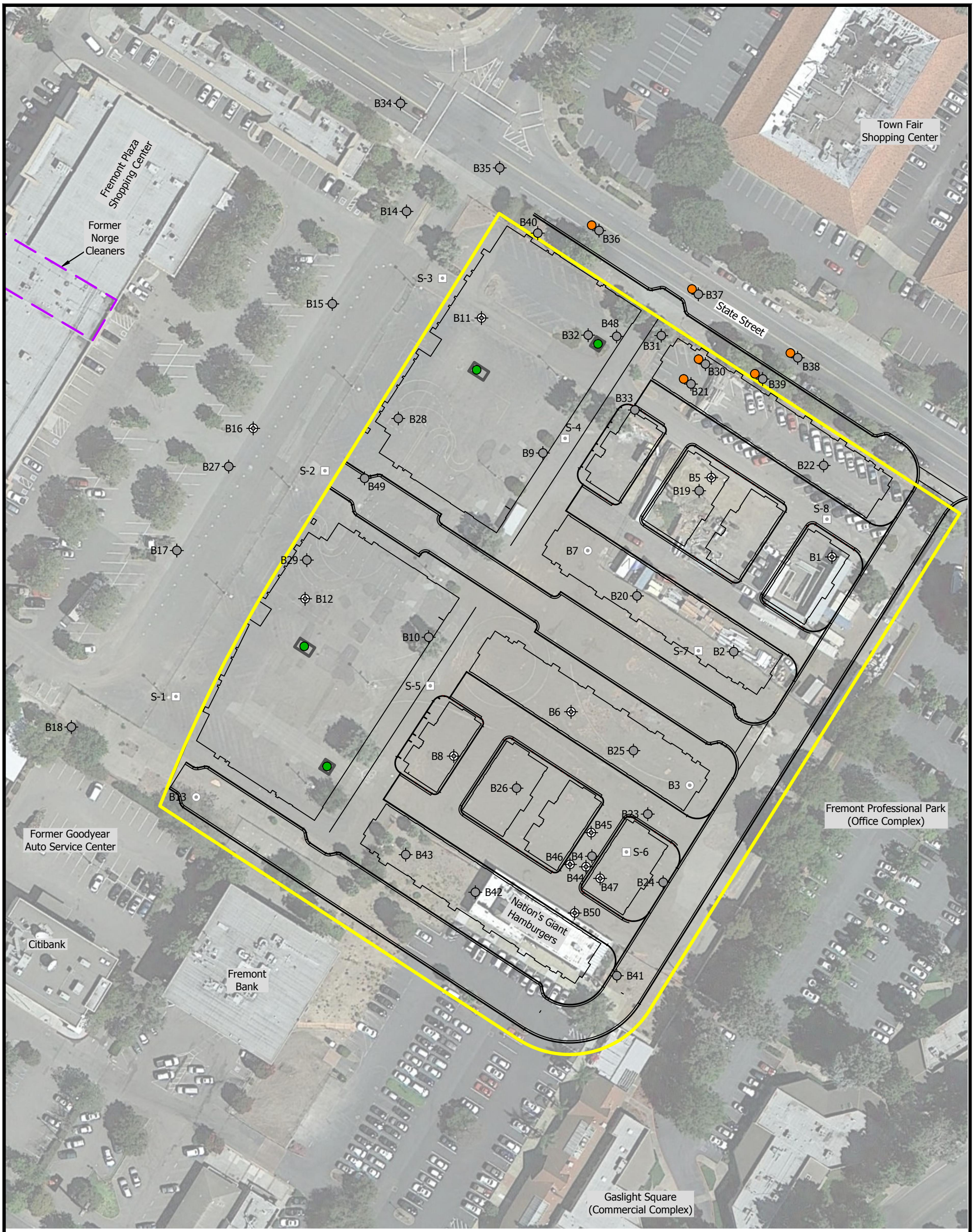
Aerial Photo: August 28, 2012 (Google 2014)

PES Environmental, Inc.
Engineering & Environmental Services

Site Location
Work Plan for Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE 1

220.003.02.001	22000302001_WP-SSVS_1	JJP	12/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- B17 — Soil Vapor Sampling Location (PES)
- B6 — Soil Vapor and Soil Sampling Location (PES)
- B13 — Soil Sampling Location (PES)
- S-1 — Soil Sampling Location (ENGEO)
- Proposed Soil Vapor Sample Location
- Proposed Soil Vapor Sample Location within planned elevator pit

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SCALE IN FEET

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Aerial Photo: August 28, 2012 (Google 2015)

PES Environmental, Inc.
Engineering & Environmental Services

Site Plan and Proposed Sample Locations
Work Plan for Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE 2

220.003.02.001	22000302001_WP-SSVS_2	JJP	12/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE