

Regina Alcomendras
Santa Clara County
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Product	Name	Extended
CEQA	ENVIRONMENTAL FILING	\$0.00
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	Document #	ENV21208
	Document Info:	CITY OF CAMPBELL
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County of Santa Clara
Office of the County Clerk-Recorder
Business Division



County Government Center
70 West Hedding Street, E. Wing, 1st Floor
San Jose, California 95110 (408) 299-5688

File Number: ENV21208

ENVIRONMENTAL FILING
No. of Pages: 161
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REGINA ALCOMENDRAS, Clerk-Recorder
By: Mike Louie, Deputy Clerk-Recorder

CEQA DOCUMENT DECLARATION

ENVIRONMENTAL FILING FEE RECEIPT

PLEASE COMPLETE THE FOLLOWING:

1. LEAD AGENCY: City of Campbell
2. PROJECT TITLE: 1323 Elam Avenue Subdivision
3. APPLICANT NAME: Gordana LLC (Attn: Gordana Pavlovic) PHONE: (408) 307-2897
4. APPLICANT ADDRESS: 602 Hawthorn Avenue, Palo Alto, CA 94301
5. PROJECT APPLICANT IS A: Local Public Agency School District Other Special District State Agency Private Entity
6. NOTICE TO BE POSTED FOR 20 DAYS.
7. CLASSIFICATION OF ENVIRONMENTAL DOCUMENT

a. PROJECTS THAT ARE SUBJECT TO DFG FEES

<input type="checkbox"/> 1. <u>ENVIRONMENTAL IMPACT REPORT</u> (PUBLIC RESOURCES CODE §21152)	\$ 3,078.25	\$ <u>0.00</u>
<input type="checkbox"/> 2. <u>NEGATIVE DECLARATION</u> (PUBLIC RESOURCES CODE §21080(C))	\$ 2,216.25	\$ <u>0.00</u>
<input type="checkbox"/> 3. <u>APPLICATION FEE WATER DIVERSION</u> (STATE WATER RESOURCES CONTROL BOARD ONLY)	\$ 850.00	\$ <u>0.00</u>
<input type="checkbox"/> 4. <u>PROJECTS SUBJECT TO CERTIFIED REGULATORY PROGRAMS</u>	\$ 1,046.50	\$ <u>0.00</u>
<input type="checkbox"/> 5. <u>COUNTY ADMINISTRATIVE FEE</u> (REQUIRED FOR a-1 THROUGH a-4 ABOVE) Fish & Game Code §711.4(e)	\$ 50.00	\$ <u>0.00</u>

b. PROJECTS THAT ARE EXEMPT FROM DFG FEES

<input type="checkbox"/> 1. NOTICE OF EXEMPTION (\$50.00 COUNTY ADMINISTRATIVE FEE REQUIRED)	\$ 50.00	\$ <u>0.00</u>
<input type="checkbox"/> 2. A COMPLETED "CEQA FILING FEE NO EFFECT DETERMINATION FORM" FROM THE DEPARTMENT OF FISH & GAME, DOCUMENTING THE DFG'S DETERMINATION THAT THE PROJECT WILL HAVE NO EFFECT ON FISH, WILDLIFE AND HABITAT, OR AN OFFICIAL, DATED RECEIPT / PROOF OF PAYMENT SHOWING PREVIOUS PAYMENT OF THE DFG FILING FEE FOR THE *SAME PROJECT IS ATTACHED (\$50.00 COUNTY ADMINISTRATIVE FEE REQUIRED)		
DOCUMENT TYPE: <input type="checkbox"/> ENVIRONMENTAL IMPACT REPORT <input type="checkbox"/> NEGATIVE DECLARATION	\$ 50.00	\$ <u>0.00</u>

c. NOTICES THAT ARE NOT SUBJECT TO DFG FEES OR COUNTY ADMINISTRATIVE FEES

<input type="checkbox"/> NOTICE OF PREPARATION	<input checked="" type="checkbox"/> NOTICE OF INTENT	NO FEE	\$ <u>NO FEE</u>
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8. OTHER: _____ FEE (IF APPLICABLE): \$ _____
9. TOTAL RECEIVED..... \$ 0.00

*NOTE: "**SAME PROJECT**" MEANS **NO** CHANGES. IF THE DOCUMENT SUBMITTED IS NOT THE SAME (OTHER THAN DATES), A "NO EFFECT DETERMINATION" LETTER FROM THE DEPARTMENT OF FISH AND GAME FOR THE **SUBSEQUENT** FILING OR THE APPROPRIATE FEES ARE REQUIRED.

THIS FORM MUST BE COMPLETED AND ATTACHED TO THE FRONT OF ALL CEQA DOCUMENTS LISTED ABOVE (INCLUDING COPIES) SUBMITTED FOR FILING. WE WILL NEED AN ORIGINAL (WET SIGNATURE) AND TWO (2) COPIES. IF THERE ARE ATTACHMENTS, PLEASE PROVIDE THREE (3) SETS OF ATTACHMENTS FOR SUBMISSION. (YOUR ORIGINAL WILL BE RETURNED TO YOU AT THE TIME OF FILING.)

CHECKS FOR ALL FEES SHOULD BE MADE PAYABLE TO: SANTA CLARA COUNTY CLERK-RECORDER

PLEASE NOTE: FEES ARE ANNUALLY ADJUSTED (Fish & Game Code §711.4(b)); PLEASE CHECK WITH THIS OFFICE AND THE DEPARTMENT OF FISH AND GAME FOR THE LATEST FEE INFORMATION.

"... NO PROJECT SHALL BE OPERATIVE, VESTED, OR FINAL, NOR SHALL LOCAL GOVERNMENT PERMITS FOR THE PROJECT BE VALID, UNTIL THE FILING FEES REQUIRED PURSUANT TO THIS SECTION ARE PAID." Fish & Game Code §711.4(c)(3)



**NOTICE OF INTENT
INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
CITY OF CAMPBELL, CALIFORNIA**

Notice is hereby given of the intent of the Campbell Planning Commission to adopt a Mitigated Negative Declaration pursuant to Public Resources Code Section 21092(b)(1) for the 1323 Elam Avenue Subdivision, which includes applications for a Planned Development Permit (PLN2017-101) for the approval of site configuration, architectural design and to create lots which do not have frontage on a public street, Tentative Subdivision Map (PLN2017-102) to create four single family lots and one commonly owned lot, Zoning Map Amendment (PLN2015-100) to change the zoning from R-M (Multiple-Family Residential) to P-D (Planned Development), Parking Modification Permit (PLN2017-338) to allow for two of the required assigned/uncovered parking spaces, to be provided as uncovered guest parking pursuant to Public Resources Code Section 21092(b)(1), for property located at **1323 Elam Avenue, Campbell, CA.**

The project site consists of a single parcel located on the north side of Elam Avenue between Inwood Drive and San Tomas Aquino Road. The 18,152 square foot (net area) lot is currently developed with one single-family residence that will be demolished as part of the proposed subdivision. Abutting land uses include single-family homes to the east and west, an apartment community to the north, and single-family homes across Elam Avenue to the south.

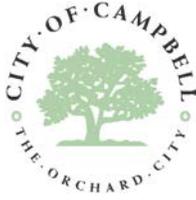
The Initial Study prepared by the City was undertaken for the purpose of determining whether the project may have a significant effect on the environment. On the basis of the Initial Study, Community Development Department staff has determined that the project will not have a significant effect on the environment due to the incorporation of certain mitigation measures, and therefore, has prepared a draft Mitigated Negative Declaration for consideration by the Campbell Planning Commission. The California Environmental Quality Act (CEQA) requires this notice to disclose whether any listed toxic sites are present at the location. The project location does not contain a toxic site pursuant to Section 65962.5 of the Government Code.

All interested parties are invited and encouraged to submit comments in writing regarding the draft Mitigated Negative Declaration and/or attend the below described public hearings. The public review period for the draft Mitigated Negative Declaration begins on **November 17, 2017** and ends on **December 7, 2017**. Any comments must be submitted in writing, including email, to the Community Development Department by 5:00 p.m. on **December 7, 2017**. The Initial Study and draft Mitigated Negative Declaration are available for review from 8:00 a.m. to 5:00 p.m. at the Community Development Department, City Hall, 70 North First Street, Campbell, CA or online at <http://www.cityofcampbell.com/501/Public-Notices> under 'Environmental Notices'.

The Campbell Planning Commission will consider the project and draft Mitigated Negative Declaration at a public hearing to be held on **December 12, 2017**. The meeting will be held at 7:30 p.m., or shortly thereafter, in the City Hall City Council Chambers, 70 North First Street, Campbell, CA.

Please be advised that if you challenge the decision on the Mitigated Negative Declaration and/or project in court, you may be limited to raising only those issues you or someone else raised at the public hearings described in this notice, or in written correspondence delivered to the City of Campbell prior to the public hearings. Questions and written comments may be addressed to Stephen Rose, Associate Planner at (408) 866-2142 or by email at stephenr@cityofcampbell.com.

PLANNING COMMISSION
CITY OF CAMPBELL
PAUL KERMOYAN
SECRETARY



CITY OF CAMPBELL
Community Development Department

DRAFT
MITIGATED NEGATIVE DECLARATION

The Community Development Director has reviewed the proposed project described below to determine whether it could have a significant effect on the environment as a result of the project completion. “Significant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

- Project Title:** 1323 Elam Avenue Subdivision
- File Number(s):** Planned Development Permit (PLN2017-101) | Tentative Subdivision Map (PLN2017-102) | Zoning Map Amendment (PLN2017-100) | CEQA Review (PLN2017-103) | Parking Modification Permit (PLN2017-338)
- Project Address:** 1323 Elam Avenue, Campbell CA 95008
- Project Sponsor:** Gordana LLC (Attn: Gordana Pavlovic)
602 Hawthorn Avenue, Palo Alto, CA 94301
(408) 307-2897
- Existing Zoning:** R-M (Multiple-Family Residential)
Proposed Zoning: P-D (Planned Development)
- General Plan** *Low-Medium Density Residential (6-13 units/gr. acre)*
- Lead Agency:** City of Campbell, Community Development Department
70 N. First Street, Campbell, CA 95008
- Contact Person:** Stephen Rose, Associate Planner
(408) 866-2142 | stephenr@cityofcampbell.com
- Date Posted:** November 16, 2017
- Other public agencies whose approval is required:** None

Surrounding Land Uses / General Plan / Zoning:

North: Apartments / Medium Den. Res. / R-2 (Multiple-Family Residential)

South: / Low-Medium Den. Res. / R-1-6 (Single Family Residential)

East: Single-Family Residential / Low-Medium Den. Res. & Med. Den. Res./ P-D (Planned Development) & Medium Density Residential

West: Single-Family Residential / Low-Medium Den. Res. / P-D (Planned Development)

Project Description: The project is an application for a Tentative Subdivision Map to allow subdivision of the project site into four single-family residential parcels, ranging from approximately 2,045 to 2,163 square feet in area. The project also includes a common lot consisting of a single private street and driveway for the subdivision, which would take access from Elam Avenue to the south. The private street will be 20 feet wide with an additional 2 foot wide landscape buffer (porous grass pavers) on the east side of the drive aisle. The development will include construction of four two-story single-family residences at a maximum height of 26-feet, 9-inches from natural grade (27-feet from proposed grade) and an average floor area ratio of 47% for the entire development.

Finding: The Community Development Director finds that the project described above will not have a significant effect on the environment in that the attached Initial Study identifies one or more potentially significant effects on the environment for which the project proponent, before public release of this draft Mitigated Negative Declaration, has made or agrees to make project revisions that clearly mitigate the effects to a less than significant level.

Mitigation Measures Included in the Project to Reduce Potentially Significant Environmental Effects to a Less Than Significant Level:

Mitigation Measure AIR-1: The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites:

- a. All active construction areas shall be watered twice daily or more often if necessary. Increased watering frequency shall be required whenever wind speeds exceed 15 miles-per-hour.
- b. Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads and parking and staging areas at construction sites.
- c. Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials shall be covered.
- d. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- e. Subsequent to clearing, grading, or excavating, exposed portions of the Site shall be watered, landscaped, treated with soil stabilizers, or covered as soon as possible.
- f. Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways.
- g. Replanting of vegetation in disturbed areas as soon as possible after completion of construction.
- h. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- i. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- j. Post a publicly visible sign with the telephone number and person to contact at the City of Campbell regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure CUL-1: If archaeological or paleontological resources are encountered during excavation or construction, construction personnel shall be instructed to immediately suspend all activity in the immediate vicinity of the suspected resources and the City and a licensed archeologist or paleontologist shall be contacted to evaluate the situation. A licensed archeologist or paleontologist shall be retained to inspect the discovery and make any necessary recommendations to evaluate the find under current CEQA guidelines prior to the submittal of a resource mitigation plan and monitoring program to the City for review and approval prior to the continuation of any on-site construction activity.

Mitigation Measure GEO-1: The applicant shall comply with the recommendations in the Geotechnical Investigation, dated August 2, 2016 prepared by Kristofer T. Korth, P.E. (No. 82838) and Andrew D. Murray, P.E. (No. C44562) of Murray Engineers. Such recommendations shall be incorporated into the project's final engineering design to minimize the damage from seismic shaking, unsuitable fill, and other geological deficiencies. The project shall use standard engineering techniques and conform to the requirements of the International Building Code to reduce the potential for seismic damage and risk to future occupants.

Mitigation Measure HAZ-1: Prior to issuance of a demolition permit, a qualified contractor shall assess the property for presence of Lead-based paint (LBP) and Asbestos containing building materials (ACBM), and if present, prepare a plan, to the satisfaction of the Building Official, to properly manage and dispose of such materials.

Mitigation Measure NOI-1: Windows must have a minimum STC rating of 20 dB, which is met by standard openable double-glazed thermal windows, with two 1/8" lights separated by a 1/2" air space and with good weather seals. For better reduction of loud vehicle noise, an STC performance of 30 STC is recommended, but not required.

Mitigation Measure NOI-2: Outside doors, such as for front entrances or patios, particularly for Unit 1, should meet a tested STC rating of 20 to 30 to match the overall sound transmission mitigation criteria.

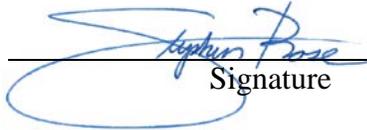
Mitigation Measure NOI-3: Mitigation of outside noise is based upon windows that are closed in order to provide the required noise protection. Therefore, all units must have a ventilation system that provides a habitable interior air quality environment with the windows closed, regardless of outside temperature. In addition, noise levels produced by heating and air conditioning units for the project must not themselves create a noise problem for any of the residential units associated with the project or adjacent properties.

Mitigation Measure NOI-4: Good noise design must be implemented by good field construction practices or the design performance will not be achieved. This includes minimizing all penetrations of and connections between party wall and floor/ceiling assemblies, and acoustical sealant around any necessary penetrations.

Mitigation Measure NOI-5: A six to seven-foot solid wood property line fences and gates shall be required to protect back yard activity areas, which will provide the required outdoor activity area noise reduction.

PUBLIC REVIEW PERIOD

Any person may file a written protest of the draft Mitigated Negative Declaration before 5:00 p.m. on **December 7, 2017**. Such protest must be filed at the Community Development Department, City Hall, 70 North First Street, Campbell, California. The written protest should make a "fair argument" that the project will have one or more significant effects on the environment based on substantial evidence.



Signature

November 16, 2017
Date

Stephen Rose, Associate Planner
Printed Name

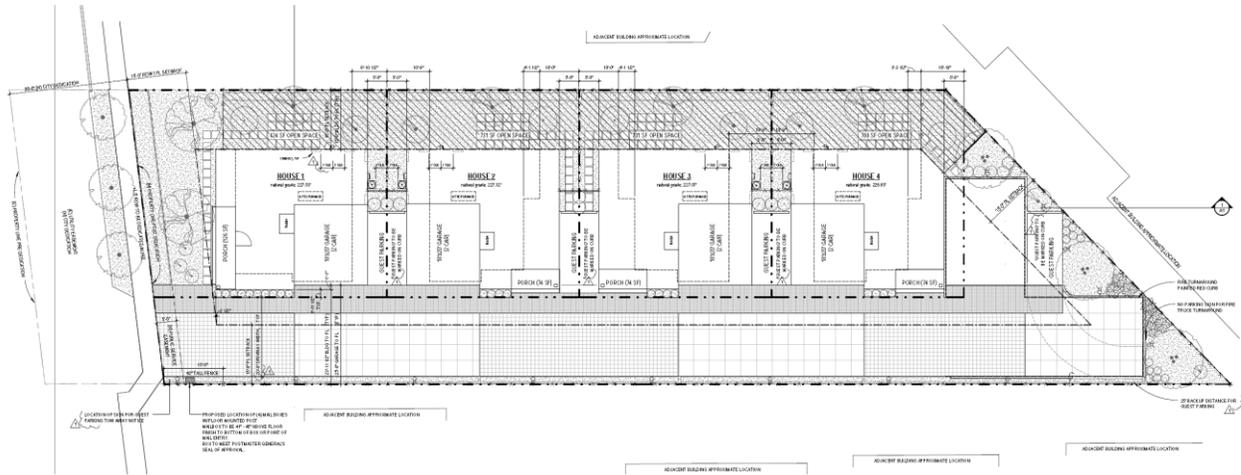
City of Campbell
Agency

Encl: Initial Study
Draft Mitigation Monitoring and Reporting Program

INITIAL STUDY

1323 Elam Avenue Subdivision

*An environmental evaluation
prepared in compliance with the
California Environmental Quality Act*



Prepared by
Stephen Rose
Associate Planner

City of Campbell
Community Development Department
Planning Division
70 N. First Street
Campbell, CA 95008

Public Review Period
November 17, 2017 – December 7, 2017



I. PROJECT OVERVIEW

Project Title:	1323 Elam Avenue Subdivision
File Number(s):	Planned Development Permit (PLN2017-101) Tentative Subdivision Map (PLN2017-102) Zoning Map Amendment (PLN2017-100) CEQA Review (PLN2017-103) Parking Modification Permit (PLN2017-338)
Project Address:	1323 Elam Avenue, Campbell CA 95008
Project Sponsor:	Gordana LLC (Attn: Gordana Pavlovic) 602 Hawthorn Avenue, Palo Alto, CA 94301 (408) 307-2897
Existing Zoning:	R-M (Multiple-Family Residential)
Proposed Zoning:	P-D (Planned Development)
General Plan	<i>Low-Medium Density Residential (6-13 units/gr. acre)</i>
Lead Agency:	City of Campbell, Community Development Department 70 N. First Street, Campbell, CA 95008
Contact Person:	Stephen Rose, Associate Planner (408) 866-2142 stephenr@cityofcampbell.com
Date Posted:	November 16, 2017

Project Location and Surrounding Land Use: The project site consists of a single parcel located on the north side of Elam Avenue between Inwood Drive and San Tomas Aquino Road. The 18,152 square foot (net area) lot is currently developed with one single-family residence that will be demolished as part of the proposed subdivision. Abutting land uses include single-family homes to the east and west, an apartment community to the north, and single-family homes across Elam Avenue to the south. The City of Campbell Zoning Map classifies the project site as R-M (Multiple-Family Residential). The corresponding General Plan Land Use Designation is *Low-Medium Density Residential (6-13 units/gr. acre)*.

Project Description: The project is an application for a Tentative Subdivision Map to allow subdivision of the project site into four single-family residential parcels, ranging from approximately 2,045 to 2,163 square feet in area. The project also includes a common lot consisting of a single private street and driveway for the subdivision, which would take access from Elam Avenue to the south. The private street will be 20 feet wide with an additional 2 foot wide landscape buffer (porous grass pavers) on the east side of the drive aisle. The development will include construction of four two-story single-family residences at a maximum height of 26-feet, 9-inches from natural grade (27-feet from proposed grade) and an average floor area ratio of 47% for the entire development.

Project Data

Gross Lot Area: 20,026.90 square feet (including 2,250 sq. ft. of R.O.W.)
 Existing Net Lot Area: 18,152 square-feet
 Proposed Net Lot Area (after 5-foot dedication):
 Lot 1: 3,267.68 square feet
 Lot 2: 2,556.84 square feet
 Lot 3: 2,556.84 square feet
 Lot 4: 2,579.68 square feet
 Lot 5: 6,815.86 square feet (common lot; Lot "A" where noted on plans)
 Total Net Lot Area: 17,776.90 square feet

Proposed Density: 8.71 units/gr. acre (4 units / 0.459 gross acres)
 Maximum Density Allowed: 13.0 units/gr. acre

Building Height: Less than 27 Feet

Parking:	<u>Provided</u>	<u>Minimum Required</u>
	12 spaces (8 covered/8 assigned)	12 spaces (8 covered/10 assigned)

Note: Minor changes to the project data is expected to occur as part of the project review process. Parking modification permit required for proposed parking arrangement.

Project Entitlements: Required land use entitlements for the proposed project include a Planned Development Permit (PLN2017-101) for the approval of site configuration, architectural design and to create lots which do not have frontage on a public street, Tentative Subdivision Map (PLN2017-102) to create four single family lots and one commonly owned lot, Zoning Map Amendment (PLN2015-100) to change the zoning from R-M (Multiple-Family Residential) to P-D (Planned Development), Parking Modification Permit (PLN2017-338) to allow for two of the required assigned/uncovered parking spaces, to be provided as uncovered guest parking.

Other public agencies whose approval is required: None

Project Location

Figure 1: Regional Setting

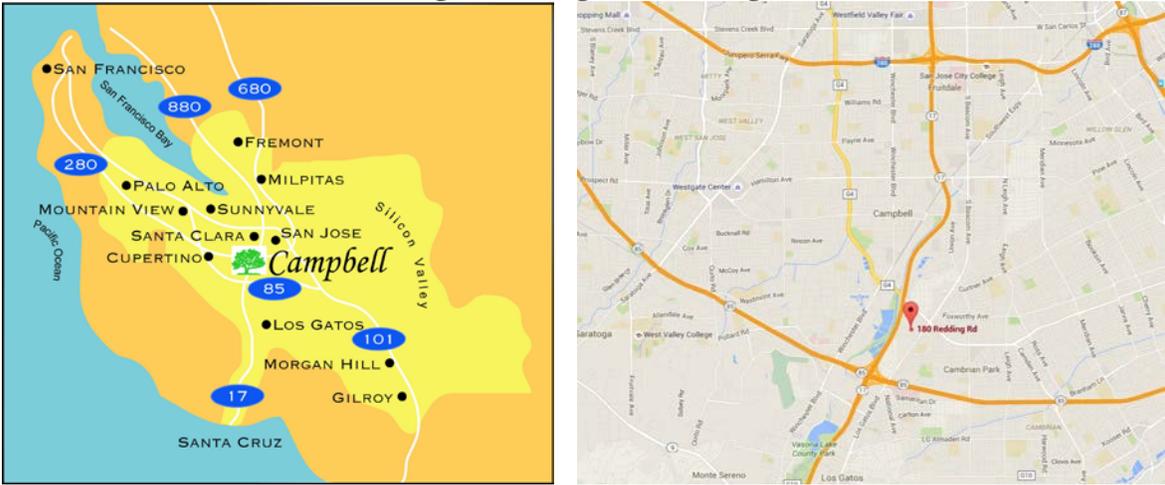
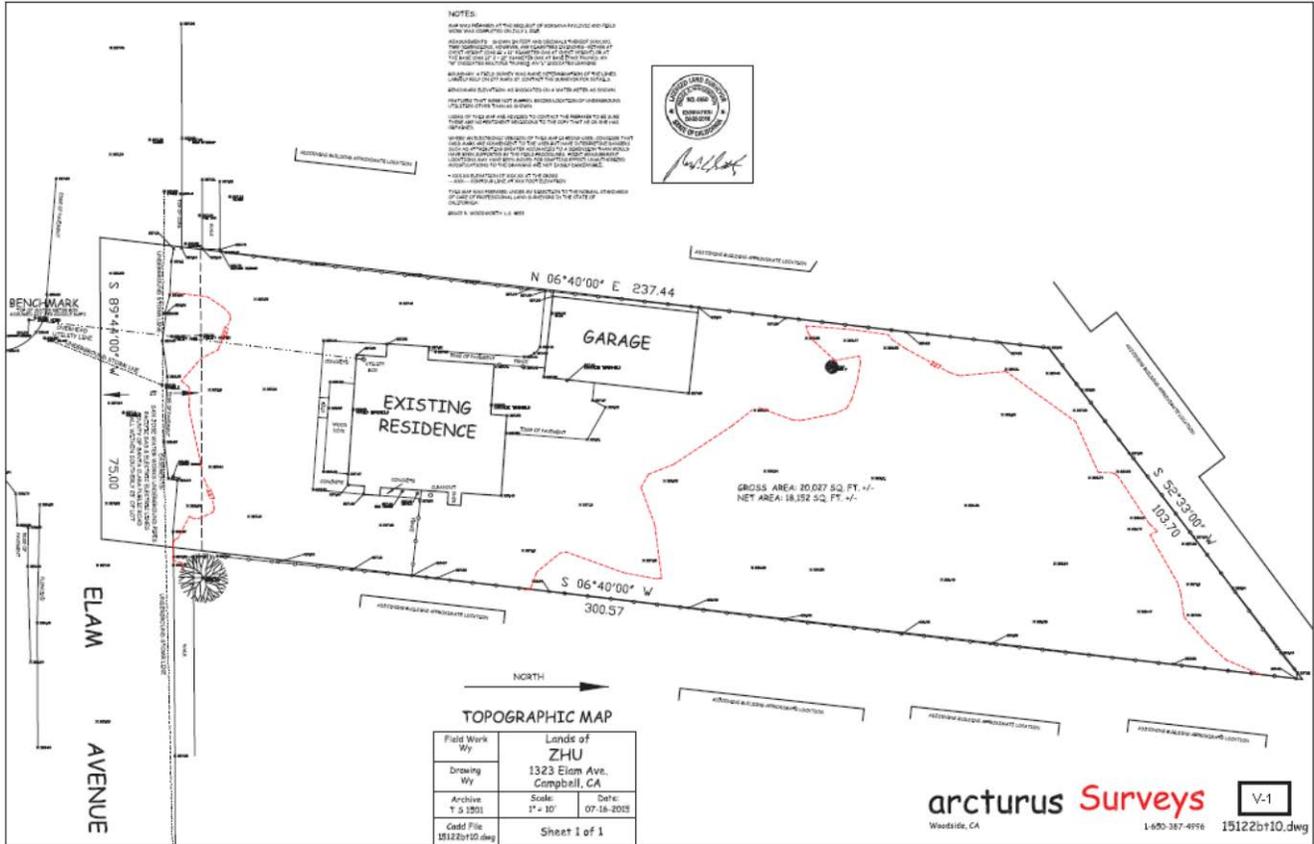


Figure 2: Project Site

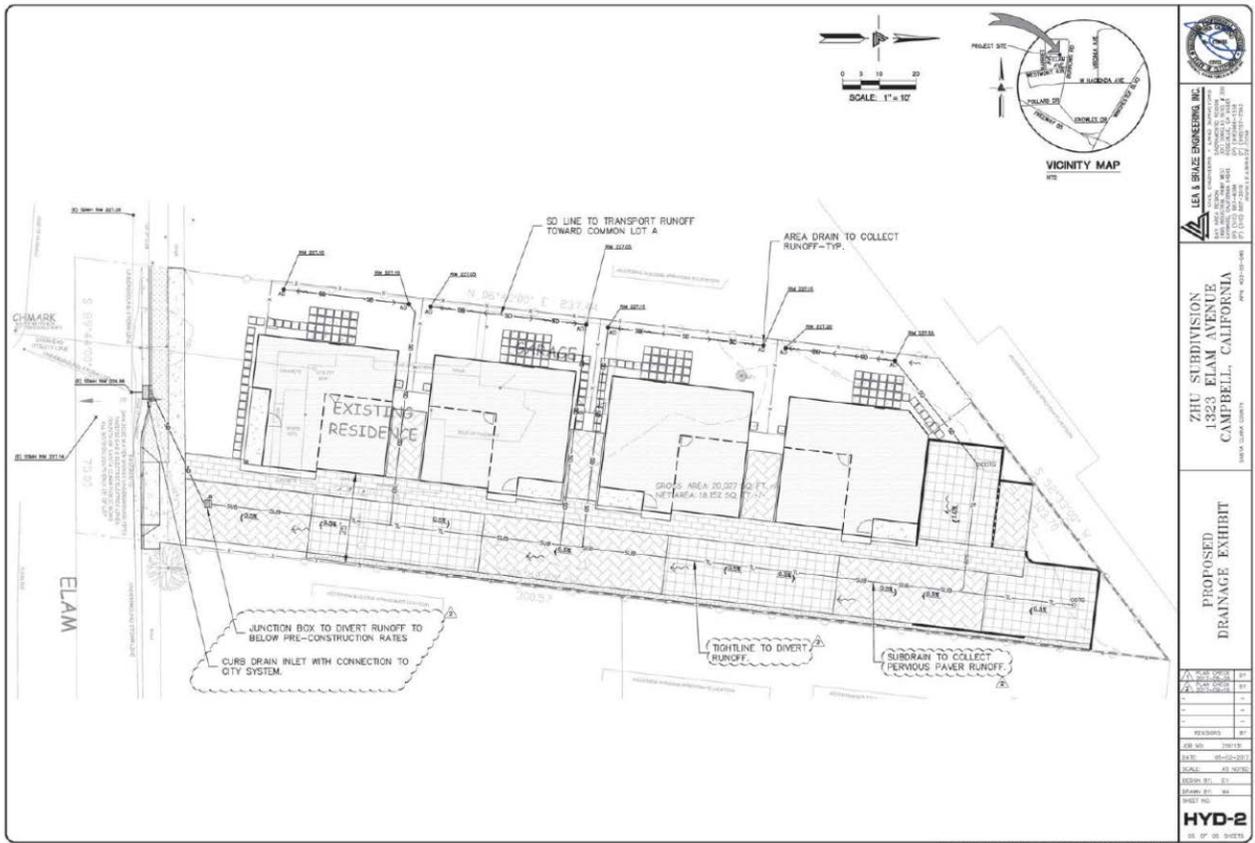


Project Address: 1323 Elam Avenue, Campbell CA 95008

Existing Site Configuration



Preliminary Stormwater Treatment Plan



NOTE: THIS NOT A C-3 REGULATED PROJECT

II. ENVIRONMENTAL IMPACT EVALUATION:

The following evaluation has been prepared to determine if the proposed project may result in a “significant impact” on the environment. For the purposes of this study, a significant impact means a substantial or potentially substantial change in the physical environment. The following terms used in the evaluation are defined as specified below:

"Potentially Significant Impact" means that there is either substantial evidence that an effect may be significant or, due to lack of existing information, may have potential to be a significant effect.

"Less than Significant With Mitigation Incorporated" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.

"Less Than Significant Impact" means that there is sufficient evidence available to determine that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.

"No Impact" means that the effect does not apply to the proposed project, or clearly will not impact nor be impacted by the project.

A description of the proposed mitigation measures and the factual data or evidence used to reach conclusions regarding impact significance follows each section. The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Less Than Significant with Mitigation Incorporation" as indicated by the checklist on the following pages. The impacts of the project, as well as a recommended mitigation measures, are summarized in Section III: Recommendation and Determination.

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> | 1. Aesthetics |
| <input type="checkbox"/> | 2. Agriculture Resources |
| <input checked="" type="checkbox"/> | 3. Air Quality |
| <input type="checkbox"/> | 4. Biological Resources |
| <input checked="" type="checkbox"/> | 5. Cultural Resources |
| <input checked="" type="checkbox"/> | 6. Geology/Soils |
| <input type="checkbox"/> | 7. Greenhouse Gas Emissions |
| <input checked="" type="checkbox"/> | 8. Hazards & Hazardous Materials |
| <input type="checkbox"/> | 9. Hydrology/Water Quality |
| <input type="checkbox"/> | 10. Land Use/Planning |
| <input type="checkbox"/> | 11. Mineral Resources |
| <input checked="" type="checkbox"/> | 12. Noise |
| <input type="checkbox"/> | 13. Population/Housing |
| <input type="checkbox"/> | 14. Public Services |
| <input type="checkbox"/> | 15. Recreation |
| <input type="checkbox"/> | 16. Transportation/Traffic |
| <input type="checkbox"/> | 17. Utilities/Service System |
| <input type="checkbox"/> | 18. Mandatory Findings of Significance |

1. AESTHETICS

<i>Would the project:</i>		Issues	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)		Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)		Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)		Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)		Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a to c): The project will alter the existing visual character of the site and its surroundings through demolition of existing structures and eventual development of a four-unit planned residential development. However, since the project site, nor any area, roadway or view-corridor in vicinity of the project site, is a recognized scenic vista or scenic resource, these activities will not result in an adverse environmental affect. Further, the project is subject to various policies and strategies of the Campbell General Plan and the Zoning Ordinance, intended to facilitate development that improves the visual character of the community through good design and site planning through an iterative design review and approval process which takes into account public input.

(d): Currently, the project site has very limited lighting associated with the existing single-family residence. New site lighting is anticipated to include down-lit fixtures for new residences and lighting fixtures along the new public pathway. As all new lighting is subject to the City's Lighting Design Standards (CMC Sec. 21.18.090)—which requires lighting to be designed and installed so that light rays are not emitted across property lines—the project would not result in new sources of substantial light or glare.

Mitigation Measures(s): None Required.

2. AGRICULTURAL RESOURCES

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a to c): The project site had historically been used for agricultural production, but is no longer used for, nor zoned for farmland or other agricultural or horticultural purpose. Neither the project site nor surrounding properties contain farmland or support agricultural activity that could be impacted by the project.

Mitigation Measure(s): None Required.

3. AIR QUALITY

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a): The proposed project consists of four (4) single-family residences and would not increase regional population growth or cause changes in vehicle travel that would affect implementation of the Bay Area 2017 Final Clean Air Plan (CAP). Based on BAAQMD criteria (see Enclosure 2) air quality will not be significantly impacted.

(b & c): The BAAQMD's 2017 CEQA Guidelines (BAAQMD, May 2017) make recommendations for evaluation of activities that could impact air quality, including use of thresholds of significance and screening criteria developed by the BAAQMD (BAAQMD, May 2017). The BAAQMD screening levels are based on project size for air pollutant emissions. The applicable land use category from the BAAQMD's screening criteria tables for the project is "single-family." For operational impacts from criteria pollutants, the screening size is 325 dwelling units. For construction impacts, the screening size is 114 units. The project, which consists of four (4) single-family residential units, is well below the BAAQMD significance thresholds for such uses and, therefore, the project would have a less than-significant air quality impact.

Construction activities would generate dust and equipment exhaust on a temporary basis. The BAAQMD identifies best management practices for all projects to limit air quality impacts during construction. The short-term air quality effects during project construction would be avoided with implementation of the measures prescribed by the BAAQMD (see AIR-1).

(d): The BAAQMD defines sensitive receptors as facilities where sensitive receptor population groups (e.g., children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses can include residences, hospitals, schools, child-care centers, retirement centers, convalescent homes, and medical clinics. The nearest off-site sensitive receptors include the occupants of multi-unit residential buildings located directly adjacent / proximate to the west, north and east; and the single-family residences across Elam Avenue to the south. Further, an initial air quality screening was performed in August 2017 using BAAQMD online tools and sources and the BAAQMD Significance Determination Flowchart (BAAQMD CEQA Guidelines, May 2017, Figure 1-2, General Steps for Determining Significance of Air Quality Impacts). A total of six (6) potential sources were identified. Five (5) potential roadway sources were identified within 1,000 feet of the Site, as follows:

- Roadway: Elam Avenue.
- Roadway: Westmont Avenue.

- Roadway: Harriet Avenue.
- Roadway: W. San Tomas Aquino Road.
- Roadway: S. San Tomas Aquino Road.

These roadway sources are all significantly below the following BAAQMD's Thresholds of Significance (BAAQMD, May 2017) for Cancer Risk of 100 in a million; PM_{2.5} of 0.8 µg/m³ and Hazard Index of 10 (see Enclosure 2 of Exhibit 5). Therefore, there are no significant impacts and no further analysis is needed of the roadway sources.

One (1) potential stationary source was identified, Elite Cleaners (dry cleaner), 128 San Tomas Aquino Road, Campbell, CA. BAAQMD Plant # 3209. However, this stationary source was shut down in 2012 (and was located more than 1,000 feet from the Site).

Further, in consideration of ambient air quality conditions, the project site is located outside of an 'impacted area' as identified in the [BAAQMD CARE \(Community Air Risk Evaluation\) Program Report](#) and therefore does not require further analysis to reduce potential health impacts to future residents.



(e): No element of construction or normal activities associated with single-family residences would result in creation of objectionable odors.

Mitigation Measure(s):

AIR – 1: The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites:

- All active construction areas shall be watered twice daily or more often if necessary. Increased watering frequency shall be required whenever wind speeds exceed 15 miles-per-hour.
- Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads and parking and staging areas at construction sites.
- Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- Subsequent to clearing, grading, or excavating, exposed portions of the Site shall be watered, landscaped, treated with soil stabilizers, or covered as soon as possible.
- Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replanting of vegetation in disturbed areas as soon as possible after completion of construction.

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- h. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
 - i. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
 - j. Post a publicly visible sign with the telephone number and person to contact at the City of Campbell regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

4. BIOLOGICAL RESOURCES

<i>Would the project:</i>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a to d): According to the California Natural Diversity Database and the City's General Plan, no species identified as a candidate, sensitive or special status species, or habitat for such species are known to occupy the project site.

(e) The applicant shall be required to provide a detailed landscape and irrigation plan which conforms to the City's Water Efficient Landscaping Standards (WELS). The landscaping will be designed to minimize irrigation and runoff, and promote surface infiltration where appropriate. The project is not proposing the removal of any trees. The applicant has proposed to install twenty-one (21) new 15-gallon trees¹ as part of a comprehensive landscaping plan that would also include a combination of new shrubs and groundcover. Therefore, the project will incur a less than significant impact.

(f): No adopted Habitat Conservation Plan, Natural Community Conservation Plan or approved local, regional or state habitat conservation plans apply to the project or the project site.

Mitigation Measure(s): None Required.

¹ Not including three 24-inch box trees in the public right of way. The San Tomas Area Neighborhood Plan requires at least one tree for every 2,000 square feet of net lot area ($17,777 / 2,000 = 8.8 \sim 9$ trees required).

5. CULTURAL RESOURCES

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

(a): The Phase I Environmental Site Assessment prepared for the project identified the historic of use of the property as agricultural production (orchards) and the most recent use as a house which was constructed circa 1945 (the original sewer connection permit was issued in 1960). Previous known uses would be associated with indigenous populations with no recorded records. As a result, no archaeological or other cultural resources are known to exist on the project site. If archaeological, paleontological, or cultural resources or human remains are discovered, a standard City Condition of Approval will require proper handling of any discovered archeological or paleontological resources, per General Plan Strategy CNR-1.1b.

Archaeological Resources: In accordance with CEQA and the State Public Resources Code, require the discontinuation of all work in the immediate vicinity and the preparation of a resource mitigation plan and monitoring program by a licensed archaeologist if archaeological resources are found on any sites within the City.

Should human remains be discovered during excavation or construction, such remains shall be handled pursuant to § 7050.5 of the California Health and Safety Code and § 5097.94 of the California Public Resources Code. Specifically, in the event a human burial or skeletal element is identified during excavation or construction, work in that location shall stop immediately until the find can be properly treated. The Santa Clara County Coroner shall be notified and shall make a determination as to whether remains are Native American in origin and take such actions as required by law.

Mitigation Measures(s):

CUL – 1: If archaeological or paleontological resources are encountered during excavation or construction, construction personnel shall be instructed to immediately suspend all activity in the immediate vicinity of the suspected resources and the City and a licensed archeologist or paleontologist shall be contacted to evaluate the situation. A licensed archeologist or paleontologist shall be retained to inspect the discovery and make any necessary recommendations to evaluate the find under current CEQA guidelines prior to the submittal of a resource mitigation plan and monitoring program to the City for review and approval prior to the continuation of any on-site construction activity.

6. GEOLOGY AND SOILS

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a): The project site is located within the seismically active San Francisco Bay Area. According to maps prepared under the Alquist-Priolo Earthquake Fault Zone Act, there are no zoned active faults within the City of Campbell. Therefore, ground rupture is not likely to occur at the site. The nearest major earthquake faults are the Monte Vista Shannon Fault, San Andreas Fault, the Hayward-Rogers Creek Fault and the Calaveras Fault, all of which pose the greatest earthquake threat because of their high quake potential. The project will likely be subjected to at least one moderate to severe earthquake that will cause moderate to severe ground shaking during the useful life of the building. Because construction practices in the State of California—pursuant to the California Building Code—take into account that earthquakes could potentially damage buildings, they are designed to withstand moderate ground-shaking, resulting in a less than significant impact.

In regard to liquefaction, the geotechnical evaluation concluded that the potential for liquefaction of the site is low, and that while the northerly portion of the project site is located in an area of “historic occurrence of liquefaction, or local geological, geotechnical, and ground water conditions indicate potential for permanent ground displacements such that mitigation as defined in PRCS 2693 (c) would be required” the site would be suitable for the proposed improvements with the implementation of the proposed mitigation measures. Most notably, Unit 4 will be required to be built on a drilled pier and grade beam foundation, instead of being built on conventional spread footing foundations.

(b): The project does not involve any grading, which would not result in substantial soil erosion or the loss of topsoil.

(c): According to the Santa Clara County Geologic Hazard Zones Map, the project site is not geologically unstable and would not pose a risk of landslide, lateral spreading, subsidence, liquefaction or collapse.

(d): A Geotechnical Investigation report prepared for this project evaluated the geotechnical conditions of the site. The review included four CPTs and 3 soil probes were advanced in the area of the proposed improvements to a maximum depth of approximately 30 feet. Based on the results of the investigation the subject site was determined to be geotechnical suitable for the proposed development. With incorporation of Mitigation Measure GEO-1 —requiring compliance with all measures identified by the geotechnical report—the project would not be located soil that is unstable, or that would become unstable as a result of the project.

(e): The project would not involve the use of septic tanks or alternative waste water disposal systems.

(f): As discussed in Section 5 (Cultural Resources), no unique paleontological resources or unique geological features are known to exist on the project site. However, should such resources exist, their disturbance would be a potentially significant impact. Incorporation of Mitigation Measure CUL-1 will ensure that in such event, treatment of paleontological resources or unique geological features, would be conducted in an appropriate manner as to preserve their integrity.

Mitigation Measures(s):

GEO – I: The applicant shall comply with the recommendations in the Geotechnical Investigation, dated August 2, 2016 prepared by Kristofer T. Korth, P.E. (No. 82838) and Andrew D. Murray, P.E. (No. C44562) of Murray Engineers. Such recommendations shall be incorporated into the project’s final engineering design to minimize the damage from seismic shaking, unsuitable fill, and other geological deficiencies. The project shall use standard engineering techniques and conform to the requirements of the International Building Code to reduce the potential for seismic damage and risk to future occupants.

7. GREENHOUSE GAS EMISSIONS

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

(a): The BAAQMD thresholds of significance and screening criteria also apply to greenhouse gases. For greenhouse gas impacts, the screening size for single-family residences is 56 dwelling units. The project, which consists of four (4) single-family residential units, is well below the BAAQMD greenhouse gases threshold of significance for single-family residential land use, and thus the project would have a less-than-significant air quality impact with regards to greenhouse gases.

(b): The City of Campbell has not adopted a Climate Action Plan or any comparable policy or regulation pertaining to the reduction or monitoring of greenhouse gases.

Mitigation Measure(s): None Required.

8. HAZARDS AND HAZARDOUS MATERIALS

<i>Would the project:</i>		Issues	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)		Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)		Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)		Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)		Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)		For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)		For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g)		Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h)		Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a and b): No routine transport, use or disposal of hazardous materials would be associated with the project. A slight hazardous potential would exist during the demolition of the existing home (which was built in 1979 and therefore may have lead or asbestos) and project construction when materials and construction equipment are at the site; however, long-term hazard risk is very low. With incorporation of Mitigation Measure HAZ-1, which requires qualified contractors assess the presence of the lead and asbestos in order to properly manage and dispose of such materials, the project would not create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Hazard risks during construction would be regulated by the City's standard conditions of approval and will be required to be performed in accordance with state and federal hazardous materials regulations and current Best Management Practices (BMP's) for construction activities. The use of toxic chemicals for landscaping (pesticides, herbicides, etc.) will not be above what is generally required for landscape maintenance and is not considered significant.

(c): The project site is within ½ mile of the Good Soil Baptist Church (which offers Sunday School), located southwest of the project site. However, the operation of the project will not include hazardous emission or handling of hazardous or acutely hazardous materials, substances. Further, as discussed in Section 3 (Air Quality), construction and demolition related air pollutants that may constitute a hazard are regulated through Best Management Practices as required by City Ordinances and reiterated through Mitigation Measure AIR – 1.

(d): The project site is not listed on the Hazardous Waste and Substances Sites List (available at http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm) compiled pursuant to Government Code Section 65962.5, therefore it would not create a significant hazard to the public or the environment. Further the site is not listed as a past or present case (or informational item) on the State Water Resources Control Board GeoTracker website (<https://geotracker.waterboards.ca.gov/>).

(e to f): The project site is not located within the Santa Clara County Airport Land Use Commission jurisdiction, within two miles of a public airport or within the vicinity of a private airstrip.

(g): The project would not interfere with emergency response or evacuation plans. Sufficient emergency access and emergency services staff would be provided for the project site in compliance with the State of California Building Code Standards and requirements of the Santa Clara County Fire and Health Departments.

(h): The project site is not located near any wildland areas and would not cause an increase in wildland fire hazard.

Mitigation Measure(s):

HAZ-1: Prior to issuance of a demolition permit, a qualified contractor shall assess the property for presence of Lead-based paint (LBP) and Asbestos containing building materials (ACBM), and if present, prepare a plan, to the satisfaction of the Building Official, to properly manage and dispose of such materials.

9. HYDROLOGY AND WATER QUALITY

<i>Would the project:</i>		Issues	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)		Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)		Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)		Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)		Create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)		Create significant increases in erosion of the project site or surrounding areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)		Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g)		Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h)		Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i)		Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(j)		Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(k)		Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(l)		Potentially impact stormwater runoff from construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(m)		Potentially impact stormwater runoff from post-construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(n)		Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(o)		Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(p)		Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a and b): The project will be adequately served by existing water supplies, and will be served by the local area water utility as confirmed in written correspondence (“will serve” letter) by the San Jose Water Company. No violations of any water quality standards are expected from the project. The project would not directly deplete groundwater supplies (no wells) or interfere substantially with groundwater recharge (the project is evaluated for the amount of proposed pervious and impervious area to maintain or improve upon existing conditions) such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

(c to g): No significant increase in impervious surface area of the lot would result from the project. However, all additional runoff would be conveyed into the public storm drain system. These changes to the Project site would not substantially alter the existing drainage pattern of the area due to the small size of the site. Storm water would be conveyed into the public storm drain system. The course of streams or rivers would not be affected by the proposed Project. The runoff from construction of the proposed Project would not exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or substantially degrade water quality.

(h and i): The entire Project site is located in Flood Zone X, according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. Flood Zone X is defined as an areas determined to be outside the 0.2% annual chance floodplain.

(j and k): The Project site is located downstream of Lexington Reservoir, in an area defined by the Association of Bay Area Governments as a dam failure inundation area. However, the project is only would not expose any additional people or structures to a new significant risk of loss, injury, or death involving flooding. Furthermore, as the project is not modifying flood protection measures or creating a condition where adjacent properties are exposed to a new significant risk of loss, injury or death involving flooding, no additional exposure to water-related hazards is expected as a result of the project construction or operation.

(l): As discussed in Section 3 (Air Quality), construction and demolition activities are regulated through Best Management Practices as required by City ordinances and reiterated by Mitigation Measure AIR – 1, which is designed to limit air and water contamination related to construction activity. With the implementation of this measure, as well as Mitigation Measure HAZ-1 which requires qualified contractors assess the presence of the lead and asbestos in order to property manage and dispose of such materials, the project would not create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

(n): The project will not include uses that would include vehicle fueling, waste handling, hazardous material storage, or other outdoor work areas that could result in the potential discharge of stormwater pollutants.

(o and p): The Project had been reviewed for compliance with Provision C.3 of the National Pollution Discharge Elimination System (NPDES) and had been determined to be below the required thresholds to trigger pollution prevention measures. Furthermore, as the project site does not include any material storage, vehicle or equipment fueling, vehicle or equipment maintenance, waste handling, hazardous materials handling or storage, delivery areas, loading docks, or other outdoor work areas, the project would not violate any water quality standards as it would not result in the potential for stormwater pollutants.

Mitigation Measure(s): None Required.

10. LAND USE and PLANNING

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a): Projects that have the potential to physically divide an established community typically include construction that would eliminate formal or informal travel ways through a property. No such pathways or other forms of informal access through the project site currently exist. Therefore, the project would not physically divide an established community.

(b): The Campbell General Plan Land Use Element Diagram and Campbell Zoning Map designate the project site as *Medium Density Residential (less than 6-13 units/gr. acre)* and R-M (Multiple-Family Residential), respectively. The Project would result in the creation of four residential parcels, and a common lot, at an approximate density 8.71 units per gross acre and rezone the property to P-D (Planned Development) which allows for residential development within this density range. As such, the proposed subdivision would be consistent with the City of Campbell General Plan and Zoning Ordinance.

(c): No habitat conservation plan or natural community conservation plans are applicable to the project site.

Mitigation Measure(s): None Required.

11. MINERAL RESOURCES

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a to b): No known mineral resources are present at the project site.

Mitigation Measure(s): None Required.

12. NOISE

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a to b): The City's Noise Ordinance (CMC Sec. 21.16.070.E) provides the following noise exposure standards for new residential development:

- Noise from stationary sources. New residential development shall conform to a stationary source noise exposure standard of 65 dBA for exterior noise levels and 45 dBA for interior noise levels.
- Traffic-related noise. New residential development shall conform to a traffic-related noise exposure standard of 60 dBA CNEL for outdoor noise in noise-sensitive outdoor activity areas and 45 dBA CNEL for indoor noise.

To verify compliance, an acoustical study was conducted for the site which determined that based upon site noise measurements, present and anticipated future traffic volumes, and traffic noise modeling, a worst-case Design Noise Level for Unit 1 (closest to Elam Avenue) is 63 dBA, and that because of the location and site orientation, traffic noise impacts would be less at the other three properties (Units 2 through 4). The report goes on to state that although these sites have relatively low CNEL, to better mitigate peak noise incidents from traffic, such as trucks and motorcycles, an additional 12 dBA of protection is recommended, but not required. Based on the results of the investigation the subject site would satisfy the noise requirements for the proposed development, with the incorporation of Mitigation Measures NOI-1 through NOI-5.

(c): Single-Family residences are classified as sensitive receptors of noise, and to this extent do not themselves generate noise of any appreciable level. As such, the project would not result in increase in ambient noise within the vicinity of the project site.

(d): Construction of single-family residences that will eventually result from the project will temporarily increase ambient noise levels in the project vicinity. However, future construction is governed by CMC Sec. 18.04.052, which limits construction activity from 8 AM to 5 PM., Monday through Friday, 9 AM to 4 PM on Saturday, and prohibits construction on Sunday or National Holidays. Additionally, loud environmentally disruptive noise over 50 dBA (e.g., air compressors without mufflers, continuously running motors or generators, loud playing musical instruments or

radios) is prohibited. As such, temporary ambient noise level increases associated with construction will be less than significant.

(e and f): The project is not located within the vicinity of an airport land use plan or within two miles of an airport. The project is not located within the vicinity of a private airstrip.

Mitigation Measure(s):

NOI-1: Windows must have a minimum STC rating of 20 dB, which is met by standard openable double-glazed thermal windows, with two 1/8" lights separated by a 1/2" air space and with good weather seals. For better reduction of loud vehicle noise, an STC performance of 30 STC is recommended, *but not required*.

NOI-2: Outside doors, such as for front entrances or patios, particularly for Unit 1, should meet a tested STC rating of 20 to 30 to match the overall sound transmission mitigation criteria.

NOI-3: Mitigation of outside noise is based upon windows that are closed in order to provide the required noise protection. Therefore, all units must have a ventilation system that provides a habitable interior air quality environment with the windows closed, regardless of outside temperature. In addition, noise levels produced by heating and air conditioning units for the project must not themselves create a noise problem for any of the residential units associated with the project or adjacent properties.

NOI-4: Good noise design must be implemented by good field construction practices or the design performance will not be achieved. This includes minimizing all penetrations of and connections between party wall and floor/ceiling assemblies, and acoustical sealant around any necessary penetrations.

NOI-5: A 6 to 7-foot solid wood property line fences and gates shall be required to protect back yard activity areas, which will provide the required outdoor activity area noise reduction.

13. POPULATION AND HOUSING

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a): The project will eventually result in the construction of four single-family residential units on a property identified by the Campbell General Plan Housing Element as being suitable and appropriate for housing. The introduction of four single-family residences in a predominantly developed residential neighborhood represents only a nominal increase of population growth. There is no foreseeable indirect population growth associated with the project. The infrastructure provided to service the project site is designed to serve only the proposed residential units.

(b and c): The project will require the demolition of the existing residence that has been vacated, and build four new residential units. Therefore the Project will not result in the displacement of any people or housing units, which would necessitate the construction of replacement housing elsewhere.

Mitigation Measure(s): None Required.

14. PUBLIC SERVICES

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i) Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

(a): The project will require public services such as fire, police services, schools, open space, and street maintenance, commensurate with the scale of the project. The County Fire District, Campbell Police Department, City stakeholder agencies, and area school districts reviewed the project and determined services could be provided at an acceptable level. Existing parkland is sufficient to serve the residents of the project, as discussed in Section 15 (Recreation) and the developer will be required to pay park fees for the creation of new residential units less a credit for the removal of an existing unit.

Mitigation Measure(s): None Required.

15. RECREATION

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>					
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a): Residents of the project are likely to access Jack Fisher Park located roughly half a mile south of the project site, or San Tomas Park located roughly half a mile north of the project site. Due to the limited scope and scale of the project, only a nominal increase in the use of City and regional parks and other recreational facilities can be expected as a result of the project.

(b): The project does not any include recreational facilities.

Mitigation Measure(s): None Required.

16. TRANSPORTATION and TRAFFIC

<i>Would the project:</i>		Issues	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)		Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)		Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)		Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)		Substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)		Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)		Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g)		Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

(a and b): A trip generation analysis based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, prepared by the City Traffic Engineer anticipates that the project (net) would result in a an average of 27 daily trips, including 2 AM peak hour (7:00 – 9:00) outbound trips and 2 PM peak hour (4:00 – 6:00) inbound trips. This nominal increase in trips would not result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at area intersections.

Net Project Trips										
Land Use	Qty.	Units	AM Peak			PM Peak			ADT	ITE CODE
			Total	Inbound	Outbound	Total	Inbound	Outbound		
Existing Unit (1 Removed)	-1	DU	-1	0	-1	-1	-1	0	-9	210
Proposed Unit (5 Added)	4	DU	3	1	2	4	3	1	38	210
Net Trips	3	DU	2	1	1	3	2	1	27	10th Ed.

(c): The project will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

(d): The proposed public roadway is designed consistent with public roadway standards for residential streets as determined by the City Engineer and would not result in hazards due to a design features or incompatible uses.

(e): The project has been designed to comply with emergency access requirements of the Santa Clara Fire Department. The project plans include an emergency vehicle access plan that illustrates compliance with said standards. The County Fire Department has reviewed the project during the

City's department review committee process and will again review the access routes during review of construction drawings.

(f): Anticipated single-family development will be subject to the City's parking standard of three spaces per unit (2-designated, 1 guest), which will result in adequate parking capacity (12 parking spaces for 4 residential units).

(g): The project site is not in vicinity of any light-rail or comparable bus rapid transit (BRT) line (the closest bus stops occur near Burrows Road and Hacienda Avenue to the south), and as a result is not subject to City policies encouraging alternative transporting solutions (e.g., provision of transit-passes, incorporation of bicycle parking, etc.). Additionally, the City's adopted requirements for alternative transportation solutions per CMC Sec. 21.28.070 require provision bicycle and clean-air vehicle parking only for non-residential development subject to the Green Building Standards Code (CALGreen). The project, therefore, will not conflict with adopted policies, plans, or programs supporting alternative transportation.

Mitigation Measure(s): None Required.

17. UTILITIES and SERVICE SYSTEMS

<i>Would the project:</i>		Issues	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f)	Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g)	Comply with federal, state, and local statutes and regulations related to solid wastes.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

(a and b): The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board; require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. The West Valley Sanitation District has provided written correspondence (“will serve” letter) which indicates that the sewer facilities are adequate to support the site.

(c): The stormwater runoff generated by the project site would be collected and treated on-site in compliance with Provision C.3 of the National Pollution Discharge Elimination System (NPDES) requirements as discussed in Section 9 (Hydrology and Water Quality) and will not require expansion or construction of new stormwater treatment facilities.

(d): The project will be adequately served by the existing water supplies, as confirmed in written correspondence (“will serve” letter) by San Jose Water Company, the local area water utility.

(e): The project would connect to the existing waste water treatment system, which currently has sufficient capacity to receive the additional waste water generated from the proposed project. Therefore, the project would not impact the ability of the waste water treatment provider (West Valley Sanitation District) to meet its current commitments for service.

(f to g): Existing capacity at local landfills can accommodate the amount of waste generated as a result of project operation. The project would comply with Federal, State and local statutes and regulations related to solid waste.

Mitigation Measure(s): None Required.

18. MANDATORY FINDINGS OF SIGNIFICANCE

Issues		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

(a): Based on the findings of the Initial Study, construction and operation of the project, with mitigation, would not substantially degrade the quality the environment; reduce the habitat, population, or range of species; nor eliminate important examples of California history or prehistory.

(b): Based on the findings of this Initial Study, the project would not have individual or cumulative environmental impacts that cannot be mitigated to a less than significant level.

(c): Based on the findings of the Initial Study, there is no evidence to demonstrate that the project would cause a substantial adverse effect on human beings, either directly or indirectly.

Mitigation Measure(s): None Required.

III. RECOMMENDATION and DETERMINATION

Recommendation: On the basis of this initial evaluation, the following measures are recommended to reduce potentially significant effects on the environment to a less than significant level:

1. **Aesthetics:** None Required
2. **Agricultural Resources:** None Required
3. **Air Quality:**

AIR-1: The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites:

- a. All active construction areas shall be watered twice daily or more often if necessary. Increased watering frequency shall be required whenever wind speeds exceed 15 miles-per-hour.
- b. Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads and parking and staging areas at construction sites.
- c. Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials shall be covered.
- d. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- e. Subsequent to clearing, grading, or excavating, exposed portions of the Site shall be watered, landscaped, treated with soil stabilizers, or covered as soon as possible.
- f. Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways.
- g. Replanting of vegetation in disturbed areas as soon as possible after completion of construction.
- h. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- i. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- j. Post a publicly visible sign with the telephone number and person to contact at the City of Campbell regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

4. Biological Resources: None Required**5. Cultural Resources:**

CUL-1: If archaeological or paleontological resources are encountered during excavation or construction, construction personnel shall be instructed to immediately suspend all activity in the immediate vicinity of the suspected resources and the City and a licensed archeologist or paleontologist shall be contacted to evaluate the situation. A licensed archeologist or paleontologist shall be retained to inspect the discovery and make any necessary recommendations to evaluate the find under current CEQA guidelines prior to the submittal of a resource mitigation plan and monitoring program to the City for review and approval prior to the continuation of any on-site construction activity.

6. Geology and Soils:

GEO-1: The applicant shall comply with the recommendations in the Geotechnical Investigation, dated August 2, 2016 prepared by Kristofer T. Korth, P.E. (No. 82838) and Andrew D. Murray, P.E. (No. C44562) of Murray Engineers. Such recommendations shall be incorporated into the project's final engineering design to minimize the damage from seismic shaking, unsuitable fill, and other geological deficiencies. The project shall use standard engineering techniques and conform to the requirements of the International Building Code to reduce the potential for seismic damage and risk to future occupants.

7. Greenhouse Gas Emissions: None Required**8. Hazards and Hazardous Materials:**

HAZ-1: Prior to issuance of a demolition permit, a qualified contractor shall assess the property for presence of Lead-based paint (LBP) and Asbestos containing building materials (ACBM), and if present, prepare a plan, to the satisfaction of the Building Official, to properly manage and dispose of such materials.

9. Hydrology and Water Quality: None Required**10. Land Use and Planning:** None Required**11. Mineral Resources:** None Required**12. Noise:**

NOI-1: Windows must have a minimum STC rating of 20 dB, which is met by standard openable double-glazed thermal windows, with two 1/8" lights separated by a 1/2" air space and with good weather seals. For better reduction of loud vehicle noise, an STC performance of 30 STC is recommended, but not required.

NOI-2: Outside doors, such as for front entrances or patios, particularly for Unit 1, should meet a tested STC rating of 20 to 30 to match the overall sound transmission mitigation criteria.

NOI-3: Mitigation of outside noise is based upon windows that are closed in order to provide the required noise protection. Therefore, all units must have a ventilation system that provides a habitable interior air quality environment with the windows closed,

regardless of outside temperature. In addition, noise levels produced by heating and air conditioning units for the project must not themselves create a noise problem for any of the residential units associated with the project or adjacent properties.

NOI-4: Good noise design must be implemented by good field construction practices or the design performance will not be achieved. This includes minimizing all penetrations of and connections between party wall and floor/ceiling assemblies, and acoustical sealant around any necessary penetrations.

NOI-5: A six to seven-foot solid wood property line fences and gates shall be required to protect back yard activity areas, which will provide the required outdoor activity area noise reduction.

13. Population and Housing: None Required

14. Public Services: None Required

15. Recreation: None Required

16. Transportation and Traffic: None Required

17. Utilities and Service Systems: None Required

18. Mandatory Findings of Significance: None Required

Determination: On the basis of this initial evaluation, and incorporation of the recommended mitigation measures into the project design:

1.	I find that the project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
2.	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	<input checked="" type="checkbox"/>
3.	I find the proposed project may have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
4.	I find that the proposed project may have a “potentially significant impact” or “potentially significant unless mitigated impact” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	<input type="checkbox"/>
5.	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	<input type="checkbox"/>

Stephen Rose
PROJECT PLANNER

Associate Planner
TITLE

City of Campbell
AGENCY



SIGNATURE

November 16, 2017
DATE

IV. REFERENCE MATERIALS

Exhibits (May be viewed at <http://www.cityofcampbell.com/General/PublicNotices.htm>):

1. Geotechnical Investigation by Murray Engineers Inc., dated August 2, 2016.
2. Phase I Environmental Site Assessment by IRC Environmental Consulting, dated November 15, 2016.
3. Noise Environmental Evaluation & Design Recommendations by Stan Shelly of Environmental Consulting Services, dated November 18, 2016
4. Will Serve Letters (WVSD, Campbell Union School District, PG&E, & San Jose Water)
5. Air Quality Screening Evaluation by IRC Environmental Consulting, dated September 11, 2017

Reference Documents:

1. Bay Area Air Quality Management District (BAAQMD). (Adopted) April 19, 2017. Final 2017 Clean Air Plan (CAP).
2. Bay Area Air Quality Management District (BAAQMD). May 2017. California Environmental Quality Act Air Quality Guidelines. Table 2-1. Air Quality CEQA Thresholds of Significance. (Including Risk and Hazards for new sources and receptors).
3. Bay Area Air Quality Management District (BAAQMD). Accessed online in November 2017. Tools and Methodologies, BAAQMD CEQA Air Quality Risks and Hazards Analysis Tools. (various online risks and hazards screening analysis tools) (Primary Webpage [with links to various online screening tools]. <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools> (accessed online).
4. Hazardous Waste & Substances Sites List. http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm (accessed online)
5. State Water Resource Control Board: <https://geotracker.waterboards.ca.gov/> (accessed online)
6. State of California, Seismic Hazard Zones Map, San Jose West Quadrangle, February 7, 2002. <http://www.conservation.ca.gov/cgs/shzp> (accessed online)
7. California Natural Diversity Database, 2000.
8. CEQA Guidelines, 2017 version. http://www.califaep.org/images/ceqa/statute-guidelines/2017/CEQA_Handbook_2017_with_covers.pdf (accessed online)
9. City of Campbell General Plan.
10. City of Campbell Zoning Code.

EXHIBIT 1

GEOTECHNICAL INVESTIGATION

**GEOTECHNICAL INVESTIGATION
ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA**

**THIS REPORT HAS BEEN PREPARED FOR
YAN HUA ZHU
1830 GUINDA STREET
PALO ALTO, CALIFORNIA 94303**

JULY 2016





August 2, 2016
Project No. 2534-1R1

Yan Hua Zhu
1830 Guinda Street
Palo Alto, 94303

**RE: GEOTECHNICAL INVESTIGATION,
ZHU RESIDENTIAL DEVELOPMENT,
1323 ELAM AVENUE,
CAMPBELL, CALIFORNIA**

Ladies and Gentlemen:

We are pleased to present the results of our geotechnical investigation relating to the 4-lot residential development and associated improvements on the property at 1323 Elam Avenue in Campbell, California. This report summarizes the results of our field, laboratory, geologic and engineering evaluations, and presents conclusions and recommendations concerning the geologic and geotechnical engineering aspects of the project.

The conclusions and recommendations presented in this report are contingent upon our review and approval of the project plans and our observation and testing of the geotechnical aspects of the construction.

If you have any questions concerning our investigation, please call.

Sincerely,

MURRAY ENGINEERS, INC.

Kristofer T. Korth, P.E.
Senior Engineer



Andrew D. Murray, P.E.
Principal Engineer



AK:KTK:AM

Copies: Addressee (2)
Gordana Design Studio LLC (4)
Attn: Gordana Pavlovic

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**GEOTECHNICAL INVESTIGATION
ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA**

INTRODUCTION

This report presents the results of our geotechnical investigation relating to the 4-unit residential development and associated improvements on the property at 1323 Elam Avenue in Campbell, California. The project location is indicated on the Vicinity Map, Figure A-1. The purpose of our investigation was to evaluate the local geologic conditions and hazards, evaluate and review the subsurface conditions on the site in the area of the proposed improvements, and to provide geotechnical design criteria and recommendations for the project.

Project Description

The approximately 0.44-acre property is located on the north side of Elam Avenue in a fully developed residential area of Campbell. Based on the most recent architectural site plan, we understand the project will consist of subdividing the 0.44-acre property to create 5 lots, and constructing a total of four detached, two-story single-family residences at the site. Each new residence will have an approximately 1,500 square-foot footprint and will include an attached, two-car garage. No basements are planned. Additional site improvements will include a new shared driveway to the east of the planned new residences; the driveway will include a fire truck turnaround and will be constructed with a permeable driveway surface. The existing site improvements will be demolished prior to construction. We anticipate structural loads associated with the planned improvements will be relatively light and typical of residential construction. The approximate layout of the existing and proposed improvements is shown on Figure A-2, Site Plan; we have labeled the four planned residences as Units 1-4 (starting with Unit 1 on the south side) on the referenced site plan.

Scope of Services

We performed the following services in accordance with our agreement with you dated April 28, 2016 (executed May 4, 2016):

- Reviewed geologic and seismic conditions in the site vicinity and commented on the geologic hazards that could potentially impact the site and the proposed residences and associated improvements
- Performed a reconnaissance of the site in the area of the proposed improvements
- Explored the site subsurface conditions by advancing and logging four cone



- penetration tests and 3 soil probes in the area of the proposed improvements
- Performed laboratory testing on selected soil samples for soil classification and to evaluate engineering properties of the subsurface materials
- Performed engineering geologic analyses to evaluate the potential impacts of geologic hazards on the proposed improvements
- Performed geotechnical engineering evaluations and analyses, including seismic-induced liquefaction settlement and static consolidation potential at the site, to develop geotechnical engineering design criteria for the proposed improvements
- Prepared this report containing a summary of our investigation and our engineering geologic and geotechnical conclusions and recommendations

GEOLOGIC & SEISMIC CONDITIONS

Geologic Overview

The subject property is located on the western margin of the Santa Clara Valley, a broad, sediment-filled basin bounded on the southwest by the Santa Cruz Mountains and on the northeast by the Diablo Mountain range. According to the USGS topographic map (Palo Alto Quadrangle) of the area, which is reproduced in the Vicinity Map, Figure A-1, the site is situated at an approximate elevation of 250 feet above mean sea level. According to the Preliminary Geologic Map of the San Jose 30 x 60-Minute Quadrangle (Wentworth and others, 1999), the site is underlain by alluvial fan deposits (Qpf). The alluvial fan deposits are generally described as Upper Pleistocene (approximately 130,000 to 11,000 years old) tan to reddish brown gravelly and crudely bedded, clast supported deposits consisting of cobble-sized clasts in a clayey and sandy matrix. The relevant portion of the geologic map is included as Figure A-3, Vicinity Geologic Map.

According to the State of California Seismic Hazard Zones Map for the San Jose West Quadrangle (2002), the site is located in an area where historical occurrences of earthquake-induced liquefaction, or local geological, geotechnical and groundwater conditions indicate potential for permanent earthquake-induced ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) may be required. A copy of the relevant portion of this map is presented on the State Seismic Hazard Zones Map, Figure A-4.

Faulting & Seismicity

Geologists and seismologists recognize the San Francisco Bay Area as one of the most active seismic regions in the United States. There are three major faults that trend in a northwest direction through the Bay Area, which have generated about 12 earthquakes per century large enough to cause significant structural damage. The faults causing these earthquakes are part of the San Andreas fault system that extends for at least 700 miles along the California



Coast, and includes the San Andreas, Hayward, and Calaveras faults. The San Andreas fault is located approximately 5.8 miles southwest of the site. The Hayward and Calaveras faults are located approximately 11.8 and 14.4 miles northeast of the site, respectively. In addition, the potentially active Monte Vista-Shannon fault zone is located approximately 1.4 miles southwest of the site.

Seismologic and geologic experts convened by the U.S. Geological Survey, California Geological Survey, and the Southern California Earthquake Center conclude that there is a 63 percent probability for at least one “large” earthquake of magnitude 6.7 or larger in the Bay Area before the year 2038. The northern portion of the San Andreas fault is estimated to have a 21 percent probability of producing a magnitude 6.7 or larger earthquake by the year 2038 (2007 Working Group on California Earthquake Probabilities, 2008).

HISTORIC CHANNEL BACKFILL EVALUATION

Based on a review of historic topographic maps of the site and correspondence with Santa Clara Valley Water District and Public Works of Campbell, we established that Smith Creek ran through the northern portion of the site and was backfilled sometime between 1961 and 1968 and redirected 270 feet west of the site. During that time period, the creek was relocated further to the west in a concrete channel that is owned and operated by SCVWD.

A topographic map generated by the U.S. Geological Survey (1981, revised in 1968) showed the presence of a creek running through the northern portion of the property and was used as a basis for depicting the liquefaction hazard zone in our site plan. The referenced topographic map provided an approximate location and rough location of the creek before it was diverted during that time period. We note that the depth of the old channel was not documented. Due to the limited photos and location of the site, the area of the creek channel was approximated directly from regional topographic maps.

SITE EXPLORATION & RECONNAISSANCE

Exploration Program

A site reconnaissance was performed by our staff geologist on May 3, 2016. Our subsurface exploration was performed on May 25, 2016 and included four cone penetration tests (CPT) to the maximum depth of approximately 30 feet and three soil probes to the maximum depth of 22 feet at the locations shown on Figure A-2, Site Plan. The CPT and soil probe were approximately determined by measuring distance from building corners using a tape measure and should be considered accurate only to the degree implied by the mapping technique used.



Soil Probe

The soil probes were advanced by direct push methods using a Geoprobe 6625CPT track-mounted rig equipped with a pneumatic hammer and a dual-tube soil sampling system. Soil samples were collected continuously over the full depth of the probe in 1.4-inch (outside diameter) by 4-foot long clear plastic liners.

The computed SPT (N_{60}) blow count data, which is presented on the probe logs, was derived from the cone penetration data using methods described in the Cone Penetration Test section below. Because the CPT data is collected in 15-centimeter intervals is not practical to present on conventional soil probe log in its entirety, we have taken the average computed SPT (N_{60}) blow count value for each 2-foot depth interval and presented it on the probe log at the center of the averaged 2-foot interval. In addition, we calculated the dry density by dividing the average unit weight (wet density) value for each 2-foot depth interval computed from the CPT data by our laboratory water contents and presented them on the probe logs at the center of the averaged 2-foot interval. The logs of our probes are presented in Appendix B as Figure B-1 through B-3. Also included in Appendix B is Figure B-4, Key to Soil Probe Log; and Figure B-5, Unified Soil Classification System.

Cone Penetration Tests

Cone penetration testing (CPT) is a subsurface exploration method (ASTM Test Method D-5778) whereby soil characteristics are measured using an integrated electronic cone system hydraulically pushed into the ground. The cone device measures cone bearing (q_c), sleeve friction (f_s) and pore water pressure (u_2) at 2-centimeter intervals during penetration and correlates this information on a log in graphic form. The measurements were developed using a 100MPa capacity cone with a tip area of 10 cm² and a friction sleeve area of 150 cm². Tip resistance of the cone is corrected using a net area factor of 0.58 for the cone tip and net area factor of 0.014 for the friction sleeve. The cone also contains a sintered brass porous filter element located directly behind the cone tip for measurement of pore water pressure.

Soil classification and behavior type can be estimated from empirical relationships between q_c , f_s , and u_2 . Generally, cohesive soils (silts and clays) have a higher friction ratio due to small cone bearing pressure and generate large excess pore water pressures, while cohesionless soils (sands and gravels) have a low friction ratio due to large cone bearing pressure and generate very little excess pore water pressures. This information can also be used to develop SPT (N_{60}) corrected blow count data for interpretation of relative density by correlating empirical relationships between q_c and the soil behavior type index (I_c). The logs of our CPTs are presented in Appendix C as Figures C-1 through C-4.

Site Description

The approximately 0.44-acre, relatively flat property is located on the north side of Elam Avenue in a fully developed residential neighborhood in Campbell. The trapezoid-shaped property measures approximately 290 feet along its longest edge by 70 feet wide. The property is bound by Elam Avenue to the south and residential properties on all other sides. A single-story residence with a detached garage is located in the southern portion of the site. An unused greenhouse structure is located in the rear of the building. Concrete patios are located in the front and rear of the residence. A brick paver patio is located at the rear of the residence.

The site is accessed by an unpaved driveway extending north from the western end of the property and leads to the garage. A wood-fenced fire truck access road extends along the eastern length of the property. The remaining portion of the site is sparsely vegetated with lawn, bushes, shrubs, and small trees.

Drainage across the property is generally characterized as uncontrolled sheet flow to the southwest interrupted by the building pad.

Subsurface

Four CPTs and 3 soil probes were advanced in the area of the proposed improvements to a maximum depth of approximately 30 feet. The locations of the CPTs and soil probes are shown on Figure A-2. In general, the CPTs and exploratory borings encountered predominantly fine-grained alluvium consisting of clays and silts interbedded with layers of coarse-grained alluvium consisting of sands and gravels. A relatively consistent coarse-grained unit was encountered across most of the site at depths of approximately 4 to 18 feet deep, consisting of very dense silty sand to clayey sand with gravel. The fine-grained alluvium encountered is predominantly very stiff to hard.

The logs of the soil probes are presented in Appendix B and logs of the CPTs are presented in Appendix C. We note that soil interpretation shown on the CPT logs is based on correlations developed by Robertson and others (1986). We note that it is not always possible to clearly identify a soil type based on this methodology.

Atterberg Limits testing on a sample of surficial alluvium from Boring B-3 at depths of 0 to 2 feet yielded a plasticity index of 10 percent and a liquid limit of 23 percent, indicating that this material has a low potential for expansion (see Figure D-1, Liquid & Plastic Limits Test Report).

Groundwater

Groundwater was not encountered in any of our soil probes or CPTs at the time of drilling. We note that fluctuations in the level of groundwater can occur due to variations in rainfall, temperature, landscaping, and other factors that may not have been evident at the time our observations were made.

LIQUEFACTION ANALYSIS & FINDINGS

As shown on Figure A-4, the site is located within a zone designated as potentially susceptible to earthquake-induced liquefaction. Liquefaction is a soil softening response, by which an increase in the excess pore water pressure results in partial to full loss of soil shear strength. In order for liquefaction to occur, the following four factors are required: 1) saturated soil or soil situated below the groundwater table; 2) undrained loading (strong ground shaking), such as by earthquake; 3) contractive soil response during shear loading, which is often the case for a soil which is initially in a loose or uncompacted state; and 4) susceptible soil type; such as clean, uniformly graded sands, non-plastic silts, or gravels. Structures situated above temporarily liquefied soils may sink or tilt, potentially resulting in significant structural damage.

To evaluate the potential for liquefaction at the site and its impact on the proposed improvements, we performed analyses using the subsurface information developed from the CPT and soil probe combined with ground acceleration values associated with a design-level earthquake to develop an estimate of the potential magnitude of liquefaction-induced total and differential settlements, as well as anticipated seismic-induced settlement above the groundwater table. Our analyses were performed using the computer program CLiq (v.1.7.6.49), which calculates a factor of safety (FS) against soil liquefaction by comparing the cyclic resistance ratio (CRR), the ratio of the resistance of the soil to liquefaction during cyclic shaking, to the cyclic stress ratio (CSR), and the seismic loading that would be likely to result from a design level earthquake at the study location. If the factor of safety for a soil layer is less than 1.0, it is more likely that the soil layer may liquefy during a moderate to large seismic event.

The CRR during a design-level earthquake is a function of groundwater level, earthquake magnitude, soil density, and the depth of the layer being evaluated. For the purpose of our liquefaction and seismic-induced settlement analyses, we considered a design groundwater level at a depth of 15 feet below the existing ground surface. According to the State Seismic Hazard Zone Report of the Palo Alto Quadrangle (California Geological Survey, 2002), the estimated peak ground acceleration in alluvial conditions in the site vicinity is approximately 0.57 g for a 10% exceedance in 50 years based on a predominant earthquake magnitude of 7.9 Mw. The soil density values were estimated based on the CPT data in accordance with

methods described in Lunne and others (1997). CLiq calculates CRR using the 2010 Robertson method (modified from the 1998 Robertson & Wride procedure), which incorporates the CPT cone tip resistance, sleeve friction, soil behavior type index, I_c , described in the Cone Penetration Test section above, and calculated shear stresses of the soil. The fines content is calculated by the program based on the CPT data using the Modified Robertson method.

Seismic-Induced Liquefaction Settlement

CLiq was used to evaluate magnitude of anticipated seismic-induced soil settlement. The program calculates liquefaction-induced and other seismic-induced settlement by dividing the subsurface soils into thin layers and calculating settlement for each layer. The settlement in each layer is calculated by multiplying the volumetric strain (qualified by the CSR) by the thickness of each layer. Seismic-induced settlements are calculated by CLiq based on the methods developed by Zhang, et al. (2002) for liquefaction-related settlement and Robertson & Lisheng (2010) for settlement in dry sands (above the groundwater table).

Our analysis is based on soil layers identified in four cone penetration tests and three confirmatory soil probe as having a relatively low potential for liquefaction as a result of a design-level earthquake. The site is potentially liquefiable as a result of a design-level earthquake. Based on these results, the CLiq program calculated up to approximately 2.5 inch of total seismic-induced liquefaction settlement based on the subsurface data collected at our CPT location. We estimate that differential settlement will be on the order of approximately half of the total estimate seismic-induced settlements and therefore, our findings indicate that there is a potential for roughly 1.3-inch of seismic-induced differential settlement to occur across the planned improvement area. The detailed results of our CLiq liquefaction settlement analysis are presented as Appendix E. As shown in Appendix E, it appears that the soil layers in our CPT identified by our analysis did not show significant potential for liquefaction-induced settlement in general.

Liquefaction Potential Index (LPI)

CLiq was also utilized to calculate the liquefaction potential index (LPI) with depth at the CPT. LPI was originally developed in Japan by Iwasaki (1978) as a probabilistic approach to estimate the potential of liquefaction to cause foundation damage at a given site, and establishes a correlation between thickness of the liquefied layer, proximity of the liquefied layer, and amount by which the factor of safety against liquefaction (calculated as described above) is less than 1.0. LPI predicts the liquefaction performance of the soil profile to a depth of 20 meters (65.6 feet) and provides an estimate of the severity of liquefaction, in relation to surface manifestations such as sand boils, ground cracking, and lateral spreading. LPI ranges from 0 at sites with no liquefaction potential to 100 for sites where the calculated

factor of safety is equal to zero over the full 20-meter depth. Based on compiled case histories, Iwasaki (1982) concluded that significant liquefaction is likely at sites with LPI greater than 15, while unlikely when LPI is less than 5. Toprak & Holzer (in press) correlated instances of liquefaction surface manifestations from the 1989 Loma Prieta, California earthquake and concluded that sand boils and lateral spreading, respectively, tend to occur where LPI is equal to or greater than 5 and 12. Additionally, a table correlating LPI with anticipated level of liquefaction severity based on case histories compiled by various authors is presented as Table 1 below.

Table 1. LPI Correlation to Liquefaction Severity*

LPI	Iwasaki et al.	Luna & Frost	MERM (2003)
	(1982)	(1998)	
LPI = 0	Very Low	Little to none	None
0<LPI<5	Low	Minor	Low
5<LPI<15	High	Moderate	Medium
15<LPI	Very High	Major	High

*Table 1 from Assessment of Liquefaction Potential Index for Mumbai City (Dixit, et. al., 2012)

The cumulative LPI calculated by CLiq over the full depth explored of CPT -3 resulted in an overall LPI average of 5 which correlates to a low severity/risk of seismic-induced liquefaction at the site. CPT-1, 2, and 4 were shown not to be liquefiable to the full depth explored.

We note that the methods of analysis used to estimate total and differential settlements do not take into account the capping layer effects of the relatively stiff and very dense, non-liquefiable soils overlying the potentially liquefiable soil layers. Specifically, for liquefaction-induced sand boils or fissures to occur, the pore water pressures induced within the liquefied strata must exert enough force to break through these overlying layers. Based on empirical design curves developed by Youd and Garris (1995), which relate the overburden thickness verses cumulative thickness of liquefiable zones, their data show that the potential for liquefaction diminishes significantly when the cumulative thickness of liquefiable zones become less than the overburden thickness. Based on this argument, a capping layer of non-liquefiable material equal or greater in thickness than the total thickness of potentially liquefiable layers may be adequate enough to prevent the occurrence of ground surface rupture at the surface. Based on our subsurface information, in general, the subject site should have a sufficiently thick (approximatley16 feet) very dense or hard, non-liquefiable layer above the potentially liquefiable layers to partially mitigate the potential for liquefaction-induced settlement during a large magnitude earthquake. Furthermore, to our knowledge, no historical evidence of seismic induced ground deformation has been documented at this site (Knudsen et al., 2000).



CONCLUSIONS

From a geotechnical perspective, it is our opinion that the site is suitable for the proposed improvements provided that the recommendations contained in this report are implemented in the design and construction of the project. In our opinion, the primary geotechnical constraints to the proposed improvements is the potential for differential compaction of historic channel backfill in the northern portion of the site, the potential for strong ground shaking at the site during a moderate to large earthquake on the San Andreas fault or one of the other nearby active faults.

Based on our investigation, the site appears to be blanketed by predominantly stiff to hard fine-grained alluvial soils with layers of very dense coarse-grained alluvial soils to the depth explored of 22 feet. In our opinion, the underlying competent alluvial soils should provide adequate support for the proposed new foundations.

Geologic Hazards

As part of our investigation, we evaluated the potential for geologic hazards to impact the site and the proposed improvements. The results of our review are presented below:

- ❖ **Fault Rupture** – Based on our site reconnaissance, subsurface exploration, and review of published maps, it is our opinion that no known active or potentially active faults cross the subject property. Therefore, in our opinion the potential for fault rupture to occur at the site is relatively low.

- ❖ **Ground Shaking** – As noted in the Seismicity section above, moderate to large earthquakes are probable along several active faults in the greater Bay Area. Therefore, strong to violent ground shaking should be expected at some time during the design life of the proposed residence and associated improvements. The proposed residence and associated improvements should be designed in accordance with current earthquake resistant standards, including the 2013 California Building Code (CBC) guidelines and the design parameters presented in this report. It should be clearly understood that these guidelines and parameters will not prevent damage to structures; rather they are intended to prevent catastrophic collapse.

- ❖ **Differential Compaction** – During moderate and large earthquakes, soft or loose, natural or fill soils can settle, often unevenly across a site. Because the alluvial soils encountered during our subsurface investigations are generally stiff to hard and very dense, in our opinion, the potential for differential compaction impacting the planned building improvements is relatively low. We note that there is an unknown potential for settlement of the historic channel backfill in the northern portion of the site. However, differential compaction of this material should not impact the planned



residences, provided that they are designed and constructed in accordance with the recommendations contained herein, the risk of this potential hazard significantly impacting the structural integrity of the planned building foundation improvements is low.

- Liquefaction – Please refer to the Liquefaction Analysis & Findings section of our report for more detailed information regarding this geologic hazard. In summary, based on our findings presented in the above liquefaction analysis section, in our opinion, the potential for earthquake-induced liquefaction, and liquefaction-related distress significantly impacting the planned improvements is relatively low provided the recommendations contained in this report are implemented in design and construction.

RECOMMENDATIONS

In our opinion, the planned southern three residences (Units 1, 2, and 3) and associated attached garages may be supported on continuous spread footings gaining support in the underlying competent alluvial soils. Due to the suspected presence of historic creek channel backfill in the northern portion of the site, we recommend supporting the northernmost residence (Unit 4) on drilled pier and grade beam foundations gaining supported in the underlying competent alluvial soils, beneath any historic backfill. The northernmost residence (Unit 4) should not be supported on spread footings. The southern three residences (Units 1 through 3) may be supported either on drilled pier and grade beam foundations or on conventional spread footing foundations; in our opinion, drilled pier and grade beam foundations will perform slightly better than spread footing foundations. Nonetheless, based on our subsurface investigation we anticipate that spread footing foundations can be expected to perform reasonably well at this site for the three southernmost residences (Units 1 through 3). Concrete slabs-on-grade may be utilized for interior floors and garage floors at the southern three residences (Units 1 through 3) if the residences will be supported on spread footing foundations. Concrete slabs-on-grade should not be used for the northernmost residence (Unit 4) or for the southern three residences (Units 1 through 3) if they are to be supported on spread footing foundations. Interior floor slabs and garage slabs for Unit 4 and any other pier-supported residences should be designed as structural slabs supported on drilled pier and grade beam foundations. Exterior concrete slabs-on-grade and flexible pavements should be constructed over a section of select granular fill. Detailed foundation, grading, and drainage recommendations and geotechnical design criteria are presented below.



2013 CBC EARTHQUAKE DESIGN PARAMETERS

We have developed site-specific earthquake design parameters based on the procedures described in Chapter 16, Section 1613 of the 2013 California Building Code (California Building Standards Commission, 2013). These procedures utilize State standardized spectral acceleration values for maximum considered earthquake ground motion taking into account historical seismicity, available paleoseismic data, and activity rates along known fault traces, as well as site-specified soil and bedrock response characteristics. Contour maps of Class B bedrock horizontal spectral acceleration values for the State of California are included as figures in Chapter 16 of the 2013 CBC, representing both short (0.2 seconds) and long (1.0 second) periods of spectral response and taking into account 5 percent of critical damping. The U.S. Geological Survey (2014) has prepared an online seismic design value application tool, based on the 2010 ASCE with a July 2013 CBC errata, for public use, that allows for site-specific adjustments of these acceleration values for different subsurface conditions, which are defined by site classes. Given representative latitude of 37.2744 and longitude of -121.9732 in accordance with guidelines presented in the 2013 CBC, the following seismic design parameters will apply for this site:

- ◆ Site Class D – Soil Profile Name: Stiff Soil (Table 1613.5.2)
- ◆ Mapped Spectral Accelerations for 0.2 second Period: $S_s = 2.072$ g (Site Class B)
- ◆ Mapped Spectral Accelerations for a 1-second Period: $S_1 = 0.720$ g (Site Class B)
- ◆ Design Spectral Accelerations for 0.2 second Period: $S_{DS} = 1.381$ g (Site Class D)
- ◆ Design Spectral Accelerations for a 1-second Period: $S_{D1} = 0.720$ g (Site Class D)

FOUNDATIONS

Drilled Pier & Grade Beam

Due to its proximity to the approximated mapped area of the backfilled creek channel, we recommend the northernmost residence (Unit 4), its attached garage and any accessory structures including attached porches, balconies and/or overhangs located in the vicinity of the approximate area of the mapped backfill (see Figure A-2) be supported on drilled, reinforced, cast-in-place, concrete friction pier and grade beam foundations. If desired, the three southernmost residences may also be supported on drilled pier and grade beam foundations. Any interior floor slabs for Unit 4 should be designed as structural slabs also supported on drilled piers.

Drilled piers should be at least 16 inches in diameter, should extend at least 12 feet below bottom of grade beam elevation or foundation grade, and be embedded at least 8 feet into competent alluvium beneath any fill. Please note, that these are recommended minimum pier dimensions and that other structural criterion, such as the need to resist lateral forces,



may force the pier design depths to be greater. In general, drilled piers should be spaced no closer than about three pier-diameters, center-to-center.

The piers should be designed to resist dead plus live loads using an allowable skin friction value of 450 pounds per square foot with a one-third increase allowed for transient loads, including wind and seismic forces. The upper 2 feet of the soil, as measured from bottom of grade beam, and any point-bearing resistance should be neglected for support of vertical loads.

Lateral loads may be resisted by passive earth pressure based upon an equivalent fluid pressure of 300 pounds per cubic foot, acting on 1.5 times the projected area of the pier below a depth of 1.5 feet from the bottom of the grade beams. Passive resistance of the soil within the upper 1.5 feet of the pier should be neglected. The structural engineer should determine pier reinforcing, as necessary, based on structural requirements.

The bottoms of the pier excavations should be substantially free of loose cuttings and soil slough prior to the installation of reinforcing steel and the placement of concrete. In addition, any significant amounts of accumulated water in the pier excavations should be pumped out prior to placing concrete or displaced using the tremie method when placing concrete. A representative of Murray Engineers, Inc. should observe the pier excavations to evaluate whether the piers are founded in the supportive material and whether the pier excavations are properly prepared. The pier depths recommended above may require adjustment, if differing conditions are encountered during excavation. Concrete should be cast as soon as practical after pier drilling to limit the potential for delays due to the possibility of soil caving. The foundation contractor should be prepared to provide steel casing if caving soils are encountered.

Grade beams should be incorporated between piers as required by the structural engineer. Perimeter foundations should extend at least 6 inches below the crawlspace grade or bottom of slab subgrade to mitigate the potential for infiltration of surface runoff under the at-grade portions of the structures. Grade beam reinforcing should be determined by the project structural engineer based on the preceding design criteria and structural requirements.

Based on our engineering judgment, thirty-year differential foundation movement due to static loads is not expected to exceed approximately 1/2-inch across any 20-foot span of the pier-supported improvements.

Spread Footings

The three southernmost residences (Units 1-3) associated attached garages may be supported on conventional spread footings bearing in the underlying competent alluvium. Continuous



footings should have a minimum width of 15 inches and isolated footings should be a minimum of 18 inches square. New spread footings should extend at least 30 inches below lowest final adjacent exterior grade and 24 inches below the interior crawlspace grade or bottom of slab, whichever is deeper.

We recommend that the footings be designed using an allowable bearing pressure of 2,000 pounds per square foot for dead plus live loads, with a one-third increase allowed for total loads including wind and seismic forces. The weight of the footings may be neglected for design purposes.

Lateral loads may be resisted by friction between the footings and the supporting subgrade using a friction coefficient of 0.30 for concrete formed on undisturbed soil. In addition to the preceding frictional resistance, lateral resistance may be provided by passive pressures acting against foundations poured neat in excavations using an equivalent fluid pressure of 300 pounds per cubic foot below a depth of 1 foot below lowest adjacent grade.

Any footings located adjacent to utility trenches or other footings should bear below a 1:1 plane extended upward from the bottom edge of the utility trench or footing. Footing reinforcing should be established by the project structural engineer to provide structural continuity and to span local irregularities based on the preceding design criteria and structural design criteria.

The footing excavations should be free of all loose soil, prior to placing reinforcing steel and concrete. Our representative should observe the footing excavations prior to placing concrete forms and reinforcing steel to see that they are founded in competent bearing materials and have been properly cleaned. In addition, any loose soil in the footing excavations resulting from the placement of forms and reinforcing steel should be removed prior to placing concrete.

Based on our engineering judgment, thirty-year differential foundation movement due to static loads is not expected to exceed approximately 1-inch across any 20-foot span of the new footing-supported portions of the improvements.

CONCRETE SLABS

We anticipate that concrete slabs may be used for the at-grade interior floors, garage floors, driveway, patios, and walkways. In general, slabs-on-grade may be used for the driveway and exterior patios and walkways. It should be anticipated that some degree of differential slab movement and cracking could occur due to seasonal expansive soil movement. If slight slab movement and cracking is unacceptable, then we suggest that these hardscape features be



designed and constructed as structural slabs supported on drilled piers. We recommend unit 4 be designed and constructed with structural slabs. Slabs-on-grade for units 1~3 is acceptable. In our opinion, the use of structural slabs would best serve to reduce cracking of slab surfaces. Detailed recommendations are presented in the following sections of the report.

Structural Slabs

Structural slabs for unit 4 should be supported on drilled foundations designed in accordance with the recommendations provided above.

Where slab surface moisture would be a significant concern, such as interior and garage floors, we recommend that the slabs be underlain by a vapor retarder consisting of a highly durable membrane not less than 15 mils thick (such as Stego Wrap Vapor Barrier by Stego Industries, LLC or equivalent), underlain by a capillary break consisting of 4 inches of 1/2- to 3/4-inch crushed rock. Please also refer to the Vapor Retarder Considerations section below for additional information. Please note that these recommendations do not comprise a specification for “waterproofing.” For greater protection against concrete dampness, we recommend that a waterproofing consultant be retained.

Slabs-on-Grade

Slabs-on-grade for the garages and driveway for homes 1 thru 3 should be underlain by at least 12 inches of select granular fill, such as Class 2 aggregate baserock. Slabs-on-grade for exterior, patios and walkways should be underlain by at least 8 inches of select granular fill. The preceding recommendations are intended to mitigate significant slab movement and cracking. We note that minor slab movement or localized cracking of slabs may occur.

Prior to placement of the select granular fill, the subgrade soils should be scarified and moisture conditioned, as necessary, to a depth of approximately 6 inches and recompact in accordance with the Compaction section of this report. In addition, if highly expansive subgrade soils are encountered, the subgrade should be scarified to a depth of approximately 12 inches, moisture conditioned to at least 3 percent over optimum moisture content, and compacted to at least 90 percent relative compaction. Because of the potentially expansive nature of the surficial soil, over-compaction of this material should be avoided. In our opinion, these recommendations should mitigate the potential for significant heave, but will not eliminate this potential.

In general, the garage and exterior slabs-on-grade should be designed as “free-floating” slabs, structurally isolated from adjacent foundations. Exterior slabs-on-grade should be provided with control joints at spacing of not more than about 10 feet. The project structural engineer should provide slab reinforcing based on anticipated use and loading.



Select granular fill should be compacted in accordance with the Compaction section of this report. Where slab surface moisture would be a significant concern, such as for the garage floor slabs, we recommend that the slabs be underlain by a vapor retarder consisting of a highly durable membrane not less than 15 mils thick (such as Stego Wrap Vapor Barrier by Stego Industries, LLC or equivalent), underlain by a capillary break consisting of 4 inches of ½- to ¾-inch crushed rock. The capillary break may be considered the equivalent thickness as the upper 4 inches of select granular fill recommended above. Please also refer to the Vapor Retarder Considerations section below for additional information. Please note that these recommendations do not comprise a specification for “waterproofing.” For greater protection against concrete dampness, we recommend that a waterproofing consultant be retained.

Vapor Retarder Considerations

Based on our understanding, two opposing schools of thought currently prevail concerning protection of the vapor retarder during construction. Some believe that 2 inches of sand should be placed above the vapor retarder to protect it from damage during construction and also to provide a small reservoir of moisture (when slightly wetted just prior to concrete placement) to benefit the concrete curing process. Still others believe that protection of the vapor retarder and/or curing of concrete are not as critical design considerations when compared to the possibility of entrapment of moisture in the sand above the vapor retarder and below the slab. The presence of moisture in the sand could lead to post-construction absorption of the trapped moisture through the slab and result in mold or mildew forming at the upper surface of the slab.

We understand that recent trends are to use a highly durable vapor retarder membrane (at least 10 mils thick) without the protective sand covering for interior slabs surfaced with floor coverings including, but not limited to, carpet, wood, or glued tiles and linoleum. However, it is also noted that several special considerations are required to reduce the potential for concrete edge curling if sand will not be used, including slightly higher placement of reinforcement steel and a water-cement ratio not exceeding 0.5 (Holland and Walker, 1998). We recommend that you consult with other members of your design team, such as your structural engineer, architect, and waterproofing consultant for further guidance on this matter.

FLEXIBLE PAVEMENTS

Asphaltic Concrete

We anticipate that asphaltic concrete pavement may be used for the new driveway. At a minimum, we recommend that the proposed asphalt driveway surface be at least 2.5 inches



thick and that it be underlain by at least 12 inches of imported Class 2 aggregate baserock (R-value of 78). If soft subgrade conditions are encountered at subgrade elevation along the driveway, it may be advisable to increase the thickness of the select granular fill. Prior to placement of the select granular fill, the subgrade soils should be scarified to a depth of approximately 6 to 12 inches, moisture conditioned (as necessary), and recompacted in accordance with the Compaction section of this report.

Sand Set Pavers or Flagstones

We anticipate that sand-set pavers or flagstones may be used for exterior hardscape. We generally recommend that they be placed in accordance with the manufacturer’s recommendations. At a minimum, we also generally recommend that pavers be underlain by at least 12 inches of compacted Class 2 aggregate baserock for vehicular loads and at least 8 inches of compacted Class 2 aggregate baserock for pedestrian loads. A representative from our office should observe the subgrade conditions of the hardscape prior to placement of baserock. Prior to placement of the baserock, the subgrade soils should be scarified and moisture conditioned to a depth of at least 6 to 12 inches, as necessary, and compacted in accordance with the Compaction section of this report.

EARTHWORK

A minor amount of earthwork is anticipated as part of the proposed construction, including foundation excavations, subgrade preparation beneath hardscape, placement and compaction of engineered fill, and backfill in utility trenches. Earthwork should be performed in accordance with the following recommendations.

Clearing & Site Preparation

Initially, the proposed improvement areas should be cleared of obstructions, including existing foundations, flatwork, utilities, and trees not designated to remain. Holes or depressions resulting from the removal of underground obstructions below proposed subgrade levels, such as existing foundations and root balls, should be backfilled with engineered fill, placed and compacted in accordance with the recommendations provided below. After clearing, the proposed improvement areas should be adequately stripped to remove surface vegetation and organic-laden topsoil. The stripped material should be used as engineered fill; however, it may be stockpiled and used for landscaping purposes.

Material for Fill

All on-site soils below the stripped layer having an organic content of less than 3 percent organic material by volume (ASTM D 2974) may be suitable for use as engineered fill contingent upon review by our firm. In general, fill material should not contain rocks or pieces larger than 6 inches in greatest dimension, and should contain no more than 15



percent larger than 2.5 inches. Any required imported fill should be predominantly granular material or low plasticity material with a plasticity index of less than approximately 15 percent. Any proposed fill for import should be approved by Murray Engineers, Inc. prior to importing to the site. Our approval process may require index testing to establish the expansive potential of the soil; therefore, it is important that we receive samples of any proposed import material at least 3 days prior to planned importing. Class 2 aggregate baserock should meet the specifications outlined in the Caltrans Standard Specifications, latest edition.

Compaction

Prior to placing engineered fill, the subgrade soil should be scarified and compacted, as necessary. Material used for fill should be placed in uniform lifts, no more than 8-inches in uncompacted thickness. The fill material should be moisture conditioned, as necessary, and compacted in accordance with the specifications listed in Table 1 below. The relative compaction and moisture content specified in Table 1 are relative to ASTM D 1557 (latest edition). Compacted lifts should be firm and non-yielding under the weight of compaction equipment prior to the placement of successive lifts.

Table 5. Compaction Specifications

Fill Element	Relative Compaction*	Moisture Content*
General fill for raising of site grades, driveway, channel backfill and patios (for fills up to 4 feet thick)	90 percent	Near optimum
For fills greater than 4 feet thick	93 percent (entire fill)	Near optimum
Upper 6 inches of relatively non-expansive subgrade beneath hardscape	90 percent	Near optimum
Upper 12 inches of relatively expansive subgrade beneath hardscape	90 percent	>3% over optimum
Aggregate baserock under hardscape	95 percent	Near optimum
1/2- to 3/4-inch Crushed Rock - Compact with at least 3 passes of a vibratory plate with lift-thickness ≤ 12 inches.	see note at left	Not critical
Backfill of utility trenches using on-site soil	90 percent	Near optimum
Backfill of utility trenches using imported sand	90 percent	Near optimum

*Relative to ASTM D 1557, latest edition.

Final Slopes

In general, any proposed cut slopes in the surficial soil and any proposed fill slopes should have gradients no steeper than approximately 2:1 (horizontal to vertical). In general, new fill slopes should be over-filled and then cut back to proposed final slope gradients. All graded surfaces or areas disturbed by construction should be revegetated prior to the onset of the rainy season following construction to mitigate excessive soil erosion. If vegetation is not



established, other erosion control provision should be employed. Ground cover, once established should be properly maintained to provide long-term erosion control.

Temporary Slopes & Trench Excavations

The contractor should be responsible for all temporary slopes and trenches excavated at the site and design and construction of any required safety cuts or shoring. Safety cuts and shoring should be provided in accordance with all applicable local, state, and federal safety regulations, including the current OSHA excavation and trench safety standards. Because of the potential for variable soil conditions, field modifications of temporary cut slopes may be required. Unstable materials encountered on the slopes during the excavation should be trimmed off, even if this requires cutting the slope back at flatter inclinations.

SITE DRAINAGE

Roof run-off, rain, or irrigation water should not be allowed to pond near structures, exterior hardscape, or pavement areas. The proposed residences and attached garages should be provided with roof gutters and downspouts. Water collected in the gutters should not be allowed to discharge freely onto the ground surface adjacent to the foundations and should be conveyed away from the structures via splash blocks or via buried closed conduits and routed to a suitable discharge outlet. The finished grades should be designed to drain surface water away from the proposed structures, slabs, pavement areas, and yard areas to suitable discharge points. The ground surface should have positive gradient away from the structures. Where such surface gradients are difficult to achieve, we recommend that area drains or surface drainage swales be installed to collect surface water and convey it to a suitable discharge location away from the structures.

We recommend that annual maintenance of the surface drainage systems be performed. This maintenance should include inspection and testing to make sure that roof gutters and downspouts are in good working order and do not leak; inspection and flushing of area drains to make sure that they are free of debris and are in good working order; and inspection of surface drainage outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred. If erosion is detected, this office should be contacted to evaluate its extent and to provide mitigation.

REQUIRED FUTURE SERVICES

Plan Review

To better assure conformance of the final design documents with the recommendations contained in this report, and to better comply with the building department’s requirements, Murray Engineers, Inc. must review the completed project plans prior to construction. The plans should be made available for our review as soon as possible after completion so that



we can better assist in keeping your project schedule on track. We recommend that the following note be added to the architectural, structural, and civil plans:

- All earthwork and site drainage, including pier drilling, spread footing excavations, preparation of subgrade beneath hardscape, placement and compaction of engineered fill, and installation of site drainage should be performed in accordance with the geotechnical report prepared by Murray Engineers, Inc., dated August 2, 2016. Murray Engineers, Inc. should be provided at least 48 hours advance notification of any earthwork operations and should be present to observe and test, as necessary, the earthwork, foundation, and drainage installation phases of the project.

Construction Observation Services

Murray Engineers, Inc. should observe and test (as necessary) the earthwork and foundation phases of construction in order to a) confirm that subsurface conditions exposed during construction are substantially the same as those interpolated from our limited subsurface exploration, on which the analysis and design were based; b) evaluate compliance with the geotechnical design concepts, specifications, and recommendations; and c) allow design changes in the event that subsurface conditions differ from those anticipated. The recommendations in this report are based on limited subsurface information. The nature and extent of variation across the site may not become evident until construction. If variations are exposed during construction, it may be necessary to re-evaluate our recommendation.

LIMITATIONS

This report has been prepared for the sole use of Yan Hua Zhu specifically for developing geotechnical design criteria relating to subdivision and development of the new residences and associated improvements, as discussed above, at 1323 Elam Avenue in Campbell, California. The opinions presented in this report are based upon information obtained from borings at widely separated locations, site reconnaissance, review of field data made available to us, and upon local experience and engineering judgment, and have been formulated in accordance with generally accepted geotechnical engineering practices that exist in the San Francisco Bay Area at the time this report was prepared. Further, our recommendations are based on the assumption that soil and geologic conditions at or between borings do not deviate substantially from those encountered. In addition, geotechnical issues may arise that are not apparent at this time. No other warranty, expressed or implied, is made or should be inferred. We are not responsible for data provided by others.



The recommendations provided in this report are based on the assumption that we will be retained to provide the Future Services described above in order to evaluate compliance with our recommendations. If we are not retained for these services, Murray Engineers, Inc. cannot assume any responsibility for any potential claims that may arise during or after construction as a result of misuse or misinterpretation of Murray Engineers, Inc.'s report by others. Furthermore, if another geotechnical consultant is retained for follow-up service to this report, Murray Engineers, Inc. will at that time cease to be the Engineer-of-Record.

The opinions presented in this report are valid as of the present date for the property evaluated. Changes in the condition of a property can occur with the passage of time, whether due to natural processes or the works of man, on this or adjacent properties. In addition, changes in applicable standards of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the opinions presented in this report may be invalidated, wholly or partially, by changes outside of our control. Therefore, this report is subject to review and should not be relied upon after a period of three years, nor should it be used, or is it applicable, for any property other than that evaluated.



REFERENCES

2007 Working Group on California Earthquake Probabilities, 2008, The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2): U.S. Geological Survey Open-File Report 2007-1437; California Geological Survey Special Report 203214; Southern California Earthquake Center Contribution #1138

ASTM International, 2012, Annual Book of ASTM Standards, 2012, Section Four, Construction, Volume 04.08, Soil and Rock (I): D 420-D 5876: ASTM International, West Conshohocken, PA, 1809 p.

Bowles, Joseph, E., 1996, Foundation Analysis and Design, Fifth Edition: The McGraw-Hill Companies, Inc., New York, 1175 p.

California Building Standards Commission, 2013, 2013 California Building Code, California Code of Regulations, Title 24, Part 2, Volume 2 of 2: California Building Standards Commission, Sacramento, CA, 770 p.

California Geological Survey, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California: California Geological Survey, Special Publication 117A

California Geological Survey, 1968, San Jose West, San Jose 15' Quadrangle, Official Map, Released 1961, Photorevised in 1968:

Dixit, J., Dewaikar, D.M., Jangid, R.S., 2012, Assessment of Liquefaction Potential Index for Mumbai City, Department of Civil Engineering, Indian Institute of Technology Bombay, Mumbai-400 076, India, Natural Hazards and Earth System Sciences

Wentworth, C.M., M. C. Blake, Jr., R. J. McLaughlin, and R. W. Graymer, 1999, Preliminary Geologic Map of the San Jose 30 x 60-Minute Quadrangle, California: A Digital Database: U.S. Geological Survey Open File Report 98-795.

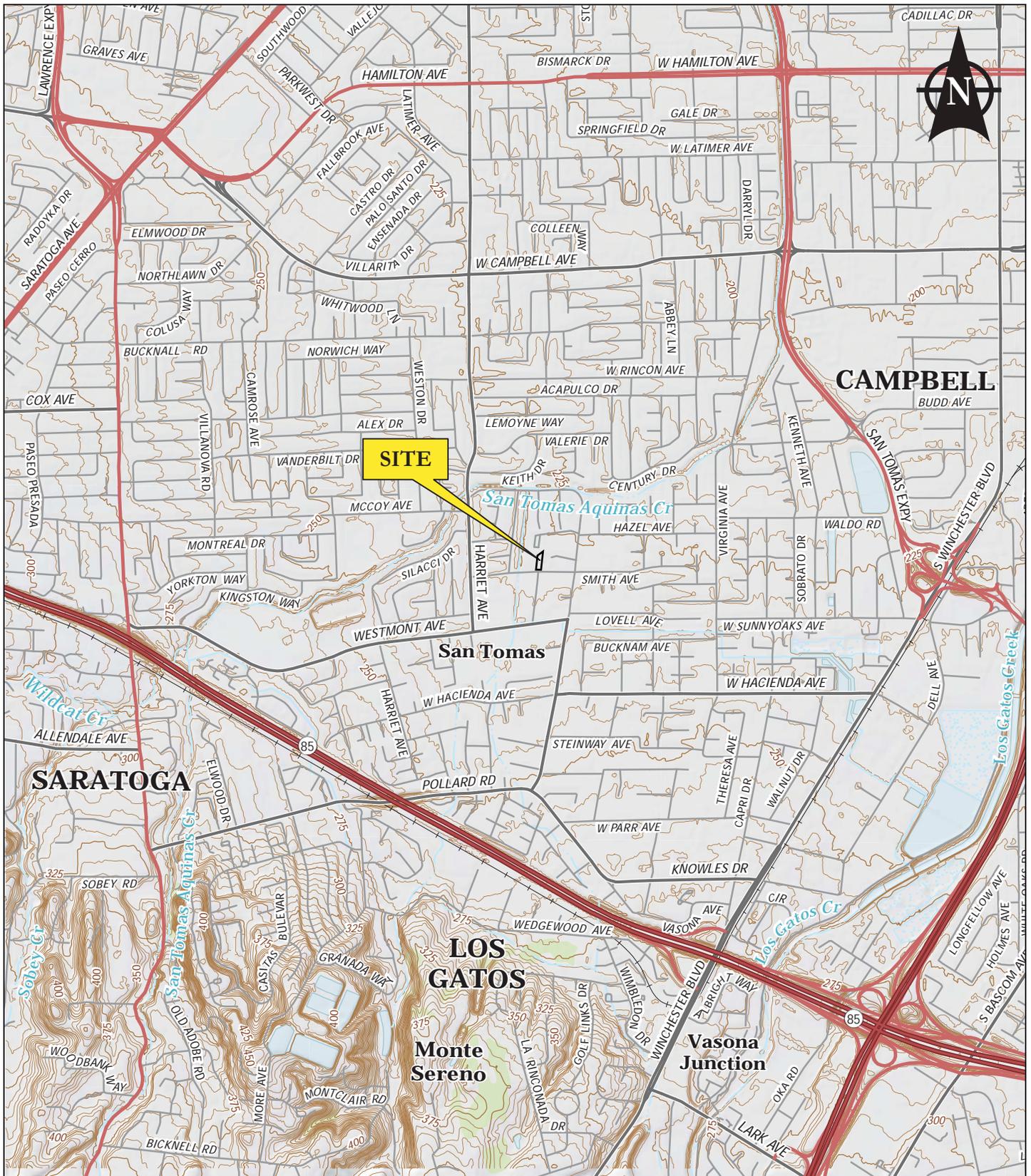
Geologismiki Geotechnical Software, 2006, Cliq v.1.7.6.49

Holland, Jerry A., and Wayne Walker, 1998, Controlling Curling and Cracking in Floors to Receive Coverings, Publication #C980603: The Aberdeen Group, 2 p.

Lunne, T. Robertson, P.K., and Powell, J.J.M., 1997, Cone Penetration Testing in Geotechnical Practice, Spon Press, New York, 312 p.

U.S. Geological Survey, 2014, Earthquake Hazards Program, U.S. Seismic Design Maps, <http://earthquake.usgs.gov/designmaps/us/application.php>, accessed May 26, 2016.

Youd, L.T., and Garris, C.T., 1995, Liquefaction-Induced Ground-Surface Disruption, ASCE Journal of Geotechnical Engineering, Vol. 121, No. 11, pp. 805-809



Base: USGS Topographic Map, San Jose West, 7.5 Minute Series, 2015. Scale: 1 inch = 2,000 feet.



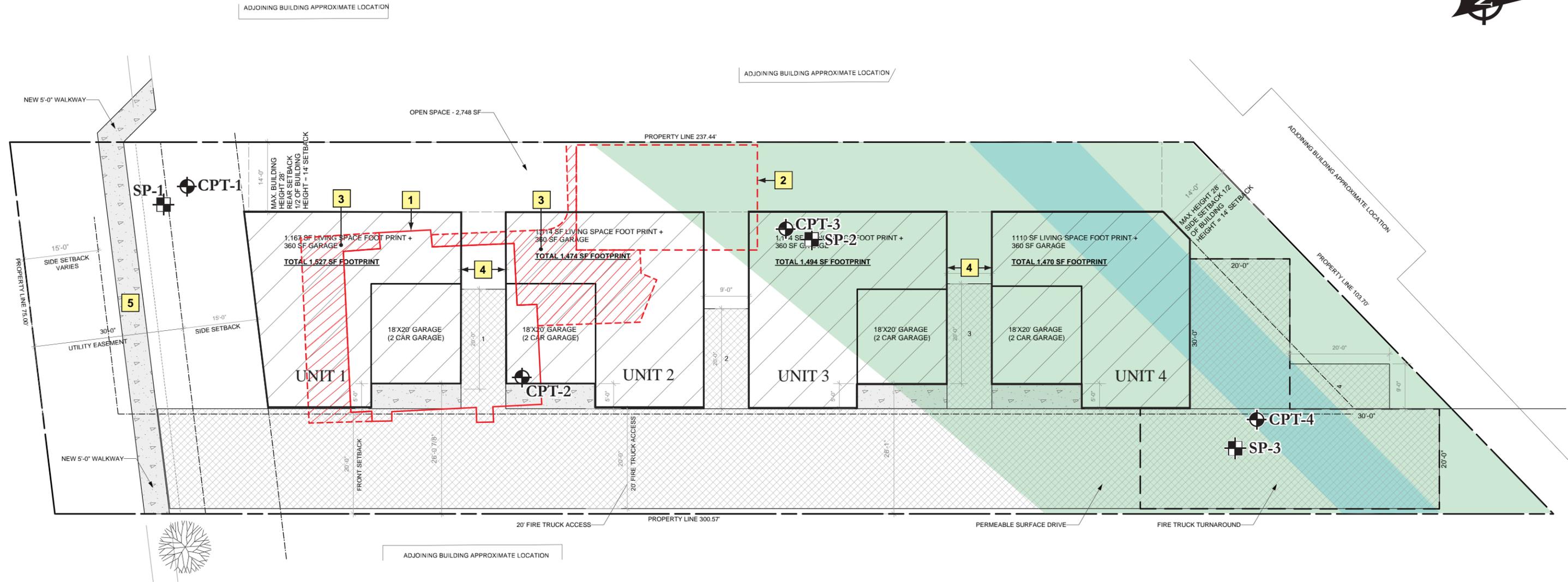
ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

VICINITY MAP

PROJECT NO. 2534-1R1

JULY 2016

FIGURE A-1



LEGEND

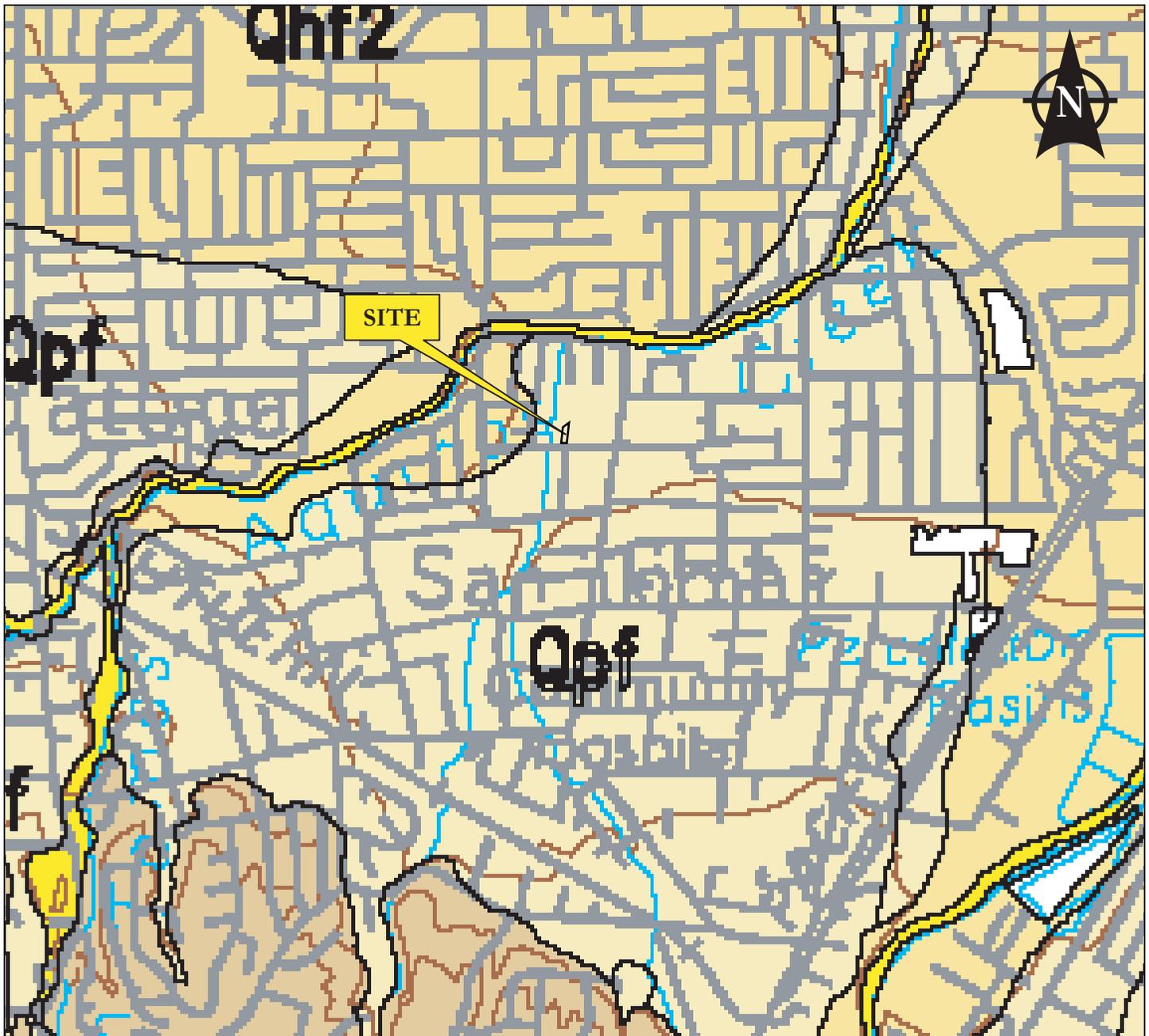
KEY NOTES

- 1 Outline of (E) Residence to be Removed (Solid)
- 2 Outline of (E) Garage to be Removed (Dashed)
- 3 Area of (E) Hardscape to be Removed (Hatched)
- 4 Outline of Proposed 4-Lot Subdivision (Solid)
- 5 Area of Proposed Driveway (Stippled)

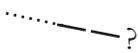
- SP-1 Approximate Location of Soil Probe by Murray Engineers, Inc., May 6, 2016
- CPT-1 Approximate Location of CPT
- Approximate areas where historical occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate potential for permanent ground displacements (See Figure A-4)
- Approximate area of creek channel backfilled between 1961 & 1968, according to the San Jose West Quadrangle released in 1961 and photorevised in 1968

Base: Site Plan by Gordana Design Studio, dated June 27, 2016
 Approximate Scale: 1 inch = 20 feet

 <small>GEOTECHNICAL SERVICES</small>	<p>SITE PLAN 1</p>	
<p>ZHU RESIDENTIAL DEVELOPMENT 1323 ELAM AVENUE CAMPBELL, CALIFORNIA</p>		
<p>PROJECT NO. 2534-1R1</p>	<p>JULY 2016</p>	<p>FIGURE A-2</p>

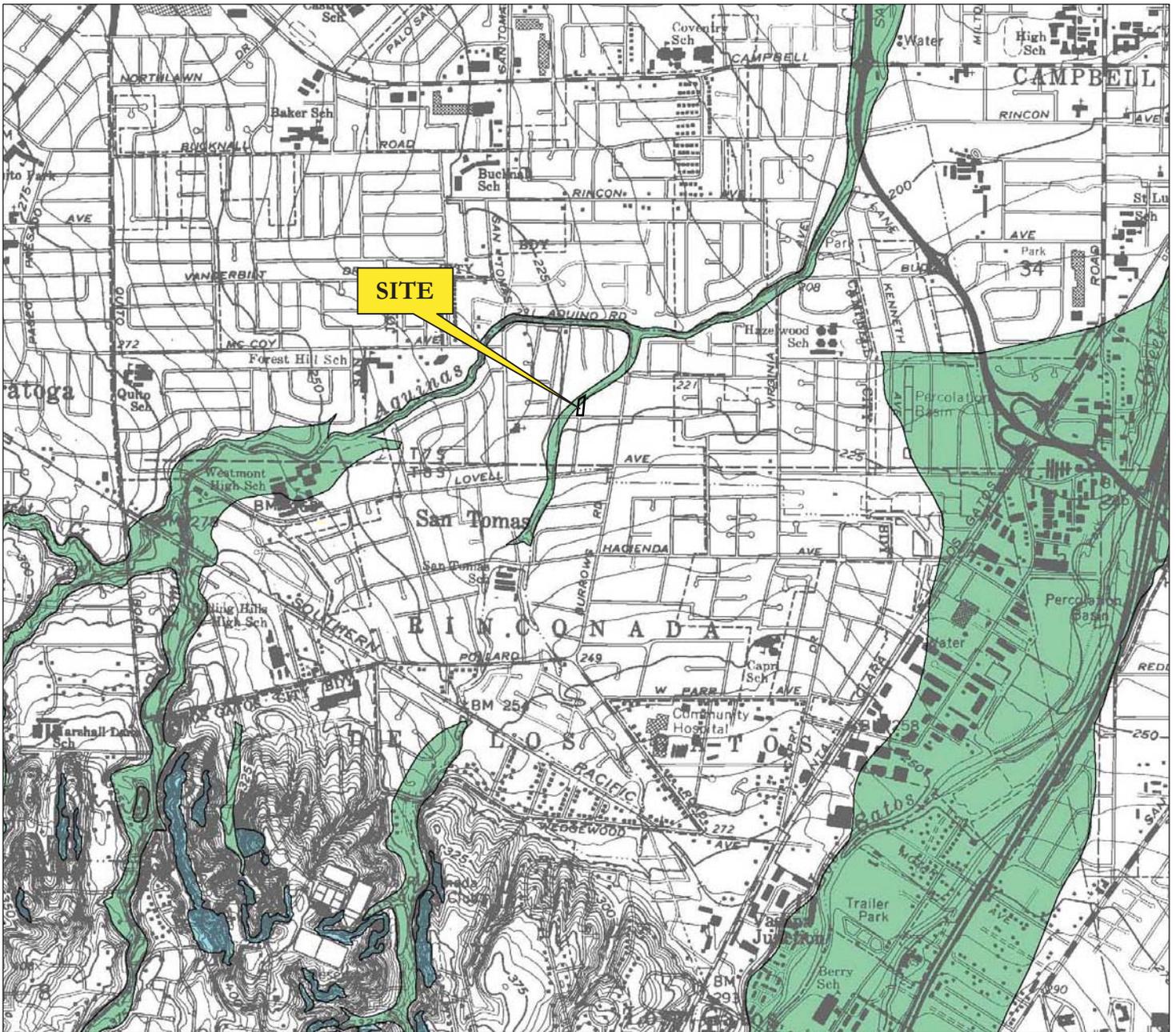


Legend & Selected Map Symbols

<p>Qpf Alluvial Fan Deposits (Pleistocene)</p> <p>QTsc Santa Clara Formation (Pleistocene and Pliocene)</p> <p>Qhf2 Older Alluvial Fan Deposits (Holocene)</p>	<p> Contact</p> <p> Fault, dashed where approximately located, dotted where concealed, queried where uncertain</p>
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Base: Preliminary Geologic Map of the San Jose 30 x 60 Minute Quadrangle, California, Wentworth et. al., 1999.
 Approximate Scale (Digitally Enlarged): 1 inch = 2,000 feet

	ZHU RESIDENTIAL DEVELOPMENT 1323 ELAM AVENUE CAMPBELL, CALIFORNIA	VICINITY GEOLOGIC MAP
	PROJECT NO. 2534-1R1	JULY 2016



LEGEND



Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693 (c) would be required



Areas where historical occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693 (c) would be required

Base: the State of California Seismic Hazard Zone Map, San Jose West Quadrangle, 7.5 Minute Series, 2002.
Scale is 1 inch = 2,000 feet.

	ZHU RESIDENTIAL DEVELOPMENT 1323 ELAM AVENUE CAMPBELL, CALIFORNIA		STATE SEISMIC HAZARD ZONES MAP
	PROJECT NO. 2534-1R1	JULY 2016	FIGURE A-4

Date(s) Drilled May 6, 2016	Logged By AK	Checked By DY
Drilling Method Direct Push	Drill Bit Size/Type N/A	Total Depth of Borehole 22 feet bgs
Drill Rig Type Geoprobe	Drilling Contractor CPT Inc.	Approximate Surface Elevation 228 feet
Groundwater Level and Date Measured Not Encountered ATD	Sampling Method(s) Dual Tube Sampler with 1.4" plastic liner	Hammer Data pneumatic
Borehole Backfill Grout	Location Southwest corner of the proposed units	

Elevation, feet	Depth, feet	Calculated SPT (N60) Blow Counts based on qc (CPT)	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %	Dry Density (PCF)
0			Very Stiff	ML	SANDY SILT, dark brown, homogeneous, low plasticity fines, fine-grained sand, trace rootlets, moist (Alluvium)	14	104
	18						
			Very Dense	SM	SILTY SAND with GRAVEL, yellowish brown to olive brown, heterogeneous, 20-40% subangular gravel, slightly moist to moist (Alluvium)	8	111
224	37						
							111
	5	74					
						9	
219	10						
						13	
214	15				Percent Fines=14% (sample from 14 to 18 feet)		
				SC	CLAYEY SAND with GRAVEL, yellowish brown, heterogeneous, 20-40% gravels, moist	13	
				CL	SANDY CLAY, yellowish brown, homogeneous, low to medium plasticity, fine-to coarse-grained sand, trace subangular gravel, moist (Alluvium)		
209	20					16	
					Bottom of Boring at 22 feet bgs		
204							

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LOG OF
BORING SP-1

PROJECT NO. 2534-1R1

JULY 2016

FIGURE B-1

Date(s) Drilled May 6, 2016	Logged By AK	Checked By DY
Drilling Method Direct Push	Drill Bit Size/Type N/A	Total Depth of Borehole 20 feet bgs
Drill Rig Type Geoprobe	Drilling Contractor CPT Inc.	Approximate Surface Elevation 228 feet
Groundwater Level and Date Measured Not Encountered ATD	Sampling Method(s) Dual Tube Sampler with 1.4" plastic liner	Hammer Data pneumatic
Borehole Backfill Grout	Location Western wall of proposed units	

Elevation, feet	Depth, feet	Calculated SPT (N60) Blow Counts based on qc (CPT)	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %	Dry Density (PCF)
0	8		Very Stiff	CL	LEAN CLAY, dark yellowish brown to yellowish brown, homogeneous, trace fine-grained sand, moist (Alluvium) PI=10%; LL=23% (sample from 0 to 4 feet)	13	101
	25						102
224	5	72	Very Dense	SM	SILTY SAND, yellowish brown to olive brown, homogeneous, fine- to coarse-grained sand, trace subangular gravel, moist to very moist	10	111
	90					18	106
219	10	54					103
	15	77	Very Dense	SC	CLAYEY SAND with GRAVEL, yellowish brown to olive brown, heterogeneous, medium to coarse grained sand, low plasticity fines, 20-40% gravel, moist (Alluvium) Percent Fines=15% (sample from 14 to 18 feet)	15	105
	15	68					104
214	15	73				14	108
	15	52					105
209	20	52	Hard	CL	SANDY CLAY, yellowish brown, homogeneous, low to medium plasticity, fine-to coarse-grained sand, trace subangular gravel, moist (Alluvium)	16	105
					Bottom of Boring at 20 feet bgs		
204							

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ZHU RESIDENTIAL DEVELOPMENT
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LOG OF
BORING SP-2

PROJECT NO. 2534-1R1

JULY 2016

FIGURE B-2

Date(s) Drilled May 6, 2016	Logged By AK	Checked By DY
Drilling Method Direct Push	Drill Bit Size/Type N/A	Total Depth of Borehole 22 feet bgs
Drill Rig Type Geoprobe	Drilling Contractor CPT Inc.	Approximate Surface Elevation 228 feet
Groundwater Level and Date Measured Not Encountered ATD	Sampling Method(s) Dual Tube Sampler with 1.4" plastic liner	Hammer Data pneumatic
Borehole Backfill Grout	Location Southwest corner of the proposed units	

Elevation, feet	Depth, feet	Calculated SPT (N60) Blow Counts based on qc (CPT)	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %	Dry Density (PCF)
0							
	12		Stiff to Hard	CL	LEAN CLAY, dark yellowish brown to yellowish brown, homogeneous, trace fine-grained sand, moist (Alluvium)	14	101
	38		Very Dense	SM	SILTY SAND, yellowish brown to olive brown, homogeneous, fine- to coarse-grained sand, trace subangular gravel, moist (Alluvium)	12	
224	5	92				9	112
	83						109
219	10	96				10	110
	171					11	107
214	15			SC	CLAYEY SAND with GRAVEL, yellowish brown to olive brown, heterogenous, medium to coarse grained sand, low plasticity fines, 20-40% gravel, moist (Alluvium)	14	
209	20			CL	SANDY CLAY, yellowish brown, homogeneous, low to medium plasticity, fine- to coarse-grained sand, trace subangular gravel, moist (Alluvium)	14	
					Bottom of Boring at 22 feet bgs		
204							

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ZHU RESIDENTIAL DEVELOPMENT
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PROJECT NO. 2534-1R1 **JULY 2016**

LOG OF BORING SP-3

FIGURE B-3

Elevation, feet	Depth, feet	Calculated SPT (N60) Blow Counts based on qc (CPT)	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %	Dry Density (PCF)
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1 2 3 4 5 6 7 8

COLUMN DESCRIPTIONS

- 1 **Elevation, feet:** Elevation (MSL, feet)
- 2 **Depth, feet:** Depth in feet below the ground surface.
- 3 **Calculated SPT (N60) Blow Counts based on qc (CPT):** Reported SPT (N60) values derived from empirical relationships between measured cone penetration test (CPT) tip resistance (qc) and measured N values. CPT data recorded for this site are included in Appendix C.
- 4 **Relative Consistency:** Relative consistency of the subsurface material.
- 5 **USCS Symbol:** USCS symbol of the subsurface material.
- 6 **MATERIAL DESCRIPTION:** Description of material encountered. May include consistency, moisture, color, and other descriptive text.
- 7 **Water Content, %:** Water content of the soil sample, expressed as percentage of dry weight of sample.
- 8 **Dry Density (PCF):** Dry weight per unit volume of soil sample measured in laboratory in pounds per cubic foot.

FIELD AND LABORATORY TEST ABBREVIATIONS

- CHEM:** Chemical tests to assess corrosivity
- COMP:** Compaction test
- CONS:** One-dimensional consolidation test
- LL:** Liquid Limit, percent
- PI:** Plasticity Index, percent
- SA:** Sieve analysis (percent passing No. 200 Sieve)
- UC:** Unconfined compressive strength test, Qu, in ksf
- WA:** Wash sieve (percent passing No. 200 Sieve)

TYPICAL MATERIAL GRAPHIC SYMBOLS

<ul style="list-style-type: none"> Sandstone Well graded GRAVEL (GW) Poorly graded GRAVEL (GP) Well graded GRAVEL with Silt (GW-GM) Well graded GRAVEL with Clay (GW-GC) Poorly graded GRAVEL with Silt (GP-GM) Poorly graded GRAVEL with Clay (GP-GC) Silty GRAVEL (GM) Clayey GRAVEL (GC) Well graded SAND (SW) Poorly graded SAND (SP) 	<ul style="list-style-type: none"> Well graded SAND with Silt (SW-SM) Well graded SAND with Clay (SW-SC) Poorly graded SAND with Silt (SP-SM) Poorly graded SAND with Clay (SP-SC) Silty SAND (SM) Clayey SAND (SC) SILT, SILT w/SAND, SANDY SILT (ML) Lean CLAY, CLAY w/SAND, SANDY CLAY (CL) SILT, SILT w/SAND, SANDY SILT (MH) Fat CLAY, CLAY w/SAND, SANDY CLAY (CH) SILT, SILT with SAND, SANDY SILT (ML-MH) 	<ul style="list-style-type: none"> Lean-Fat CLAY, CLAY w/SAND, SANDY CLAY (CL-CH) SILTY CLAY (CL-ML) Lean CLAY/PEAT (CL-OL) Fat CLAY/SILT (CH-MH) Fat CLAY/PEAT (CH-OH) Silty SAND to Sandy SILT (SM-ML) Silty SAND to Sandy SILT (SM-MH) Clayey SAND to Sandy CLAY (SC-CL) Clayey SAND to Sandy CLAY (SC-CH) SILT to CLAY (CL/ML) Silty to Clayey SAND (SC/SM)
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TYPICAL SAMPLER GRAPHIC SYMBOLS

2 inch-OD Unlined Split Spoon (SPT)	Shelby Tube (thin-walled, fixed head)	Pitcher Sample
2.5 inch-OD Unlined Split Spoon	Grab Sample	Other Sampler
3 inch-OD Unlined Split Spoon	Bulk Sample	

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
- Water level (after waiting a given time)
- Minor change in material properties within a stratum
- Inferred or gradational contact between strata
- Queried contact between strata

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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**ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA**

**KEY TO
SOIL PROBE LOGS**

PROJECT NO. 2534-1R1

JULY 2016

FIGURE B-4

APPENDIX C

SUBSURFACE EXPLORATION – CONE PENETRATION TESTS

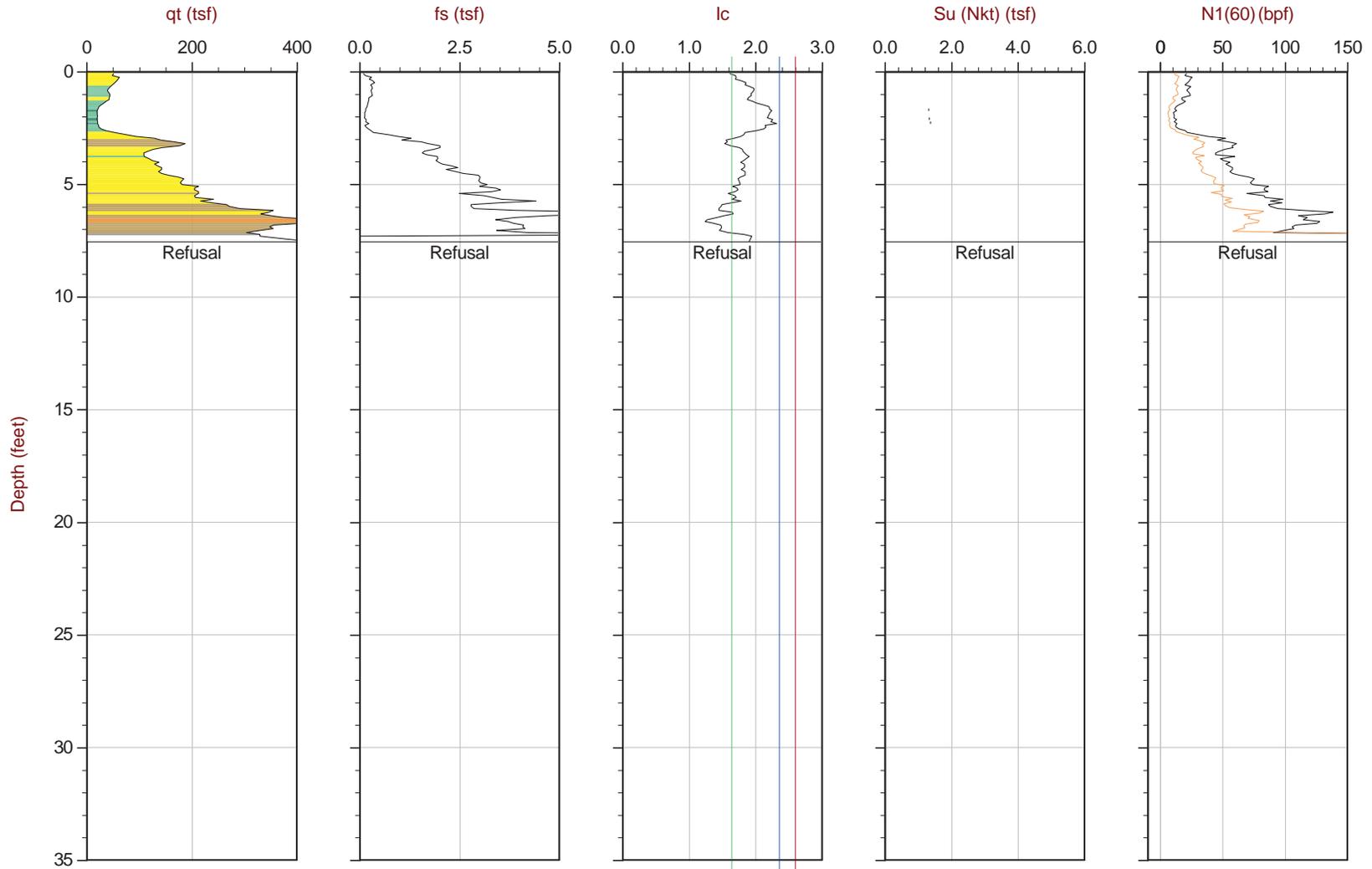




Murray Engineers Inc

Job No: 16-56024
Date: 05:06:16 08:12
Site: 1323 Elam Ave

Sounding: CPT-01
Cone: 447:T1500F15U500



Max Depth: 2.300 m / 7.55 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 16-56024_CP01.COR
Unit Wt: SBT Zones
Su Nkt: 15.0

SBT: Robertson and Campanella, 1986 (see Figure C-7, Key to Soil Behavior Types)
Coords: UTM 10 N N: 4125783 E: 591028
Page No: 1 of 1

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

CONE PENETRATION TEST CPT-1

PROJECT NO. 2534-1R1

JULY 2016

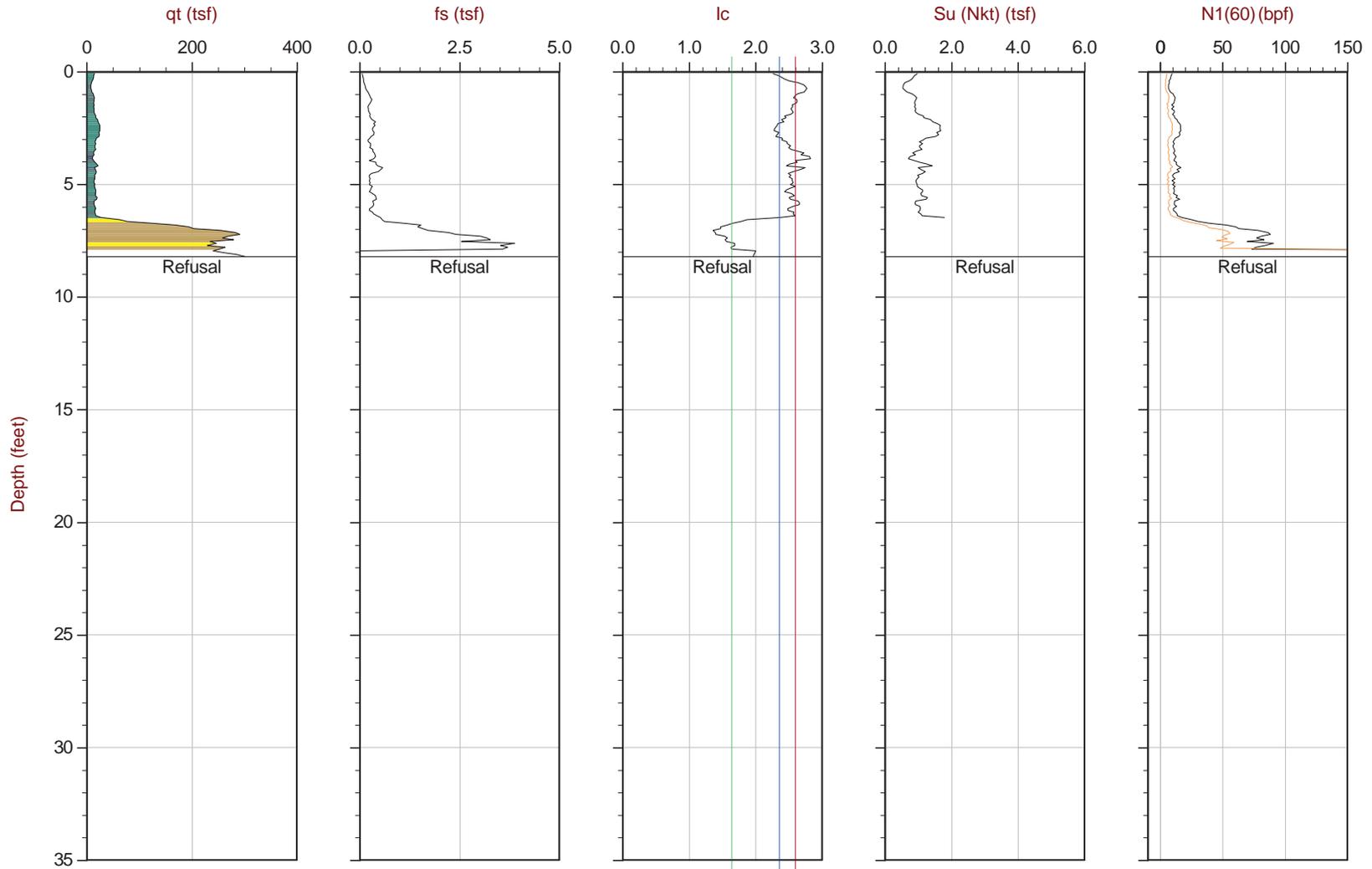
FIGURE C-1



Murray Engineers Inc

Job No: 16-56024
Date: 05:06:16 08:55
Site: 1323 Elam Ave

Sounding: CPT-02
Cone: 447:T1500F15U500



Max Depth: 2.500 m / 8.20 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 16-56024_CP02.COR
Unit Wt: SBT Zones
Su Nkt: 15.0

SBT: Robertson and Campanella, 1986 (see Figure C-7, Key to Soil Behavior Types)
Coords: UTM 10 N N: 4125803 E: 591035
Page No: 1 of 1

— N(60) (bpf)

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

CONE PENETRATION TEST CPT-2

PROJECT NO. 2534-1R1

JULY 2016

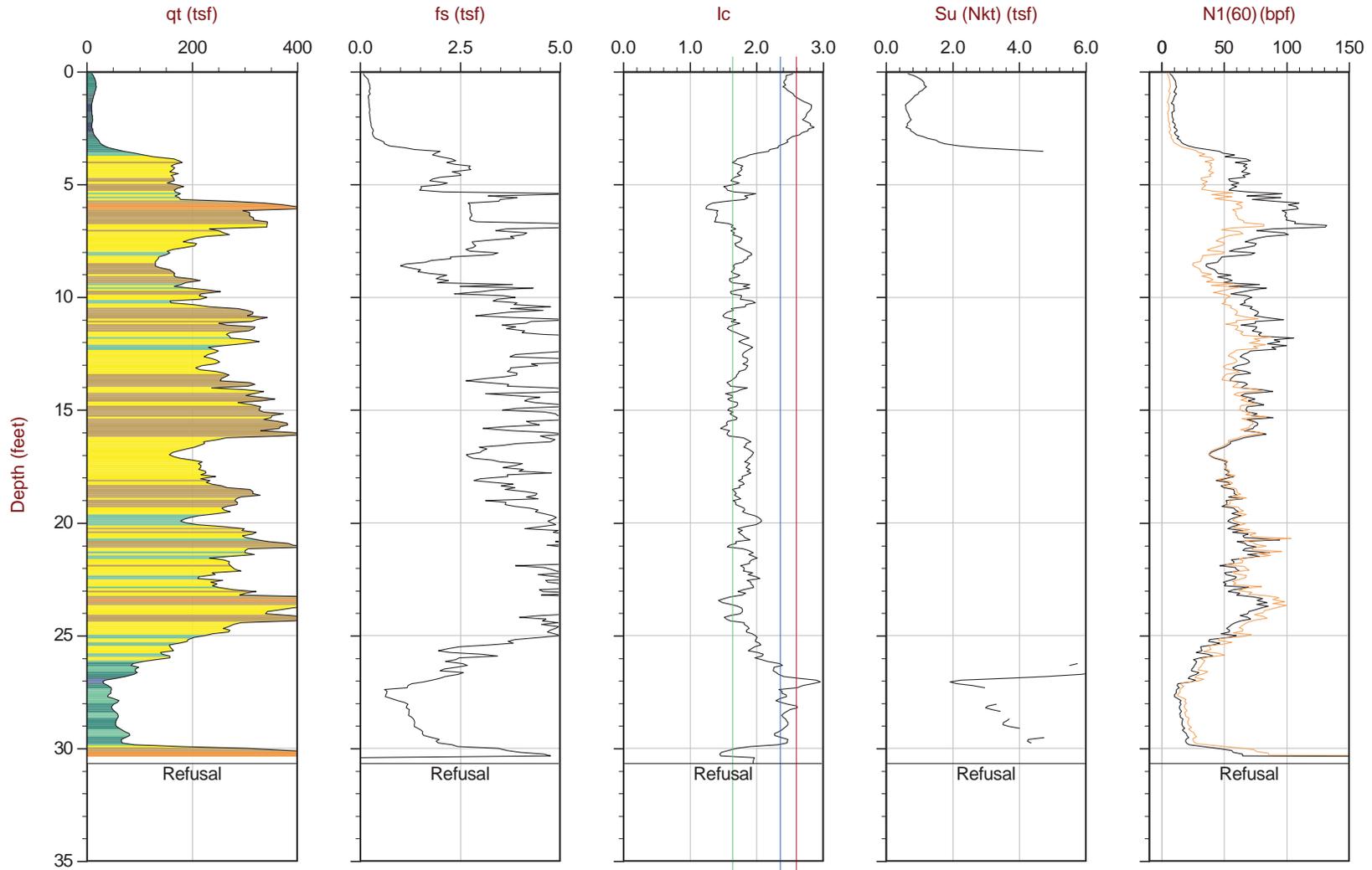
FIGURE C-2



Murray Engineers Inc

Job No: 16-56024
Date: 05:06:16 09:23
Site: 1323 Elam Ave

Sounding: CPT-03
Cone: 447:T1500F15U500



Max Depth: 9.350 m / 30.68 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 16-56024_CP03.COR
Unit Wt: SBT Zones
Su Nkt: 15.0

SBT: Robertson and Campanella, 1986 (see Figure C-7, Key to Soil Behavior Types)
Coords: UTM 10 N N: 4125818 E: 591027
Page No: 1 of 1

— N(60) (bpf)

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

CONE PENETRATION TEST CPT-3

PROJECT NO. 2534-1R1

JULY 2016

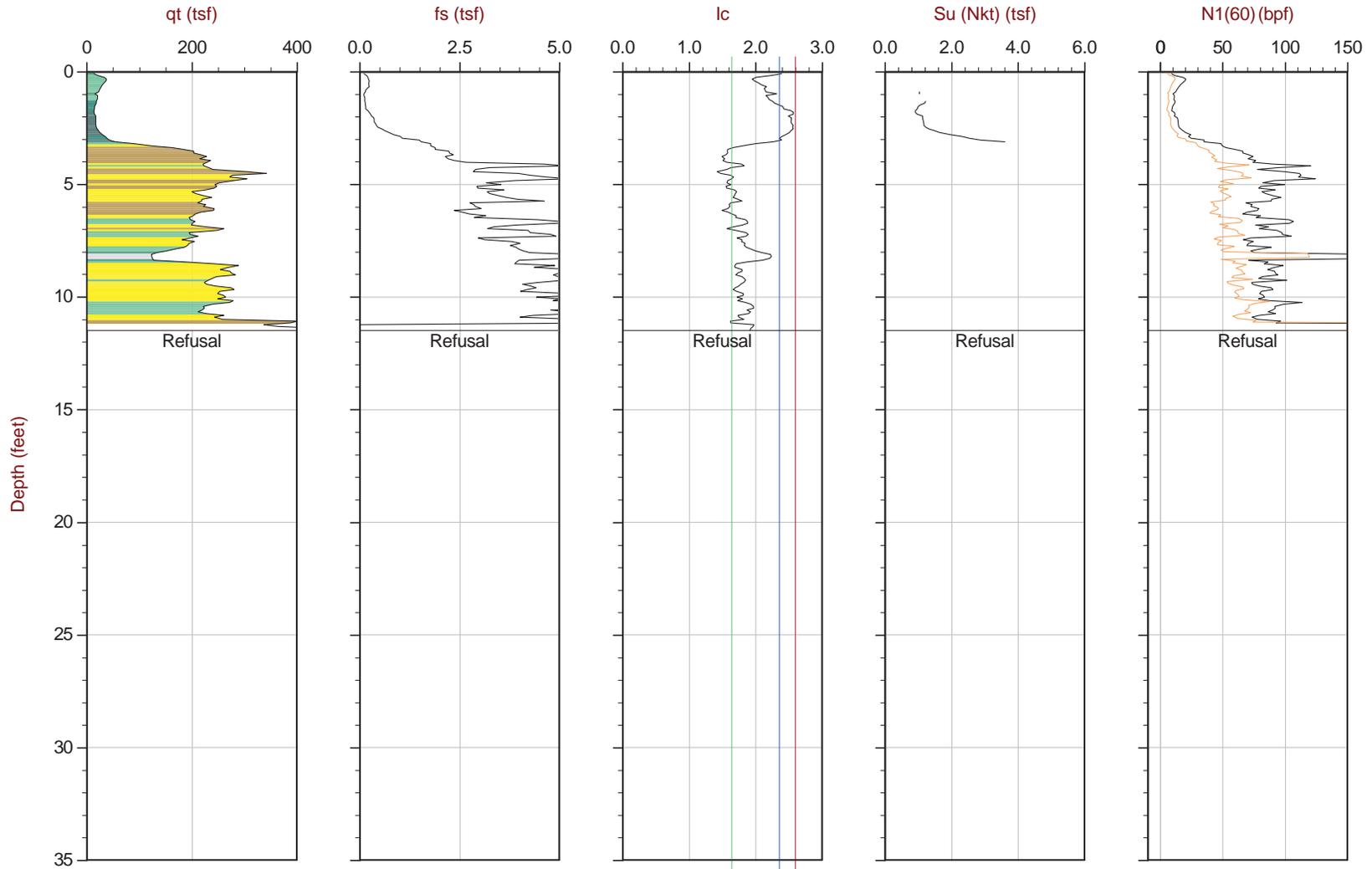
FIGURE C-3



Murray Engineers Inc

Job No: 16-56024
Date: 05:06:16 10:00
Site: 1323 Elam Ave

Sounding: CPT-04
Cone: 447:T1500F15U500



Max Depth: 3.500 m / 11.48 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 16-56024_CP04.COR
Unit Wt: SBT Zones
Su Nkt: 15.0

SBT: Robertson and Campanella, 1986 (see Figure C-7, Key to Soil Behavior Types)
Coords: UTM 10 N N: 4125841 E: 591051
Page No: 1 of 1

— N(60) (bpf)

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

CONE PENETRATION TEST CPT-4

PROJECT NO. 2534-1R1

JULY 2016

FIGURE C-4

APPENDIX D

LABORATORY TESTS

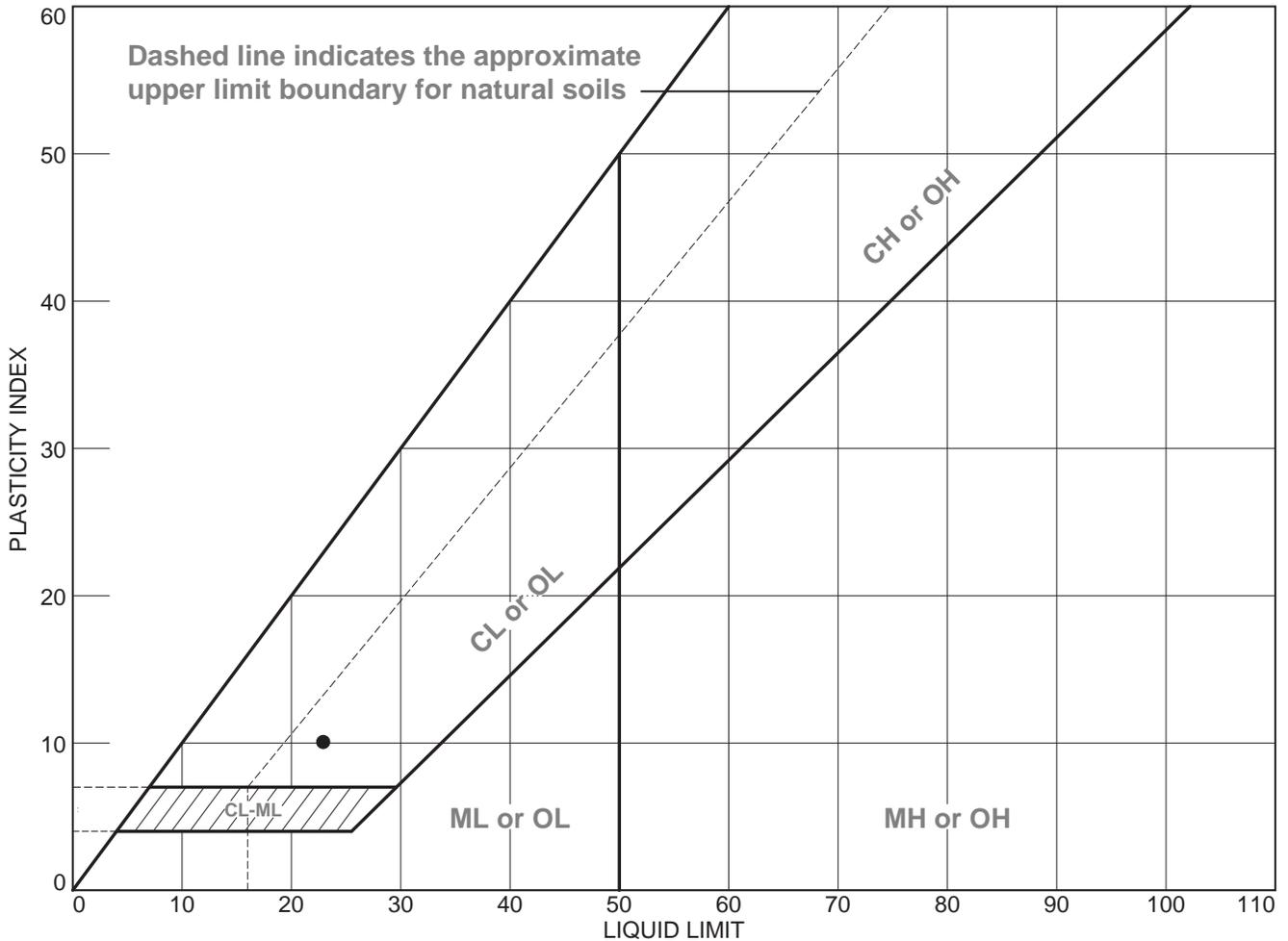
Samples from the subsurface exploration were selected for tests to evaluate the physical and engineering properties of the soils. The tests performed are briefly described below.

Natural moisture content was determined for most samples recovered from the soil probe in accordance with ASTM D2216. This test determines the moisture content representative of field conditions at the time the samples were collected. The results are presented on the soil probe log at the appropriate sample depths.

The Atterberg Limits were determined on one sample in accordance with ASTM D 4318. The Atterberg limits are the moisture content within which the soil is workable or plastic. The results of this test are presented in Figure D-1 and on the soil probe log, at the appropriate sample depth.



LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SP-2	1	0' to 4'	13.4	13	23	10	CL



ZHU RESIDENTIAL DEVELOPMENT
1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

LIQUID & PLASTIC
LIMITS TEST REPORT

PROJECT NO. 2534-1R1

JULY 2016

FIGURE D-1

APPENDIX E
SUMMARY OF LIQUEFACTION ANALYSES



Project title : Zhu
Location : Campbell

Overall vertical settlements report

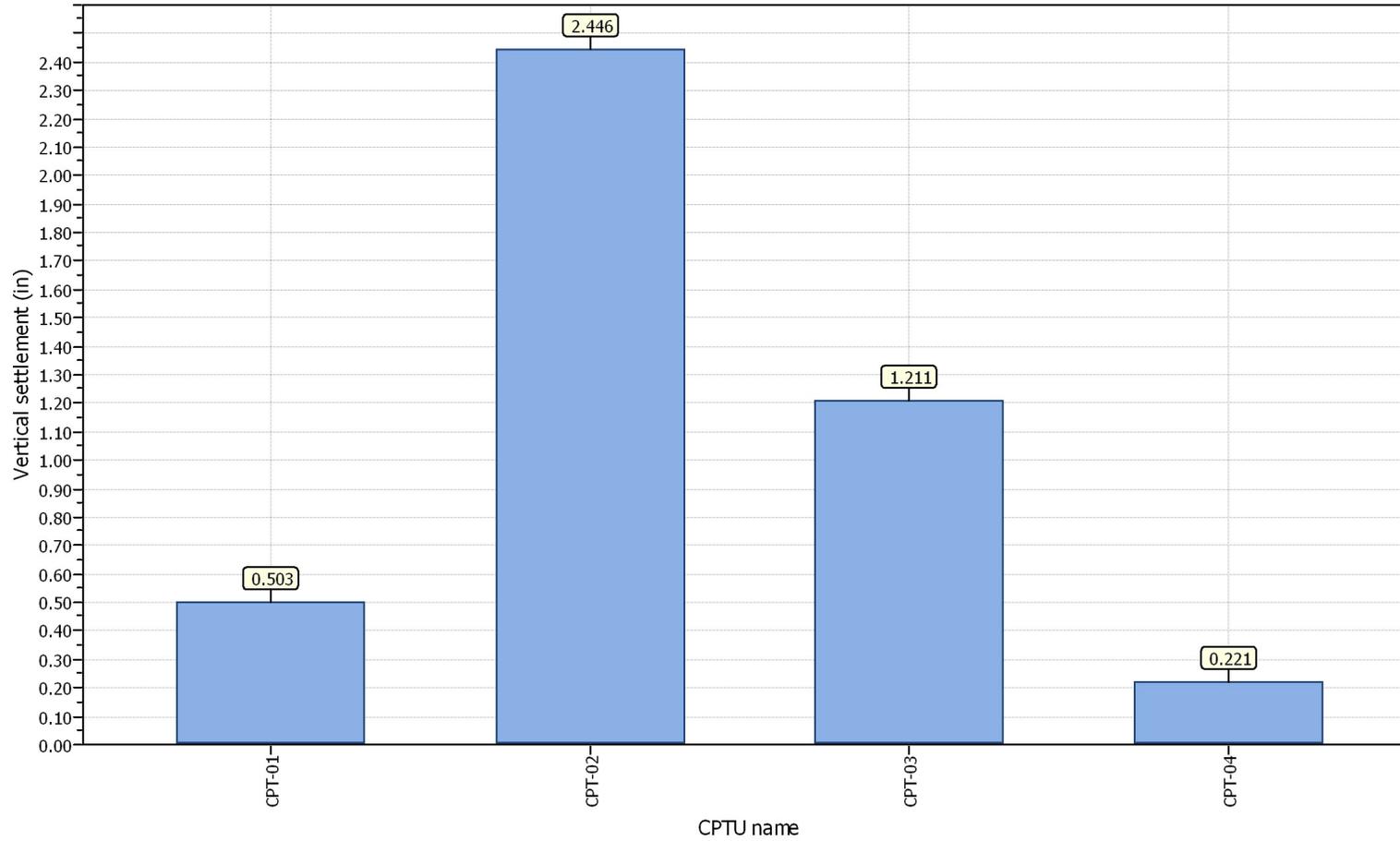


EXHIBIT 2

PHASE I ENVIRONMENTAL SITE ASSESSMENT

IRC Environmental Consulting, LLC

www.irc-enviro.com

**PHASE I
ENVIRONMENTAL
SITE ASSESSMENT
REPORT**

**1323 Elam Avenue
Campbell, California**

November 15, 2016

Project Number 3343

Prepared For

**Yanhua Zhu
c/o Gordana Design Studio
602 Hawthorne Ave.
Palo Alto, CA 94301**

Prepared By

**IRC Environmental Consulting, LLC
430 South 4th Street
San Jose, California 95112-5730
(408) 313 - 9376
ircenvironmental@gmail.com**

IRC Environmental Consulting, LLC

www.irc-enviro.com

November 15, 2016

Project Number 3343

Yanhua Zhu
c/o Gordana Design Studio
602 Hawthorne Ave.
Palo Alto, CA 94301

Via email to: design@gordana.net

Attn: Gordana Paylovic

**Subject: PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
SITE: 1323 ELAM AVENUE, CAMPBELL, CA 95008-4439
SANTA CLARA COUNTY ASSESSOR'S PARCEL NUMBER
(APN): 403-09-046 (Book 403, Page 09, Parcel 046)**

Dear Ms. Paylovic:

IRC is pleased to present the accompanying final report of the Phase I Environmental Site Assessment (ESA) prepared for the subject Site.

IRC appreciates the opportunity to have been of service. Should you have any questions or require additional information or services please contact me at (408) 313 - 9376 or ircenvironmental@gmail.com.

Sincerely,



Benjamin Berman
Project Manager
IRC Environmental Consulting, LLC (IRC)

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FIGURES

FIGURE 1	SITE LOCATION & VICINITY MAP, TOPOGRAPHIC BASE
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FIGURE 3	SUBJECT SITE, GOOGLE EARTH IMAGE
FIGURE 4	SUBJECT SITE FEATURES

TABLES

TABLE 1 SUMMARY OF AERIAL PHOTOGRAPH REVIEWS

TABLE 2 SUMMARY OF CITY DIRECTORIES REVIEWS

PHOTOGRAPHS

PHOTOGRAPHS SITE PHOTOGRAPHS (SUBJECT PROPERTY)

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APPENDIX A	STATEMENT OF QUALIFICATIONS	
APPENDIX B	HISTORICAL TOPOGRAPHIC MAPS	
APPENDIX C	CITY DIRECTORIES	
APPENDIX D	AERIAL PHOTOGRAPHS	
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APPENDIX J	OIL & GAS REPORT	
APPENDIX K	GOOGLE EARTH HISTORICAL IMAGES, PROPERTY, 2007 - 2016	SUBJECT
APPENDIX L	WEST VALLEY SANITATION DISTRICT	

1.0 EXECUTIVE SUMMARY, CONCLUSIONS, RECOMMENDATIONS

IRC Environmental Consulting (IRC) has completed a Phase I Environmental Site Assessment (ESA) of the property located at address 1323 Elam Avenue, Campbell, California (referred to hereinafter as the Site, subject Site, or subject property). This Site assessment was prepared for Yanhua Zhu (c/o Gordana Design Studio) in November 2016.

This assessment included visual survey of the Site, exterior inspection of immediately adjacent properties, review of historical documentation, review of local agency files specific to the Site, and a review of regulatory databases that identify nearby sites of potential environmental concern. The purpose of this assessment was to evaluate the Site for real and potential environmental impairments, or risks of impairments, that may represent existing or potential financial and legal liabilities to Yanhua Zhu (c/o Gordana Design Studio) and / or their agents.

Based on our review of available records, site inspection, and / or interviews, no Recognized Environmental Conditions (RECs) were identified. Business Environmental Risks and Non-Scope Considerations were identified. See below for details.

Findings, Opinions

Subject Property, Location, Description, Current Uses

The subject property is identified as Santa Clara County Assessor's Parcel Number 403-09-046, and is associated with 1323 Elam Avenue, Santa Clara County, in the City of Campbell, California. The subject property consists of one +/- 0.46 acre parcel of land developed with one existing single-family residence, proximate to Elam Avenue, and a detached garage. The majority of the land area of the subject property consists of a large undeveloped back yard. Most of the subject property is unpaved. At the time of the Site inspection the house on the subject property was occupied by a tenant.

Subject Property, Historical Uses

Review of available information indicated that the subject property was primarily undeveloped or agricultural (orchards) by the 1930s and likely remained mostly agricultural into the 1950s. The house on the subject property was constructed circa 1945 and the original sewer connection permit was issued in 1960. The subject property was annexed to the City of Campbell in 1961.

Adjacent Properties, Historical and Current Uses

Adjoining / surrounding properties were primarily undeveloped / agricultural (orchards) by the 1930s and were mostly all developed by the 1960s to 1980s, primarily for residential use.

Subject Property, Potential Concerns Originating from Onsite

No Recognized Environmental Conditions (RECs) originating from onsite were identified. Potential Business Environmental Risks and Non-Scope Considerations were identified (see below). City of Campbell Code Enforcement indicated the following in November 2016. "There was one previous code enforcement case where RVs were reported parked in the rear yard of the subject property, which may have been a source of contamination. There is no information

whether this was verified or not, however. The case does not appear to have been investigated, and from the aerials it appears there is no violation at this time, as no RV is visible." Historical Google Earth™ aerial images (dated 04-15-2013 and 02-13-2014) indicated what appeared to be a recreational vehicle (RV) proximate to the east property boundary. An online search in November 2016 of City of Campbell permits found listed case number COD201200060 with description "Full sized RV is parked in backyard". No evidence of RVs, automotive or vehicle storage in the back yard was found during the November 2016 Site inspection.

Adjoining / Nearby Properties, Potential Concerns

No Recognized Environmental Conditions (RECs) originating from adjoining / nearby sites were identified. There is a small commercial retail center on the southwest corner of Elam Avenue and San Tomas Aquino Road approximately 300 to 500 feet east - southeast of the subject property. The city directories listed "San Tomas Cleaners" for the year 1970 at address 1256 Elam Avenue (this address is associated with the small commercial center at Elam Avenue and San Tomas Aquino Road). No other information was found while conducting this Phase I ESA regarding a possible dry cleaner at this location. In our opinion additional information, had it been available, would not likely have lead to identification of a recognized environmental condition (REC) for the subject property.

Business Environmental Risk

The subject property and immediately adjoining properties were historically (or currently) agricultural (orchards) or rural and it is possible that residual pesticides or other potentially hazardous substances associated with agricultural or rural use might remain in the subject property soils and subsurface.

Non-Scope Considerations

- Given the age of the structures on the subject property (circa 1945-1960) it is possible that Asbestos Containing Building Materials (ACBM) may have been used in construction and / or Lead-Based Paint (LBP) may have been used on painted surfaces.
- The residence on the subject property was built circa 1945 and the original sewer connection permit was issued in 1960. It is unknown although likely that there was a functioning septic system on the subject property prior to 1960, and assuming there was at one time a septic system, it is unknown whether or not it was ever removed.

Conclusions

IRC Environmental Consulting, LLC has performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Standard Practice E 1527 of 1323 Elam Avenue in the City of Campbell, California, the *property*. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the *property*. However, the following should be considered: Potential Business Environmental Risks and Non-Scope Considerations were identified (see above).

2.0 PURPOSE AND SCOPE

This report presents the results, conclusions, and recommendations from the Phase I Environmental Site Assessment (ESA) for the property located at 1323 Elam Avenue in the City of Campbell, California (hereinafter referred to as the "Site", "subject Site", or "subject property").

2.1 Purpose

The purpose of this investigation was to conduct an environmental assessment that would address real and potential environmental impairments, or risks of impairments, that may represent financial and legal liabilities to Yanhua Zhu (c/o Gordana Design Studio) and / or their agents. IRC assumes the purpose of this ESA is to qualify for Landowner Liability Protections (LLP) to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability, to understand potential environmental conditions that could materially impact the operation of the business(es) associated with the parcel(s) of commercial real estate, and / or for other purposes associated with business environmental risk. We understand the City of Campbell is requiring this Phase I ESA as part of their re-development requirements; there is a plan to demolish the one existing single-family residence and detached garage and re-develop the subject property with four single-family residences (we were not informed of any other purpose).

2.2 Scope of Services

The Scope of Services for the performance of this Phase I ESA included the following tasks:

- ◆ Research and review available geologic and hydrogeologic information concerning the Site and its environment.
- ◆ Review available historical documentation of the property to determine what activities have occurred at the Site and immediately adjacent sites since the Site's first developed use or since 1940 (whichever is earlier).
- ◆ Generally survey current uses of immediately adjacent properties.
- ◆ Inspect the Site to determine current on-Site activities and past uses.
- ◆ Review available files / records, request public records, submit an inquiry to, and or obtain online information from the following state or local regulatory agencies for the subject Site address(es):
 - State / Regional Water Quality Control Board (S/RWQCB)
 - Santa Clara Valley Water District (SCVWD)
 - Santa Clara County Department of Environmental Health (SCCDEH)
 - Santa Clara County Fire Department (SCCFD)
 - West Valley Sanitation District (WVSD)
 - City of Campbell (COC)
 - Santa Clara County Assessor's Office (SCCAO)

- ◆ Acquire a review of federal, state and county publications (radius report) to identify the Site and nearby sites (if any) included on more than 50 databases, including (but not limited to) the following databases or current equivalents:
 - National Priority List (NPL)
 - Resource Conservation and Recovery Act (RCRAInfo)
 - Region 9, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
 - RCRA Treatment, Storage and Disposal (TSD) Facilities
 - Emergency Response Notification System (ERNS)
 - Leaking Underground Storage Tanks (LUST) sites
 - Registered underground storage tank (UST) sites
- ◆ Review available reports concerning on-going investigations at nearby agency-listed sites.
- ◆ Prepare this report in general accordance with the document entitled *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessments Process* (The American Society for Testing and Materials [ASTM], E 1527-13).

2.3 Limitations

Assessments are performed on subject property identification information (street addresses and parcel numbers) provided by the client / user at the initiation and authorization of the work. The conclusions of this report are based solely on the Scope of Services outlined above, and on the sources of information referenced in this report. Any additional information that becomes available concerning this Site should be submitted to IRC Environmental Consulting so that our conclusions may be reviewed and modified, if necessary. Conducting environmental sampling (i.e. soil, groundwater, vapor / air, building materials) is outside the scope of this Phase 1 ESA. Other Non-scope considerations outside the scope of this Phase 1 ESA include, but are not limited to, considerations such as the following: screening for the possibility of vapor intrusion into buildings or structures, indoor air quality, asbestos containing building materials, lead-based paint, mold, radon, and wetlands. Note regarding potential vapor intrusion / indoor air quality; the possibility of / potential for subsurface contaminant migration via subsurface vapor, along with potential contaminant migration in subsurface soil and groundwater, are considered as part of this Phase I ESA.

The accompanying report presents a description of the work performed by IRC Environmental Consulting and was prepared using guidelines presented in the document entitled, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (The American Society for Testing and Materials [ASTM], E 1527-13). Note that all limitations in ASTM E 1527-13 apply, such as those in sections 4.5.1 through 4.5.4 (and other sections), and user's responsibilities in ASTM E 1527-13 apply (section 6). It should be noted that this report has been prepared to generally accepted industry standards and may need to be modified to meet specific lender requirements.

This document has been prepared according to generally accepted practices. No other warranty, either expressed or implied as to the methods, results, conclusions or recommendations is made. The user is notified that uncertainty is not eliminated, assessments are not exhaustive, reasonable time and cost constraints and other limitations are inherent, certain conditions may not be detected during an assessment of this type, and no level of

assessment can guarantee that a site is completely free of hazardous substances. This assessment was based on a specific scope of work with a defined budget, was not intended to be comprehensive, identify all potential concerns, or eliminate the possibility of any environmental impacts to the subject property. The results of all assessments are subject to differing professional interpretations and opinions, the conclusions of others may differ. If you wish to reduce the level of uncertainty associated with this study, we should be contacted for additional consultation. Regulatory agency environmental regulations, priorities, and enforcement change over time and tend to get stricter / more conservative; potential impacts previously unknown or of little concern, such as but not limited to vapor intrusion, tend to become more important environmental regulatory concerns over time.

The findings, analysis, opinions, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our assessment and review of practically reviewable information relevant to the site conditions that was reasonably available and ascertainable at the time of this assessment. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes do occur, we should be advised so that we can review our report in light of those changes. This assessment and report are for the sole use of the client, reliance upon the information in this report by others is solely at their own risk. Nothing in this report shall be construed as a legal opinion, this assessment / report may be based in part upon verbal or written information possessed by the client / user or other non-public privately owned information, and all of IRC Environmental Consulting LLC's Standard Terms and Conditions and Limitations apply at all times to this report and all reports by IRC Environmental Consulting.

3.0 PHYSICAL AND ENVIRONMENTAL SETTING

3.1 Topography

The Site's physical location was researched employing the current United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map section relevant to the Site. The 7.5-Minute Map has an approximate scale of 1 inch to 24,000 inches, and shows physical features such as wetlands, water bodies, railways and roadways, mines, wells, and buildings. The physical and natural features illustrated on the topographic map serve as areas of visual emphasis to note when conducting the on-Site visit.

The San Jose West Quadrangle Topographic Map (dated 1961, photo-revised in 1980) shows no physical features that would likely environmentally impact the Site. The map reveals no storage tanks, mines, or wells in the immediate area. This topographic map shows the elevation of the Site to be approximately 220 feet above mean sea level with an approximate northeasterly topographic gradient direction. San Tomas Aquinas Creek lies approximately 0.2 to 0.25 miles north of the subject property. Note that the referenced topographic map was revised in 2012; however, due to minimal detail in the 2012 map, the 1980 map was used.

3.2 Regional Geology

The site is located within the central region of the Coast Ranges Geomorphic Province, which extends from the Oregon border south to the Transverse Ranges. The general topography is characterized by subparallel, northwest trending mountain ranges and intervening valleys. The

region has undergone a complex geologic history of sedimentation, volcanic activity, folding, faulting, uplift and erosion. The Santa Cruz Mountains are located to the west of the site; the relatively flat-lying, alluviated San Francisco Bay Plain is situated to the east of the site.

Based on Wentworth et al (1999), the site is located on Upper Pleistocene age "Alluvial Fan Deposits", map unit Qpf. The alluvial fan deposits (Qpf) consist primarily of clast supported gravel with a clayey and sandy matrix. Based on Rogers and Williams (1974), alluvium is approximately 100 feet thick in the site vicinity.

In addition, soils and geology in the vicinity of the subject property are included in Appendix H, Physical Settings Maps. The geology map / report in Appendix H includes the following information from the United States Geological Survey (USGS):

- Geology Symbol: Q; Unit Name: Quaternary Alluvium and Marine Deposits;
- Unit Description: Alluvium, lake, playa, and terrace deposits, unconsolidated and semi-consolidated. Mostly non-marine, but includes marine deposits near the coast; and
- Rocktype/s: Alluvium; Terrace; Lake Or Marine Deposit (Non-Glacial).

4.0 LAND USE HISTORY

A review of readily available, standard historical sources (as defined in ASTM E 1527-13) was performed to assist in establishing any significant past uses of the Site and immediately adjacent properties. The review attempted (to the extent of readily available sources) to encompass the years since the first obvious developed use of the Site, or since 1940, whichever is earlier. The following subsections present a summary of our findings from our review of each source.

Review of available building and fire department records, city directories, historical aerial photographs, historical topographic maps, interviews and / or other information indicated that the subject property was primarily undeveloped or agricultural (orchards) by the 1930s and likely remained mostly agricultural into the 1950s. The house on the subject property was constructed circa 1945 (based on county records) and the original sewer connection permit was issued in 1960. Adjoining / surrounding properties were primarily undeveloped / agricultural (orchards) by the 1930s and were mostly all developed by the 1960s to 1980s, primarily for residential use.

4.1 Historical Topographic Maps

Historical Topographic Maps from 1899, 1953, 1961, 1968, 1973, 1980 and 2012 were reviewed. The Topographic Maps from 1968, 1973, and 1980 were photo revised from the 1961 map. The scale, resolution and or quality of the 1899 map was inadequate to reliably determine the location / details in the vicinity of the subject property. The 1953 map appeared to show the vicinity of the subject property as agricultural (orchards). The 1961 through 2012 maps showed the subject property and vicinity as within the area of urban / suburban development. Historical Topographic Maps are presented in Appendix B.

4.2 Review of Aerial Photographs

Historical aerial photographs supplied by GeoSearch were reviewed to help evaluate past land uses on the Site and surrounding properties. In addition, the photographs were reviewed for evidence of hazardous materials and features that may have impacted the Site and general vicinity. These features may have included, but were not limited to, landfills, ponds, pits, staining or distressed vegetation, aboveground storage tanks, lagoons, exterior storage of hazardous materials, and general land use practices.

Aerial photographs taken in 1939, 1948, 1956, 1960, 1970, 1982, 1987, 1993, 2003 and 2014 were reviewed (Appendix D). A summary of the aerial photography review is provided in Table 1 in the Tables section. Limited additional useable information was obtained from the aerial photography review, partially due to the general poor quality of the 1970, 1982, 1987 and 2003 photographs and partially because some of the same information was obtained from the historical topographic maps. The 1939, 1948, and 1956 photographs show the subject property and adjoining properties as undeveloped, agricultural (orchards) and / or single family residential on large lots. The house on the subject property did not appear evident on the 1939 photograph; it was difficult to discern whether or not structures appeared on the subject property in the 1948, 1956 and 1960 photographs.

Historical Google Earth™ Aerial Images

Historical Google Earth™ aerial images from 2007 to 2016 (Appendix K) were also reviewed. No significant information was obtained from the Google Earth™ images. Based on the Google Earth™ images most of the subject property is unpaved. Occasional vehicles were observed in the back yard area including what appears to be a recreational vehicle (RV) proximate to the east property boundary (images dated 04-15-2013, 02-13-2014). Possible piles of debris / garbage were observed in at least one image (10-31-2011) and what looks to be curved (earthen ?) ramps appear at the back of the subject property (02-23-2014).

4.3 Historical Fire Insurance Maps

Fire Insurance Maps (FIM) / fire maps produced by the Sanborn Fire Insurance Company for major cities and towns depict structures, building materials, uses, USTs, gas lines, etc. These maps were typically produced beginning prior to 1900 and were often updated into the 1970s. These maps are valuable sources of information in determining prior usage, provided the site's location is within city limits as they were defined in the early to mid-1900s. The results of the FIM / Sanborn Map search are presented in Appendix E. The subject Site at 1323 Elam Avenue did not have FIM / Sanborn map coverage, indicating that there was no urban development at the site during the period of coverage.

4.4 City Directories

City directories have been published for major cities and towns across the United States since the 19th century. City directories published in the 20th century also included a street index for each street address during a given year. City directories are a valuable source of historical information with regard to Site tenancy and use. IRC reviewed city directories as provided by GeoSearch for the subject Site address(es) (Appendix C).

Information is provided in Table 2, in the Tables section, for those years where city directory information for the subject property (and adjoining and nearby properties) was found. For the subject property the city directories appeared to list the names of property owner / occupants sporadically from circa 1970 to 2016. City directory listings generally indicated residential uses on adjoining and nearby properties beginning in 1970.

There is a small commercial retail center on the southwest corner of Elam Avenue and San Tomas Aquino Road approximately 300 to 500 feet east - southeast of the subject property. The city directories listed "San Tomas Cleaners" for the year 1970 at address 1256 Elam Avenue (this address is associated with the small commercial center at Elam Avenue and San Tomas Aquino Road). No other information was found while conducting this Phase I ESA regarding a possible dry cleaner at this location.

4.5 User Provided Data, Data from Non-Public Sources, Questionnaire, Interviews

During this *Phase I Environmental Site Assessment* no previous reports on the subject Site property of significant relevance to the performance of this *Phase I Environmental Site Assessment* were made available for our review by Site contacts, potential users of this *Phase I Environmental Site Assessment*, or other non-public sources of information. The representative of the users did provide three drawings showing the existing structures and planned new development of four new single-family residences on the subject property. In addition, a letter

from the City of Campbell regarding redevelopment of the Site was provided (City of Campbell, October 7, 2016).

Questionnaire

IRC's standard Phase I assessment Questionnaire, which includes questions in accordance with the ASTM Standard Practice E 1527-13, was sent to Ms. Gordana Paylovic, the representative of Yanhua Zhu, the current owner of the subject property. Ms. Paylovic forwarded the questionnaire to Yvonne Yang, the Real Estate Agent for Yanhua Zhu. Mr. Berman of IRC spoke with Ms. Yang by telephone; Ms. Yang provided the following information. The subject property was vacant and unoccupied when it was purchased by the current owner about a year ago. The current property owner rented out the subject property; the current tenant has occupied the site for about a year. Neither Ms. Yang nor the current property owner have any information about the prior history, development, occupancy and use of the subject property. Therefore a questionnaire was not completed

Interviews

During the site inspection on November 11, 2016, Mr. Berman of IRC conducted a brief in-person interview with the tenant. The tenant confirmed the information provided by the real estate agent; See Questionnaire above. Although the tenant was only at the subject property for about a year and knew nothing of the prior history, she thought it may have been used for equestrian purposes. Various county and city public agencies were contacted by email and telephone in November 2016, see section 6.5.

5.0 SITE RECONNAISSANCE

Benjamin Berman of IRC Environmental Consulting, conducted a Site visit and inspection on November 11, 2016. Mr. Berman was unaccompanied during the Site inspection. All observations are valid as of the date of the Site inspection.

5.1 Site Description and General Observations

A Site Location & Vicinity Map (on topographic base, Figure 1), Subject Site and Adjacent Properties – Google Earth Image™ (Figure 2), Subject Site – Google Earth Image™ (Figure 3), and Subject Site Features (Figure 4) are provided in the *Figures* section of this report. Site photographs are provided in the *Photographs* section of this report. Figure 4 shows the approximate locations and directions of the photographs.

The Site is identified as Santa Clara County Assessor's Parcel Number 403-09-046, and is associated with 1323 Elam Avenue, Santa Clara County, in the City of Campbell, California. The subject property consists of one +/- 0.46 acre parcel of land developed with one existing single-family residence, proximate to Elam Avenue, and a detached garage. The majority of the land area of the subject property consists of a large undeveloped back lot yard. Most of the subject property is unpaved. At the time of the Site inspection the house on the subject property was occupied by a tenant. The user should note that much of the ground surface of the subject property was not visible due to vegetation.

Exterior Observations (see Figure 4 and Photographic Notes / Photographs)

- No items of concern were observed on exterior areas of the subject property.

Interior Observations

- No items of concern were observed inside the house and detached garage.

5.2 Additional Non-Scope Services

No additional non-scope services were performed as part of this Phase I ESA and no detailed observations / investigation of non-scope conditions was made. However, with regards to Non-Scope Considerations, the following should be noted with regards to Asbestos Containing Building Materials (ACBM) and Lead-Based Paint (LBP). Given the age of the residence and detached garage on the subject property (circa 1945 to 1960) it is possible that ACBM may have been used in construction and / or LBP may have been used on painted surfaces.

5.3 Adjoining and Neighboring Properties Description

See Figure 2, Subject Site and Adjacent Properties. IRC performed a limited visual inspection of immediately adjoining properties to evaluate their potential environmental significance to the Site. The properties immediately adjoining and surrounding the subject property consisted entirely of residential uses. However, at least two adjoining properties on the south side of Elam Avenue (east and west sides of Crockett Avenue, Figure 2) consisted of large lots with smaller and older single family residences (similar to the subject property) compared to the adjoining properties to the east, north and west and most of the other properties in the surrounding neighborhood. These properties may have had past and or current agricultural and other uses associated with

rural sites (chickens and a tractor were observed on one of these sites). A large undeveloped property is located approximately 300 feet west southwest of the subject property on the south side of Elam Avenue and on the west side of Smith Creek; this site may also be associated with past and or current agricultural / rural uses.

No readily observable features (such as the presence of currently existing gasoline service stations or dry cleaners) of likely or potential environmental concern to the subject property were observed during the site inspection on any of these immediately adjoining properties; the user is cautioned that some potential concerns (such as, but not limited to, past uses and subsurface impacts) cannot be identified from offsite / exterior observations.

6.0 RECORDS AND CORRESPONDENCE REVIEW

To further evaluate potential sources of contamination originating from on and/or off-site sources, a review of published agency documents, agency files, and other pertinent documents was performed. Generally, information regarding potential off-site sources is obtained from federal and state agency listings, while local agencies offer more site-specific information.

6.1 Federal and State Records Sources

IRC Environmental Consulting contracted with GeoSearch for the performance of an environmental database search to identify agency-listed sites of potential environmental significance located within a one-mile radius of the Site. The GeoSearch Radius Map report is presented in *Appendix G*. The GeoSearch radius report identifies sites on more than 50 databases including all or most of the following or equivalent / current categories:

NPL:	National Priority List (Federal Superfund Sites)
CERCLIS/NFRAP:	EPA State Superfund Sites
CORRACTS:	EPA Corrective action facilities
RCRA GEN:	Small and large quantity generators of hazardous waste
ERNS:	Emergency Response Notification System Sites
HMIRS:	Hazardous Materials Information Reporting System
TRIS:	Toxic Release Inventory System
TSCA:	Toxic Substance Control Act
FTTS:	Federal Insecticide, Fungicide, & Rodenticide Act/TSCA
SSTS:	Section 7 Tracking System
PADS:	PCB Activity Database System
MLTS:	Material Licensing Tracking System
MINES:	Mines Master Index File
FINDS:	Facility Index System
RAATS:	RCRA Administrative Action Tracking System
CAL-SITES:	Potential or confirmed hazardous release properties
REF:	Unconfirmed Properties Referred to Another Agency
LUST:	Sites with Leaking Underground Storage Tanks
SWLF/State Landfill:	Permitted solid waste State landfills, incinerators, or transfer stations
DEED:	Deed restriction sites
CORTESE:	Hazardous Waste Substance Sites
TOXIC Pits:	Toxic pits cleanup facilities
UST/AST:	Registered Underground or Aboveground Storage Tank Sites
CHMIRS:	California Hazardous Materials Information Reporting System
CA WDS:	Waste Discharge System
CA SLIC:	Statewide Spills, Leaks, Investigations and Cleanups
SWEEPS UST:	Statewide Environmental Evaluation and Planning System
NOTIFY 65:	Proposition 65 Records
DRYCLEANERS:	Drycleaner related facilities with EPA ID numbers
HAZNET:	Facility and Manifest Data
EMI:	Emissions Inventory Data

6.2 Contamination Migration

Fuel Leak Attenuation

In fuel leak cases, research conducted at the Lawrence Livermore National Laboratory (LLNL) indicates that attenuation and degradation play major roles in reducing hydrocarbon contamination in groundwater to non-detectable levels within several hundred feet of the contaminant source. Moreover, this research indicates that in over 90% of the petroleum hydrocarbon contamination cases, groundwater contaminant plumes do not extend more than 250-feet from the source; however, a gasoline additive called Methyl Tertiary Butyl Ether (MTBE) has been found to be more mobile in groundwater compared to gasoline and gasoline break-down products. Findings indicate that MTBE is highly soluble in water and moves easily through soil particles and into groundwater where it may spread over a distance greater than 250 feet. MTBE will transfer to groundwater from gasoline leaking from USTs, pipelines, car emissions into the atmosphere, and other components of gasoline vapor distribution. MTBE has been an additive to gasoline since approximately 1985.

Toxic-Leak Attenuation

In the case of toxic substances in the groundwater, namely the more mobile Volatile Organic Compounds (VOCs), detectable levels may extend several thousand feet or more from the source. In most VOC groundwater plume cases, however, attenuation will act to reduce the contamination to non-detectable levels within one-half mile of the source.

Groundwater Flow

Site-specific information on groundwater flow direction, depth and quality can only be confirmed through the installation and survey of a minimum of three on-Site or near Site groundwater-monitoring wells for measuring depth to groundwater. No indication was found that groundwater monitoring wells ever existed on the subject Site or adjoining sites. A search of the California State Water Quality Control Board's (SWQCB) GeoTracker online data base did not find any sites proximate to the subject property with groundwater monitoring wells.

Shallow regional groundwater (aquifers or water bearing zones nearest to the ground surface) flow directions can typically be assumed to follow topographic gradients. The San Jose West Quadrangle Topographic Map (dated 1961, photo-revised in 1980) shows an approximate topographic gradient direction to the northeast in the vicinity of the subject property. It should be noted that groundwater flow directions and depths are variable and subject to site-specific influences, such as groundwater pumping, and perched / seasonal groundwater may occur.

The depth to the first encountered water bearing zones in much of the Campbell area is known to be relatively deep compared to other nearby areas (such as San Jose). An online search of the California Department of Water Resources (DWR) Water Data Library indicated Depth to Water (DTW) levels in the area were generally found to be on the order of 60 to 100 feet and deeper (DWR, November 5, 2016). However, shallower "perched" zones of limited lateral extent may occur. In addition, ground water levels tend to vary from season to season and from year to year.

6.3 Summary of Radius Map Report Findings

The GeoSearch Radius Map Report is presented in Appendix G. The subject property was not identified in any database searches in the GeoSearch Radius Report. No immediately adjoining properties were identified in any database searches in the GeoSearch Radius Report. A review of the radius report indicated only four leaking underground storage tank (LUST) sites in the surrounding area. The nearest are two sites located at 880 and 900 San Tomas Aquino Road, Campbell, respectively, approximately 400 to 600 feet east to east southeast of the subject property. Two additional LUST sites are located at 1255 Hacienda Avenue and 1181 Abbott Avenue, Campbell, approximately 0.30 to 0.35 miles south southeast and southwest of the subject property, respectively. All four LUST sites were closed in the 1990s (no further action required by the state and local oversight agencies).

IRC concludes that based on the media affected (e.g. soil only), the substance released (e.g. petroleum hydrocarbons), distances from the subject Site, the age of the releases, the regulatory / cleanup status, the inferred down / cross gradient orientation (with regards to groundwater flow) relative to the subject Site, and / or other potential 'de minimus' condition (ASTM, November 1, 2005 [Section 1.1.1]), the likelihood that the subject Site is impacted at levels of regulatory concern by these listed sites is low. These former offsite releases have not been determined to be a Recognized Environmental Conditions (RECs) for the subject property.

6.4 Environmental Liens and Activity and Use Limitations

An environmental lien search provided by GeoSearch indicated environmental liens for the subject Site were "Not Found". The lien search report can be found in Appendix F.

6.5 Summary of State and Local Agency Records and Correspondence

During the review of standard environmental records, IRC Environmental Consulting used the following information sources:

- State / Regional Water Quality Control Board (S/RWQCB)
- Santa Clara Valley Water District (SCVWD)
- Santa Clara County Department of Environmental Health (SCCDEH)
- Santa Clara County Fire Department (SCCFD)
- West Valley Sanitation District (WVSD)
- City of Campbell (COC)
- Santa Clara County Assessor's Office (SCCAO)

Synopses of records and correspondence reviewed for the Site at the following agencies are presented below:

State / Regional Water Quality Control Board (S/RWQCB) / GeoTracker

IRC Environmental Consulting searched the S/RWQCB GeoTracker online files on November 5, 2016, for information regarding Leaking Underground Storage Tanks (LUSTs) and hazardous materials spills or other potential concerns that may significantly adversely affect the subsurface of the subject Site. No records were found for the subject property or any

immediately adjoining properties. No additional items indicating potential significant environmental concerns for the subject property were identified from S/RWQCB reviews.

Santa Clara Valley Water District (SCVWD)

IRC contacted the SCVWD by email on November 2, 2016 to inquire if there are any records indicating the existence of wells on the subject property; the SCVWD indicated that there are no registered wells on those addresses (parcels). During the Site inspection no wells were observed on the subject property.

Santa Clara County Department of Environmental Health (SCCDEH)

IRC submitted an email request to SCCDEH for public records for the subject property on November 2, 2016; the SCCDEH indicated by email that they do not have records for the subject property.

Santa Clara County Fire Department (SCCFD)

City of Campbell fire department activities and records, notably for those functions covering areas such as hazardous materials (hazmat) and underground storage tank (UST) regulation, are typically handled by the SCCFD or SCCDEH (see above). IRC submitted a request to SCCFD for public records by email for the subject property on November 2, 2016. SCCFD indicated by email that they do not have records for the subject property.

West Valley Sanitation District (WVSD)

IRC submitted a request for public records to WVSD by email for the subject property on November 2, 2016. The WVSD provided information by email (presented in Appendix L). The WVSD indicated the following. County records indicate the house was built in 1945. The original sewer connection permit for the subject property was issued on January 6, 1960 to address 957 Elam Avenue, under assessor's parcel number (APN) 403-09-046 (same as current APN). The WVSD does not know if this parcel was previously discharging into a septic system; however, based on the data above it is **assumed** that a septic system was used prior to 1960 (circa 1945 to 1960).

City of Campbell (COC)

On November 5, 2016, IRC performed an online records / building permits review for the subject property. Online available information is very limited, consisting of a simple list in table format with two columns, Case Number (permit, document number) on the left and a very brief description on the right; the actual permits / documents are not available for viewing online. Nothing was found for the subject property indicating a potential significant environmental concern for the subject property.

On November 2, 2016, IRC sent email requests for public records to the following City of Campbell staff: Daniel Fama, Senior Planner (for subject property redevelopment); Charlotte Andeen, Code Enforcement Officer; Bill Helms, Environmental Compliance; Stephen Rose, Planner; Kathleen Overman, Permit Technician, Building Division; and Roger Storz, Public Works Land Development. The following information was received by email from Charlotte Andeen. "There was one previous code enforcement case where RVs were reported parked in

the rear yard of the subject property, which may have been a source of contamination. There is no information whether this was verified or not, however. The case does not appear to have been investigated, and from the aerials it appears there is no violation at this time, as no RV is visible." (see section 4.2, Review of Aerial Photographs, Historical Google Earth™ Aerial Images)

On November 9, 2016, Benjamin Berman of IRC performed a walk-in file review at the COC offices. Building permit records on microfiche for the subject property address were searched. In addition, inquires were submitted with the Planning Department. No city documents (building permits, drawings) were found for the subject property. A clerk at the building permits counter indicated that the subject property was annexed to the City of Campbell in 1961.

Santa Clara County Assessor's Office (SCCAO)

An assessor's map for the subject property (APN 403-09-046) was obtained online on November 2, 2016, from the Santa Clara County Assessor's Office.

6.6 Data Gaps and Data Failure

Significant data gaps / data failure were not identified. There is a small commercial retail center on the southwest corner of Elam Avenue and San Tomas Aquino Road approximately 300 to 500 feet east - southeast of the subject property. The city directories listed "San Tomas Cleaners" for the year 1970 at address 1256 Elam Avenue (this address is associated with the small commercial center at Elam Avenue and San Tomas Aquino Road). No other information was found while conducting this Phase I ESA regarding a possible dry cleaner at this location. In our opinion additional information, had it been available, would not likely have lead to identification of a recognized environmental condition (REC) for the subject property.

7.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

The conclusions of this report are based solely on the Scope of Services outlined and the referenced sources of information. Any additional information that becomes available concerning this report should be submitted to IRC Environmental Consulting, LLC so that our conclusions may be reviewed and modified, if necessary. No soil, groundwater, vapor, or building material samples were collected or analyzed as part of this assessment. This report was prepared in November 2016 for the sole use of Yanhua Zhu (c/o Gordana Design Studio) and / or their agents. We further understand that Yanhua Zhu (c/o Gordana Design Studio) intends to submit a copy of this report to the City of Campbell.

Prepared by:



Benjamin Berman
Project Manager
Environmental Professional
IRC Environmental Consulting, LLC

The text of this report was reviewed by David F. Hoexter, Consulting Engineering Geologist. As per ASTM E 1527-13 Section 12.13, we declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

8.0 REFERENCES

California Department of Health Services, California Public Water Supply Branch. 1990. Status Report, AB1803 Small System Program Summary of Results.

California Department of Water Resources (DWR). November 5, 2016 (date data accessed on the web). (<http://www.water.ca.gov/waterdatalibrary/>). Search of DWR's online Water Data Library, under zip code 95008 (City of Campbell area), Groundwater Levels, Circa 2011 to 2016.

City of Campbell, Community Development Department. October 7, 2016. Letter with attachments, from Daniel Fama, Senior Planner, to Gordana Paylovic (on behalf of the property owner) . File No. PRE2016-05, Address: 1323 Elam Ave., Preliminary Application.

GeoSearch. November 3, 2016. Radius Report and various other Phase I ESA reference documents (GeoVantage Package) presented in the appendices of the final Phase I ESA report for the subject property. GeoSearch Order # 77239.

Gianessi, L.P., and M. Phillips. 1994. Pesticide Use in U.S. Apple Orchards: A Short History. National Center for Food and Agricultural Policy Discussion Paper PS-94-2.

Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). February 2016. Environmental Screening Levels (ESLs), Tier 1 and Summary Tables, from the internet.

Rogers, T.H., and Williams, J.W., 1974, Potential Seismic Hazards in Santa Clara County, California, California Division of Mines and Geology, Special Report No. 107.

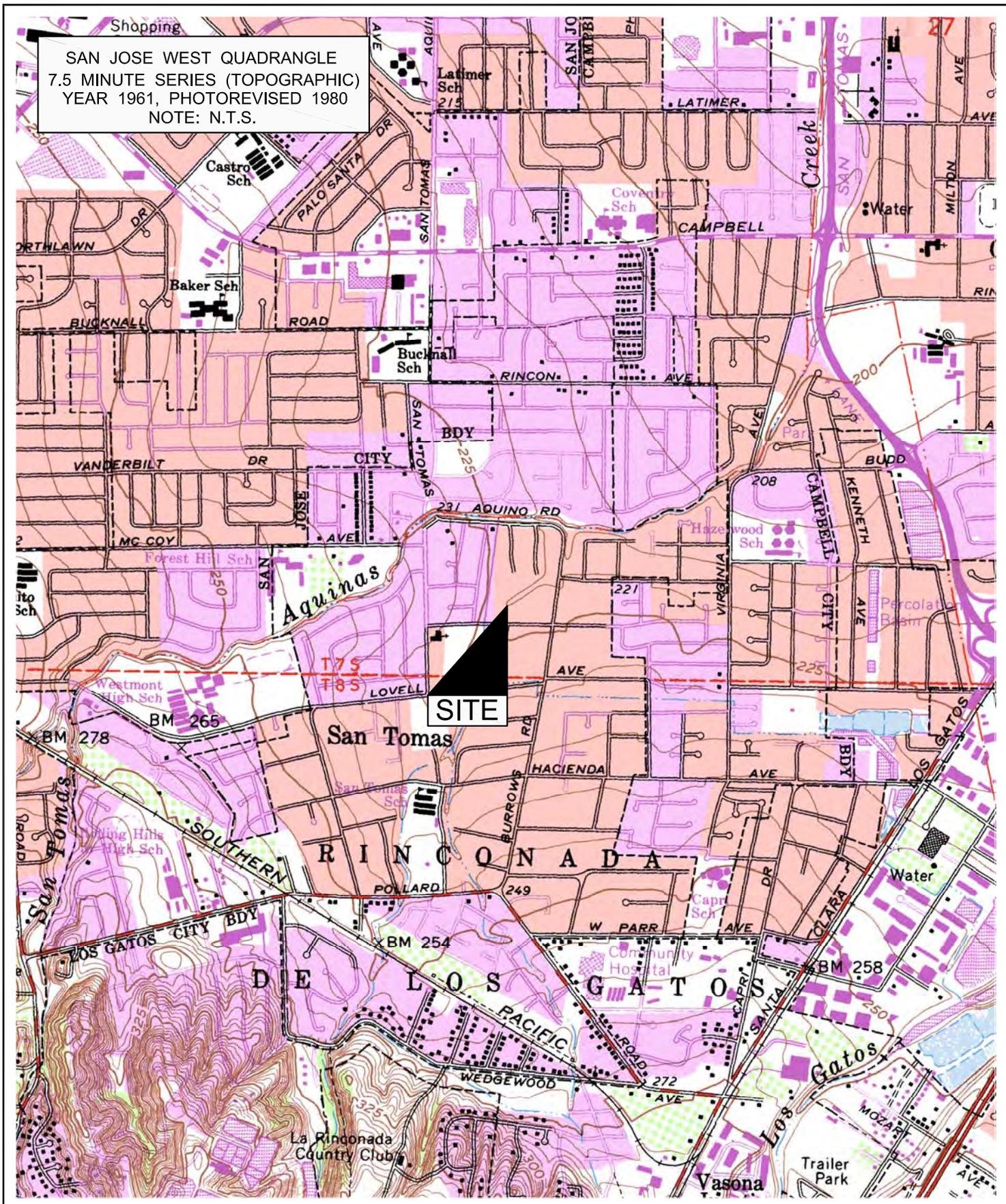
State of California, Division of Oil and Gas. 1989. Oil, Gas, and Geothermal Fields in California Map W3-10.

The American Society for Testing and Materials (ASTM). November 1, 2005. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation: E 1527-13.

United States Geological Survey. 1961, photorevised 1980. San Jose West Quadrangle, California, 7.5-Minute Series, Topographic Map.

Wentworth, C. M, Blake, M.C., McLaughlin, R.J, and Graymer, R.W, 1999, Preliminary Geologic Map of the San Jose 30 X 60 Minute Quadrangle, California, USGS Open-File Report 98-795, Scale 1:100,000.

FIGURES



SITE LOCATION & VICINITY

<p>IRC ENVIRONMENTAL CONSULTING, LLC 430 SOUTH 4TH STREET SAN JOSE, CA 95112 (408) 313 - 9376</p>	<p>PHASE I ENVIRONMENTAL SITE ASSESSMENT 1323 ELAM AVENUE CAMPBELL, CALIFORNIA</p>	<p>FILENAME: 3343</p>	<p>FIGURE: 1</p>
		<p>DATE: 11-02-2016</p>	
		<p>DRAWN BY: BB</p>	
		<p>CHECKED BY: BB</p>	

SOURCE:
 GOOGLE EARTH IMAGE
 OBTAINED FROM THE
 INTERNET, IMAGE DATE:
 APRIL 5, 2016
 NOTE: NOT TO SCALE
 NORTH ARROW APPROXIMATE



SUBJECT SITE AND ADJACENT PROPERTIES (GOOGLE EARTH IMAGE)

IRC ENVIRONMENTAL CONSULTING, LLC 430 SOUTH 4TH STREET SAN JOSE, CA 95112 (408) 313 - 9376	PHASE I ENVIRONMENTAL SITE ASSESSMENT	FILENAME: 3343	FIGURE:
	1323 ELAM AVENUE CAMPBELL, CALIFORNIA	DATE: 11-11-2016	2
	DRAWN BY: BB		
	CHECKED BY: BB		



**SUBJECT
SITE
(APPROX)**

© 2016 Google

SOURCE:
GOOGLE EARTH IMAGE
OBTAINED FROM THE
INTERNET, IMAGE DATE:
APRIL 5, 2016
NOTE: NOT TO SCALE
NORTH ARROW APPROXIMATE

SUBJECT SITE (APPROX.) (GOOGLE EARTH IMAGE)

IRC ENVIRONMENTAL CONSULTING, LLC 430 SOUTH 4TH STREET SAN JOSE, CA 95112 (408) 313 - 9376	PHASE I ENVIRONMENTAL SITE ASSESSMENT 1323 ELAM AVENUE CAMPBELL, CALIFORNIA	FILENAME: 3343	FIGURE: 3
		DATE: 11-03-2016	
		DRAWN BY: BB	
		CHECKED BY: BB	

(SITE VISIT ON 11-11-2016)



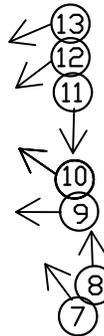
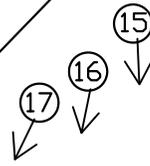
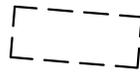
2-STORY TOWNHOUSES
RESIDENTIAL

PROPERTY
BOUNDARY
(APPROX.)

NOTE: ALL
LOCATIONS,
DIMENSIONS,
FEATURES, ARE
APPROXIMATE,
AND MAY BE
INFERRED, OR
ASSUMED

2-STORY SINGLE FAMILY RESIDENTIAL

2-STORY SINGLE FAMILY RESIDENTIAL



GARAGE

VEGETABLE
GARDEN

PATIO

DRIVEWAY

HOUSE

FRONT YARD



PARCEL'S EASMENT
MAY EXTEND INTO
THE ROAD.

PHOTOGRAPHIC LEGEND

← 9 PHOTOGRAPH NUMBER,
APPROXIMATE LOCATION,
AND DIRECTION OF PHOTO-
GRAPH (ARROW).
*FROM OPPOSITE SIDE OF ROAD

EXTERIOR SUBJECT SITE FEATURES

IRC ENVIRONMENTAL CONSULTING, LLC
430 SOUTH 4TH STREET
SAN JOSE, CA 95112
(408) 313 - 9376

PHASE I ENVIRONMENTAL
SITE ASSESSMENT

1323 ELAM AVENUE
CAMPBELL, CALIFORNIA

FILENAME: 3343
DATE: 11-11-2016
DRAWN BY: BB
CHECKED BY: BB

FIGURE:
4

TABLES

**Table 1, Summary of Aerial Photograph Reviews
1323 Elam Avenue, Campbell, CA**

Year	Site Use	Site Observations
1939	Undeveloped or Agricultural	The subject property and immediately adjacent properties appear mostly as undeveloped or agricultural fields (orchards). Occasional structures, inferred to be single-family residences, appear on some immediately adjoining / surrounding properties.
1948	Residential or Agricultural	The subject property and most immediately adjacent properties appear as large lot, rural single family residential and / or agricultural fields (orchards). It is not discernible whether or not there are structures on the subject property. A subdivision housing tract of single family residential appears to the south of the subject property and another subdivision, partially still under construction, appears to the north.
1956	Residential or Agricultural ?	Photograph is of insufficient quality, resolution, and / or scale to allow adequate identification of development and activities. However, the photograph, to the extent it is legible, generally appears similar to the previous photograph.
1960	Residential or Agricultural ?	Photograph is of insufficient quality, resolution, and / or scale to allow adequate identification of development and activities. However, the photograph, to the extent it is legible, generally appears similar to the previous photograph. Possibly one or more structures on the subject property?
1970	Unknown	Photograph is of insufficient quality, resolution, and / or scale to allow adequate identification of development and activities.
1982	Unknown	Photograph is of insufficient quality, resolution, and / or scale to allow adequate identification of development and activities.
1987	Unknown	Photograph is of insufficient quality, resolution, and / or scale to allow adequate identification of development and activities.
1993	Residential	A single family residence appears on the subject property proximate to Elam Avenue. Residential (likely multi-unit) appears to the immediate north and single family residential appears to the immediate south. Large lot, single family residential appears to the immediate west and east of the subject property.
2003	Unknown	Photograph is of insufficient quality, resolution, and / or scale to allow adequate identification of development and activities.
2014	Residential	A single family residence appears on the subject property proximate to Elam Avenue. Residential (likely multi-unit) appears to the immediate north and single family residential appears to the immediate south. Residential, single family or multi-unit, appears to the immediate west and east of the subject property.

**Table 2, Summary of City Directories Review
1323 Elam Avenue, Campbell, CA**

Year	City Directory Listing
Subject Property: 1323 Elam Avenue	
1970	LAMBS JAS
1975, 1980, 1985	ALFORD MAX
1990-91, 1995- 96	NO CURRENT LISTING
2001-02, 2006	ALFORD JAMES
2011	ADDRESS NOT LISTED
2016	ZHU YANHUA
Nearby Property (~300 to 500 ft East-Southeast of Subject Property): 1256 Elam Avenue	
1970	SAN TOMAS CLEANERS
General Comments Regarding Nearby / Surrounding Sites	
The City Directory listings for most nearby / surrounding sites appear to indicate mostly residential uses.	
GeoSearch Note: "No coverage available for Campbell prior to 1970"	

PHOTOGRAPHS



Photograph No. 1



Photograph No. 2



Photograph No. 3



Photograph No. 4



Photograph No. 5



Photograph No. 6



Photograph No. 7



Photograph No. 8



Photograph No. 9



Photograph No. 10



Photograph No. 11



Photograph No. 12



Photograph No. 13



Photograph No. 14



Photograph No. 15



Photograph No. 16



Photograph No. 17



Photograph No. 18

APPENDICIES

**NOTE: ALL
APPENDICIES
ARE ON CD**

EXHIBIT 3

NOISE ENVIRONMENTAL EVALUATION & DESIGN RECOMMENDATIONS

- To meet Campbell criteria to provide adequate noise protection for outdoor activity areas such as back yards, good quality fences and gates should be erected.

These considerations are explained in more detail in the *Recommendations to Meet Noise Criteria* section.

NOISE MONITORING AND DESIGN NOISE LEVEL ANALYSIS

Field noise measurements on site were made during the afternoon commute period of November 16, 2015 with a CEL-440 Precision Noise Meter and Analyzer, calibrated with a B & K Model 4230 Sound Level Calibrator. The measurement location was chosen to represent the worst-case exposure of the Lot 1 structure closest to Elam Avenue. Measurements were made at a 5 foot height at the following location:

- at the future residence setback on Lot 1, approximately 40 feet from the nearest lane of Elam Avenue

Description of Existing Noise Levels

Noise levels were measured and are reported using percentile noise descriptors: L₉₀ (the background noise level exceeded 90 % of the time), L₅₀ (the median noise level exceeded 50% of the time), L₁ (the peak level exceeded 1% of the time), and L_{eq} (the average energy-equivalent noise level). Measured noise levels are presented in Exhibit 1 following. The L_{dn} noise levels were computed as the long-term average of L_{eq} using the typical daily traffic distribution in the area, using a validated National Cooperative Highway Research Program model [2], with standard weighted penalties for nighttime hours.

**EXHIBIT 1
EXISTING NOISE LEVELS (dBA)
1323 Elam Avenue Residential Project– Campbell**

Location	L ₉₀	L ₅₀	L _{eq}	L ₁	L _{dn/ CNEL}
Lot 1 building setback	39	44	57	67	59

Noise levels at the project location are generated by a several low speed vehicle trips per minute on Elam Avenue during normal daytime periods. Note that because the other three properties are completely surrounded by adjacent residential structures on all sides, they would have much less exposure to Elam traffic noise by 5-10 dBA.

In addition to traffic noise sources, the project has typical types of other neighborhood noise sources, such as garbage pickup that can occur once or twice a week, intermittent overflying small aircraft, as well as sporadic yard maintenance and emergency vehicle sirens.

Anticipated Future Project Noise Levels

The Design Noise Level (DNL) is the outdoor noise levels anticipated within the next ten years (2026) for the units experiencing the highest noise exposure—the L_{dn}/CNEL noise level that the building structures must mitigate. Future DNL noise levels on site are estimated by estimating changes in traffic levels in 2026. Traffic on streets in most Bay Area residential areas that are already built out, such as Campbell, do not change significantly, since there are few new sources of traffic growth in established neighborhoods. Hence, future traffic volumes would not be expected to increase more than 1-2 % per year on Elam Avenue, which would lead to a maximum increase of 22% by the year 2026. This could generate a maximum increase of 1- 2 dB over present CNEL noise levels at the project site. In addition, noise levels for second floors can be 2 dB higher than ground-floor noise levels because of reflection from the road surface to the upper floors. So worst-case future project noise levels at the unit next the street would be no more than 63 dB CNEL (existing CNEL noise levels of 59 plus up to 4 dBA for traffic growth plus the upper floor correction). Hence the outdoor Design Noise Level to which the project unit nearest Elam Avenue would be exposed would be no more than 63 dBA CNEL by year 2026.

Although analysis shows that the worst-case overall long term average CNEL exposure to be 63 dBA, additional protection against peak noise incidents higher than 63 dBA are recommended. For example, typical vehicle passby noise levels are 55-65 dBA at 40 feet, and trucks, motorcycles, and poorly-muffled vehicles produce peak levels 5 to 15 dBA higher on passby.. Therefore, meeting an interior Design Noise Level of 75 dB is recommended, which is discussed in more detail in the following sections.

CALIFORNIA AND CAMPBELL NOISE PROTECTION STANDARDS

California Building Code (CBC) sound transmission standards [3] require that new residential developments provide an interior L_{dn} /CNEL noise level of 45 dBA or less due to exterior noise sources.

The Campbell General Plan Noise Element [4] has the same interior noise protection standards for residential developments as the CBC described in the previous paragraph, and also specifies protection for outdoor activity areas, such as backyards and balconies:

“New residential development shall conform to a traffic-related noise exposure of 60 dBA CNEL for outdoor noise in noise-sensitive outdoor activity areas and 45 dBA CNEL for indoor noise.”

Interior Noise Protection Criteria

As described in the previous section, assuming a worst-case noise level for architectural design purposes of 75 dBA, a minimum noise reduction of at least 30 dB should be provided by the elements of the building shell to reach the interior level of 45 dBA. The transmission loss of architectural building elements is designated by Sound Transmission Class (STC) ratings for wall elements and by Impact Insulation Class (IIC) ratings for floor/ceiling assemblies, both of which are methods of estimating the inherent ability to attenuate noise transmission.

Standard wood and gypsum exterior wall constructions have STC ratings of 40 dBA or more. Standard hollow-core doors and openable single pane windows typically are rated at 22-25 STC. Typical dual-layer thermal pane windows are typically rated at 26-30 dB STC. Except for actual cracks and openings in a structure, doors and windows are usually the weakest elements in the design and construction of a good sound-rated building, and usually reduce the overall protection provided by the more substantial wall structures.

Outdoor Noise Protection Criteria

Worst-case outdoor activity noise levels of 58-63 dBA CNEL could occur in the unprotected back yard of Lot 1, since it is the closest to Elam Avenue and has a narrow direct noise path to the roadway. However, with a standard 6-7 foot tall property line fence and gate, most high level traffic noise incidents would also be reduced below the 60 dBA level in this back yard. And of course back yards in Lots 2, 3 and 4 would be protected to an even lower noise level due to being fully surrounded by other 2-story residential structures on all sides.

RECOMMENDATIONS TO MEET NOISE CRITERIA

Interior Noise Measures

Following are recommendations for meeting the primary criteria for good residential noise insulation design by the development:

1. **WINDOWS.** Windows must have a minimum STC rating of 20 dB, which is met by standard openable double-glazed thermal windows, with two 1/8" lights separated by a 1/2" air space and with good weather seals. For better reduction of loud vehicle noise, an STC performance of 30 STC is recommended, *but not required*. Many high-quality double-glazed thermal windows are available with this noise performance level.

- 2. EXTERIOR DOORS Outside doors, such as for front entrances or patios, particularly for Unit 1, should meet a tested STC rating of 20 to 30 to match the overall sound transmission mitigation criteria.
- 3. VENTILATION. Mitigation of outside noise is based upon windows that are closed in order to provide the required noise protection. Therefore, all units must have a ventilation system that provides a habitable interior air quality environment with the windows closed, regardless of outside temperature.

In addition, noise levels produced by heating and air conditioning units for the project must not themselves create a noise problem for any of the residential units associated with the project or adjacent properties.

- 4. GENERAL DESIGN AND CONSTRUCTION PRACTICES. Good noise design must be implemented by good field construction practices or the design performance will not be achieved. This includes minimizing all penetrations of and connections between party wall and floor/ceiling assemblies, and acoustical sealant around any necessary penetrations.

Outdoor Noise Measures

- Erect standard 6-7 foot solid wood property line fences and gates to protect back yard activity areas, which will provide the required outdoor activity area noise reduction.

If I may be of further assistance on this project, please do not hesitate to contact me.

Respectfully submitted,

Stan Shelly

H. Stanton Shelly
 Acoustical Consultant
 Board Certified Member (1982),
 Institute of Noise Control Engineering

REFERENCES

- 1. Project Drawing Set 1323 Elam St _161027 (2016.014_A1-A2); Gordana Design Studio, Palo Alto, CA; Sept 2016.
- 2. *Highway Noise - A Design Guide for Highway Engineers*, National Cooperative Highway Research Program Report 117, Highway Research Board, National Academy of Sciences, Washington, D.C., 1971 (model enhanced and field validated by ECS).
- 3. "Sound Transmission", Section 1207 of California Building Code; 2013.
- 4. Noise Element, Campbell General Plan, Campbell Planning Division; 2001.

EXHIBIT 4

WILL SERVE LETTERS



July 14, 2017

Dena Yancy
Lea & Braze Engineering, Inc.
2495 Industrial Parkway West
Hayward, CA 94545
dyancy@leabraze.com

Re: 1323 Elam Avenue, Campbell – Will Serve Letter

Dear Ms. Yancy:

This letter will serve as West Valley Sanitation District's (District) "WILL SERVE" for the proposed five lot subdivision consisting of four single family homes at 1323 Elam Avenue in the City of Campbell.

Pursuant to District Ordinance Code Section 10.130, the owner is required to pay all applicable fees prior to the recordation of the Final Map. The District will provide clearance for recordation of the Final Map after the fees are paid.

Please contact me at (408)385-3030 or akam@westvalleysan.org if you have any questions regarding this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alan Kam', is written over a light blue horizontal line.

Alan Kam
Senior Civil Engineer

Dena Yancy

From: Sheri Alves
Sent: Tuesday, June 20, 2017 1:54 PM
To: Ask Us
Cc: Dena Yancy
Subject: RE: Property located at: 1323 Elam Avenue, Campbell

Follow Up Flag: Follow up
Flag Status: Completed

Great,
Thank you for your response.

Best Regards,

Sheri Alves, Civil Administrative Assistant

Lea & Braze Engineering, Inc.

Civil Engineers | Land Surveyors

Phone: 510-887-4086 x. 167 Email: salves@leabraze.com

Roseville/Sacramento Region

3017 Douglas Blvd., Suite 300

Roseville, CA 95661

Phone: 916-966-1338

San Francisco Bay Area Region

2495 Industrial Parkway West

Hayward, CA 94545

Dublin Office

7567 Amador Valley Blvd., Suite 210

Dublin, CA 94568

Phone: 925-452-2362

www.leabraze.com

IMPORTANT NOTICE: This message is intended only for the addressee and may contain confidential, privileged information. If you are not the intended recipient, you may not use, copy or disclose any information contained in the message. If you have received this message in error, please notify the sender by reply e-mail and delete the message.



Please consider the environment before printing this email.

From: Ask Us [mailto:aus@campbellusd.org]
Sent: Tuesday, June 20, 2017 12:29 PM
To: Sheri Alves <salves@leabraze.com>
Subject: Re: Property located at: 1323 Elam Avenue, Campbell

Hello Sheri.

That address does fall within our school district boundaries, according to the county assessor's office.

Here's he link: <https://www.sccassessor.org/index.php/all-situs-search?SFrom=all&SType=rp&STab=apn&apnValue=40309046>

Sincerely,

Marla Sanchez
Marketing Communications
Campbell Union School District
155 N. Third Street, Campbell CA 95008
408-341-7254
(emergencies - 408-410-5972)

@campbellusd
FB: Campbell Union School District (official)

From: Sheri Alves <salves@leabraze.com>
Date: Thursday, June 15, 2017 at 11:56 AM
To: Ask Us <aus@campbellusd.org>
Cc: Dena Yancy <dyancy@leabraze.com>
Subject: Re: Property located at: 1323 Elam Avenue, Campbell

To Whom It May Concern;

Our firm is preparing a lot subdivision tentative map for planning approval for the address:
1323 Elam Avenue, Campbell.

We are required by the city planning department to provide confirmation that you service this
property and it is within your school district.

Can you please send an email stating the above information is true?

Please provide this information by the end of business day tomorrow it would be greatly
appreciated.

Thank you for your assistance with this matter in advance.

Best Regards,

Sheri Alves, Civil Administrative Assistant

Lea & Braze Engineering, Inc.

Civil Engineers | Land Surveyors

Phone: 510-887-4086 x. 167 Email: salves@leabraze.com

Roseville/Sacramento Region

3017 Douglas Blvd., Suite 300

Roseville, CA 95661

Phone: 916-966-1338

San Francisco Bay Area Region

2495 Industrial Parkway West

Hayward, CA 94545

Dublin Office

7567 Amador Valley Blvd., Suite 210

Dublin, CA 94568

Phone: 925-452-2362

www.leabraze.com



Pacific Gas and Electric Company
Customer Service Planning & Local Design Services
Central Coast Region / DeAnza Division

10900 N Blaney Ave
Cupertino, CA 95014
Phone: 408/725-2181

6/15/17

Dena Yancy
Lea & Braze Engineering
2495 Industrial Parkway West
Hayward, CA 94545

RE: 1323 Elam Ave, Campbell

Dear Dena,

PG&E will serve the above referenced property with gas and/or electric service, provided The Applicant meets all requirements of the California Public Utilities Commission (CPUC) Gas and Electric Tariffs, PG&E Engineering Standards, PG&E Requirements for Service Manual ("The Greenbook", www.pge.com/greenbook), and pays to PG&E all necessary payments as determined by PG&E and allowed by the CPUC Tariffs.

New gas and electric services must be installed according to PG&E's Gas and Electric Service Requirements Manual (The Greenbook, www.pge.com/greenbook), PG&E Engineering Standards, and the California Public Utilities Commission (CPUC) Gas or Electric Tariffs. PG&E Engineering is scheduled when your information is complete and approved, and is subject to available time, resources, and other priority or previously scheduled work. Contracts are prepared after Engineering is completed and approved. Construction is scheduled when all documents and any necessary payments have been received and processed by PG&E, your service requirements and locations are complete and have been inspected by the authority having jurisdiction, and is subject to available time, resources, and previously scheduled, priority, or emergency work. Please discuss this information with your project team. If you have any questions, please call me at (408) 725-3300, or you may email me at JMNL@pge.com.

Sincerely,

Joe Novielli

Joe Novielli
Senior New Business Representative
Service Planning

Dena Yancy

From: Waleed Alzori
Sent: Friday, June 09, 2017 8:08 AM
To: Wanda Folk
Cc: Dena Yancy; Ryan Barton; Sheri Alves
Subject: 2161131 Zhu Subdivision
Attachments: 01 2161131 TM - C-1.0.pdf

Good morning,

Our firm is preparing a five lot subdivision tentative map for planning approval located at 1323 Elam Avenue Campbell, CA. We wanted to the get confirmation that you will be able to provide service to the property "Will Serve".

Respectfully,

Waleed Alzori, Civil Drafter

Lea & Braze Engineering, Inc

Civil Engineers | Land Surveyors

Phone: 510-887-4086 x.138 Email: WAlzori@leabraze.com

Roseville/Sacramento Region

3017 Douglas Blvd., Suite 300

Roseville, CA 95661

Phone: 916-966-1338

San Francisco Bay Area Region

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Hayward, CA 94545

Dublin Office

7567 Amador Valley Blvd., Suite 210

Dublin, CA 94568

Phone: 925-452-2362

www.leabraze.com

EXHIBIT 5

AIR QUALITY SCREENING EVALUATION

IRC Environmental Consulting, LLC

www.irc-enviro.com

AIR QUALITY SCREENING EVALUATION

**1323 ELAM AVENUE
SANTA CLARA COUNTY
CAMPBELL, CALIFORNIA**

September 11, 2017

Project Number 3376

Prepared For

**STOA International, Inc
991 West Hedding Street, # 103
San Jose, CA 95126
c/o Warren Design**

Prepared By

**IRC Environmental Consulting, LLC
430 South 4th Street
San Jose, California 95112-5730
(408) 313 - 9376
ircenvironmental@gmail.com**

IRC Environmental Consulting, LLC

www.irc-enviro.com

September 11, 2017

Project Number 3376

Yanhua Zhu
c/o Gordana Design Studio
602 Hawthorne Ave.
Palo Alto, CA 94301
Via email to: design@gordana.net

Attn: Gordana Paylovic

**Subject: AIR QUALITY SCREENING EVALUATION
SITE: 1323 ELAM AVENUE
CAMPBELL, CALIFORNIA**

Dear Ms. Paylovic:

IRC Environmental Consulting, LLC (IRC) is pleased to present the enclosed Air Quality Screening Evaluation prepared for the subject Site.

IRC appreciates the opportunity to have been of service. Should you have any questions or require additional information or services please contact me at (408) 313 - 9376 or ircenvironmental@gmail.com.

Sincerely,

Benjamin Berman
IRC Environmental Consulting, LLC (IRC)

CC:

Stephan Rose, City of Campbell, via email to: stephenr@cityofcampbell.com.

Daniel Fama, City of Campbell, via email to: danielf@cityofcampbell.com

CONTENTS & ENCLOSURES

CONTENTS

- 1.0 Introduction**
- 2.0 Site Setting**
- 3.0 Would the Project Conflict with or Obstruct Implementation of the Applicable Air Quality Plan?**
- 4.0 Would the Project Violate any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation?**
- 5.0 Would the Project Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant for which the Project Region is Classified as Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**
- 6.0 Would the Project Expose Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants (TAC)?**
- 7.0 Would the Project Create Objectionable Odors Affecting a Substantial Number of People?**
- 8.0 Would the Project Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?**
- 9.0 Would the Project Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**
- 10.0 Closing**
- 11.0 Limitations**
- 12.0 References**

ENCLOSURES

Enclosure 1, Figures:

- Figure 1, Site Location & Vicinity (Topographic Map)
- Figure 2, Site & Adjacent Properties (Google Earth image)

Enclosure 2, Air Quality Screening using BAAQMD online tools, various backup information including the following:

- Identified Stationary Sources and Roadways within 1,000 feet (see Google Earth image showing identified stationary and roadway sources), and
- Risk Screening and Cumulative Impacts analysis of identified sources.

Enclosure 3, IRC Standard Limitations

1.0 Introduction

Refer to Figures 1 and 2 (Enclosure 1). The following two paragraphs were obtained from a report of a Phase I Environmental Site Assessment (ESA) for the Site (IRC, November 15, 2016).

Site Location and Description

The Site is identified as Santa Clara County Assessor's Parcel Number 403-09-046, and is associated with 1323 Elam Avenue, Santa Clara County, in the City of Campbell, California. Based on available information, the Site address was previously 957 Elam Avenue. The Site consists of one +/- 0.46 acre parcel of land developed with one existing single-family residence, proximate to Elam Avenue, and a detached garage. The majority of the land area of the subject property consists of a large undeveloped back yard. Most of the subject property is unpaved.

Site Historical and Current Uses

Review of available information indicated that the Site was primarily undeveloped or agricultural (orchards) by the 1930s and likely remained mostly undeveloped or agricultural into the 1950s. The house on the Site was constructed circa 1945 and the original sewer connection permit was issued in 1960. The Site was annexed to the City of Campbell in 1961. At the time of the Site inspection (November 2016) the single-family residence on the Site was occupied by a tenant.

Planned Re-development of the Site

There is a plan to demolish the one existing single-family residence and detached garage and re-develop the Site with four single-family residences.

Purpose, City of Campbell Requirement for Air Quality Analysis

The City of Campbell (COC) has various site development review and permit requirements, including an Environmental Review ("Initial Study") in accordance with the California Environmental Quality Act (CEQA). CEQA Environmental Reviews vary depending on site specific conditions and typically consider several areas of potential concern, among them air quality. This letter report addresses City of Campbell requirements for the Site with regards to air quality.

2.0 Site Setting

The project is located within the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the local agency authorized to regulate stationary air quality sources in the Bay Area. The Federal Clean Air Act and the California Clean Air Act mandate the control and reduction of specific air pollutants. Under these Acts, the U.S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for specific criteria pollutants, designed to protect public health and welfare. Criteria pollutants include carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), particulate matter (PM_{2.5}, PM₁₀), sulfur dioxide (SO₂), lead (Pb) and ozone (O₃).

BAAQMD, along with other regional agencies, develop plans to reduce air pollutant emissions. BAAQMD adopted and implements the Bay Area Final 2017 Clean Air Plan (CAP) (BAAQMD, April 19, 2017). The 2017 CAP is a multi-pollutant air quality plan that addresses four categories of air pollutants, as follows:

- Ground-level ozone and the key ozone precursor pollutants (reactive organic gases and NO_x),
- Particulate Matter (PM), primarily PM_{2.5} (fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less), as well as the precursors to secondary PM_{2.5}, and PM₁₀ (respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less),
- Toxic Air Contaminants (TAC), and

- Greenhouse gases (GHG).

The BAAQMD defines sensitive receptors as facilities where sensitive population groups are located, including residences, schools, childcare centers, convalescent homes, and medical facilities. The project is located in a multi-unit residential area (Figure 2, Enclosure 1); the nearest sensitive receptors are occupants of multi-unit residential buildings located directly adjacent / proximate to the Site to the west, north and east; there are single-family residence to the south on the south side of Elam Avenue.

The project, being four single-family residences (planned higher density compared to the existing use of one single-family residence) is in accordance with the type of residential development preferred in the 2017 CAP, notably by being more energy efficient (per residential unit) and providing opportunities for alternative transportation compared to single-family residential development in more suburban areas (in this case by increasing density by going from one to four single family residences). An initial air quality screening was performed in August 2017 using BAAQMD online tools and sources and the BAAQMD Significance Determination Flowchart (BAAQMD CEQA Guidelines, May 2017, Figure 1-2, General Steps for Determining Significance of Air Quality Impacts). Six (6) potential sources were identified within 1,000 feet of the Site (see Enclosure 2).

3.0 Would the Project Conflict with or Obstruct Implementation of the Applicable Air Quality Plan?

Less Than Significant Impact. The proposed project consists of four (4) single-family residences and would not increase regional population growth or cause changes in vehicle travel that would affect implementation of the Bay Area 2017 Final Clean Air Plan (CAP). Based on BAAQMD criteria (see Enclosure 2) air quality will not be significantly impacted.

4.0 Would the Project Violate any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation?

Less Than Significant Impact. The BAAQMD's 2017 CEQA Guidelines (BAAQMD, May 2017) make recommendations for evaluation of activities that could impact air quality, including use of thresholds of significance and screening criteria developed by the BAAQMD (BAAQMD, May 2017). The BAAQMD screening levels are based on project size for air pollutant emissions. The applicable land use category from the BAAQMD's screening criteria tables for the project is "single-family." For operational impacts from criteria pollutants, the screening size is 325 dwelling units. For construction impacts, the screening size is 114 units. The project, which consists of four (4) single-family residential units, is well below the BAAQMD significance thresholds for such uses and, therefore, the project would have a less-than-significant air quality impact.

Construction activities would generate dust and equipment exhaust on a temporary basis. The BAAQMD identifies best management practices for all projects to limit air quality impacts during construction. The short-term air quality effects during project construction would be avoided with implementation of the measures prescribed by the BAAQMD. It is recommended that the project proponent and / or contractor implement the standard conditions presented below.

Standard Conditions: The project should be developed in conformance with the following standard BAAQMD dust control measures, appropriately modified as needed for the specific project (considering that the planned project is relatively small and many of the standard conditions below are more applicable to much larger projects), to reduce dustfall emissions:

- All active construction areas shall be watered twice daily or more often if necessary. Increased watering frequency shall be required whenever wind speeds exceed 15 miles-per-hour.
- Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads and parking and staging areas at construction sites.
- Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power

vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- Subsequent to clearing, grading, or excavating, exposed portions of the Site shall be watered, landscaped, treated with soil stabilizers, or covered as soon as possible.
- Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replanting of vegetation in disturbed areas as soon as possible after completion of construction.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the City of Campbell regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

5.0 Would the Project Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant for which the Project Region is Classified as Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. See above

6.0 Would the Project Expose Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants (TAC)?

Less Than Significant Impact. An Air Quality Screening for the project Site was conducted using BAAQMD Online Tools & Sources (<http://www.baaqmd.gov/>). See Enclosure 2. Five (5) potential roadway sources were identified within 1,000 feet of the Site, as follows:

- Roadway: Elam Avenue.
- Roadway: Westmont Avenue.
- Roadway: Harriet Avenue.
- Roadway: W. San Tomas Aquino Road.
- Roadway: S. San Tomas Aquino Road.

These are all significantly below the following BAAQMD's Thresholds of Significance (BAAQMD, May 2017) for Cancer Risk of 100 in a million; PM_{2.5} of 0.8 µg/m³ and Hazard Index of 10 (see Enclosure 2). Therefore, there are no significant impacts and no further analysis is needed. One (1) potential stationary source was identified, Elite Cleaners (dry cleaner), 128 San Tomas Aquino Road, Campbell, CA. BAAQMD Plant # 3209. However, this stationary source was shut down in 2012 (and was located more than 1,000 feet from the Site).

7.0 Would the Project Create Objectionable Odors Affecting a Substantial Number of People?

Less Than Significant Impact. The project is a residential project in a residential neighborhood, and is therefore not anticipated to emit objectionable odors. See the Standard Conditions above (section 4.0) for a list of actions recommended during construction to reduce construction period impacts.

8.0 Would the project Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?

Less Than Significant Impact. See section 4.0 above. The BAAQMD thresholds of significance and screening criteria also apply to greenhouse gases. For greenhouse gas impacts, the screening size for single-family residences is 56 dwelling units. The project, which consists of four (4) single-family residential units, is well below the BAAQMD greenhouse gases threshold of significance for single-family residential

land use, and thus the project would have a less-than-significant air quality impact with regards to greenhouse gases.

9.0 Would the project Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. See section 8.0 above.

10.0 Closing

No significant sources were identified within 1,000 feet of the Site and therefore no significant impacts to the future occupants of the planned new development are anticipated. Based on the information presented herein and the BAAQMD and other sources of information consulted, no significant new sources are anticipated from the planned new project (neither during construction nor post construction). Should you have any questions or require supplemental information or services, please do not hesitate to contact Benjamin Berman of IRC at (408) 313 - 9376 or ircenvironmental@gmail.com.

Prepared By:



Benjamin Berman, IRC Environmental Consulting, LLC

11.0 Limitations

IRC's Standard Limitations (Enclosure 3) apply to the contents of this document and the work performed by IRC. The information presented in this document is based on review of Bay Area Air Quality Management District (BAAQMD) sources, communications with BAAQMD staff, and communications with City of Campbell staff. No additional information about the planned development with regards to air quality was provided by the project developers. No site specific sampling, monitoring or other onsite or near site studies with regards to air quality were performed. No site visit or site inspection with regards to air quality was performed.

12.0 References

Bay Area Air Quality Management District (BAAQMD). (Adopted) April 19, 2017. Final 2017 Clean Air Plan (CAP).

Bay Area Air Quality Management District (BAAQMD). May 2017. California Environmental Quality Act Air Quality Guidelines. Table 2-1. Air Quality CEQA Thresholds of Significance. (including Risk and Hazards for new sources and receptors)

Bay Area Air Quality Management District (BAAQMD). Accessed online in August 2017. Tools and Methodologies, BAAQMD CEQA Air Quality Risks and Hazards Analysis Tools. (various online risks and hazards screening analysis tools) (Primary Webpage [with links to various online screening tools]: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools> (accessed online).

Bay Area Air Quality Management District (BAAQMD). August - September 2017. Email and Telephone correspondence with Ms. Alison Kirk, BAAQMD Senior Environmental Planner, Air Quality.

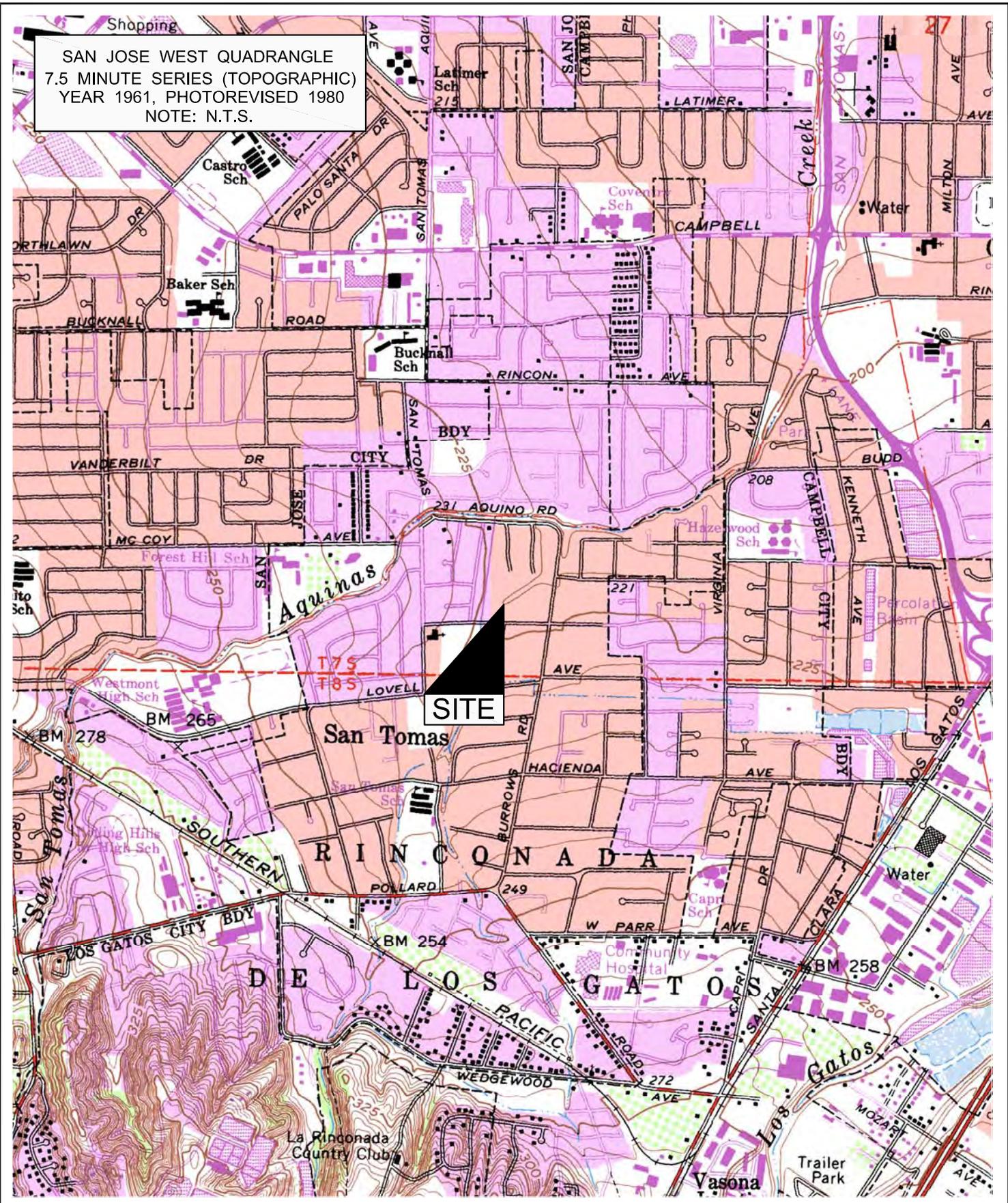
City of Campbell (COC). July 31, 2017. Letter. From Stephan Rose, Associate Planner, Community Development Department. Addressed To: Gordana LLC. **Re: File No(s):** PLN2017-100 to 103; **Address:** 1323 Elam Avenue; **Application(s):** Zone Change (PLN2017-100) to allow the property to be rezoned from R-M to P-D, a Planned Development Permit (PLN2017-101) for the approval of site configuration and architectural design for four new townhomes, a Tentative Subdivision Map (PLN2017-102) to create four

individually owned lots and one common lot, and CEQA Review (PLN2017-103) for review of the project in accordance with the California Environmental Quality Act. **Status:** Incomplete #2 (Draft // Planning Division Comments Only). Page 3 of 4, Plan Revision 3, Environmental Review Documents, third bullet, Air Quality Analysis.

City of Campbell (COC). August 30, 2017. Email received from Matthew Jue, Traffic Engineer, City of Campbell, Public Works Department. Information was provided regarding estimated vehicles per day for various roadway.

IRC Environmental Consulting, LLC (IRC). November 15, 2016. Phase I Environmental Site Assessment Report, 1323 Elam Avenue, Santa Clara County, Campbell, California. IRC Project No. 3343.

ENCLOSURE 1



SAN JOSE WEST QUADRANGLE
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 YEAR 1961, PHOTOREVISED 1980
 NOTE: N.T.S.

SITE

SITE LOCATION & VICINITY

IRC ENVIRONMENTAL CONSULTING, LLC
 430 SOUTH 4TH STREET
 SAN JOSE, CA 95112
 (408) 313 - 9376

AIR QUALITY SCREENING
 EVALUATION
 1323 ELAM AVENUE
 CAMPBELL, CALIFORNIA

FILENAME:	3376
DATE:	08-29-2017
DRAWN BY:	BB
CHECKED BY:	BB

FIGURE:
1

SOURCE:
 GOOGLE EARTH IMAGE
 OBTAINED FROM THE
 INTERNET, IMAGE DATE:
 APRIL 5, 2016
 NOTE: NOT TO SCALE
 NORTH ARROW APPROXIMATE



SUBJECT SITE AND ADJACENT PROPERTIES (GOOGLE EARTH IMAGE)

<p>IRC ENVIRONMENTAL CONSULTING, LLC 430 SOUTH 4TH STREET SAN JOSE, CA 95112 (408) 313 - 9376</p>	<p>AIR QUALITY SCREENING EVALUATION 1323 ELAM AVENUE CAMPBELL, CALIFORNIA</p>	<p>FILENAME: 3376 DATE: 08-29-2017 DRAWN BY: BB CHECKED BY: BB</p>	<p>FIGURE: 2</p>
--	--	---	------------------------------

ENCLOSURE 2

Air Quality Screening using BAAQMD Online Tools & Sources

Site: 1323 Elam Avenue, Campbell, CA. Link to webpages: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>

Stationary Sources identified

The BAAQMD online Stationary Source Screening Analysis Tool was used on August 30, 2017 to search for stationary sources within 1,000 feet of the Site. Only one potential stationary source was identified within approximately 1,000 feet of the site:

- Elite Cleaners (dry cleaner), 128 San Tomas Aquino Road, Campbell, CA. BAAQMD Plant # 3209.

However, this source appears to be incorrectly located on the BAAQMD's Stationary Source Screening Analysis Tool. Google Earth indicates it is approximately 4,000 feet north of the Site. Based on telephone and email communications with Alison Kirk at the BAAQMD on September 11, 2017, the Elite Cleaners was shut down in 2012.

Stationary Sources, Risks

There are no risks from stationary sources within 1,000 feet of the Site. The one source identified above, BAAQMD Plant # 3209 (Elite Cleaners), was shut down in 2012. Regardless, this source was significantly greater than 1,000 feet away from the Site. Even if this source was not incorrectly located, it is shown as approximately 1,000 ft + from the Site (in its incorrect location). The analysis tool listed the following for this source that was shut down in 2012:

- Cancer Risk per Million: 30.4.
- Chronic Hazard Index: 0.081.
- PM2.5 Concentration: 0.0 (not applicable).

The above identified source was shut down in 2012. Nonetheless, the above cancer risk and hazard index have not been adjusted for distance from the Site. The distance is ~1,000 feet (if the source was correctly located) or ~ 4,000 feet (if the source was incorrectly located, which appears to be the case), respectively, from the Site. Impacts, including PM2.5, cancer and hazard risks can be expected to diminish with increased distance away from the sources of emissions. The BAAQMD has online tools for adjusting PM2.5, cancer and hazard risks for distance, for gasoline stations and diesel generators (PM2.5 does not apply to the Elite Cleaners identified source). No BAAQMD online distance adjustment tools were found for other types of stationary sources (in this case, dry cleaners). The cancer risk and chronic hazard index values listed above would be expected to be significantly lower if adjusted for the distance between the identified stationary source (which was shut down in 2012) and the Site.

Highway and Roadway Sources identified

The BAAQMD online Highway Screening Analysis Tool was used on August 30, 2017 to search for designated highway sources within 1,000 feet of the Site; none were found. Designated Highways were all more than 1,000 feet from the site. The closest designated highway, Highway 85, is approximately 4,000 feet southwest of the Site.

On August 30, 2017, Google Earth was used to identify roadways within 1,000 feet of the Site and to determine approximate distance from the roadways to the Site. Five potential roadway sources were identified within 1,000 feet of the site:

- Elam Ave between Harriet Ave and S. San Tomas Aquino Rd.; ~10 feet south of the Site.
- Westmont Ave between Harriet Ave and S. San Tomas Aquino Rd.; ~750 feet south of the Site.
- Harriet Ave between W. San Tomas Aquino Rd and Westmont Ave.; ~900 feet west of the Site.
- W. San Tomas Aquino Rd between Harriet Ave and S. San Tomas Aquino Rd.; ~900 feet north of the Site.

- S. San Tomas Aquino Rd between W. San Tomas Aquino Rd and Westmont Ave.; ~475 feet east of the Site.

The table, "Santa Clara County, PM2.5 Concentrations and Cancer Risks Generated from Surface Streets" (December 2011) is available online from BAAQMD at:

<http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/County%20Surface%20Street%20Screening%20Tables%20Dec%202011.ashx?la=en>. The table requires identifying major roadways with at least 10,000 average annual daily traffic (AADT) within 1,000 ft. of a site. Alternatively, the BAAQMD has a Roadway Screening Analysis Calculator (dated 04/16/2015) available online at: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>. The instructions for the online roadway calculator recommends that the analysis be used for roadways with 10,000 AADT and above.

The estimated vehicles per day for the five roadways identified above, obtained by email from the City of Campbell on August 30, 2017, are presented below.

1. Elam Avenue east of Harriet Avenue: estimated 2,000 vehicles per day (no recent data)
2. Harriet Avenue north of Westmont Avenue: 6,067 vehicles per day
3. Westmont Avenue west of San Tomas Aquino Road: 5,408 vehicles per day
4. West San Tomas Aquino Road east of Harriet Avenue: 2,894 vehicles per day
5. San Tomas Aquino Road north of Westmont Avenue: 4,467 vehicles per day.

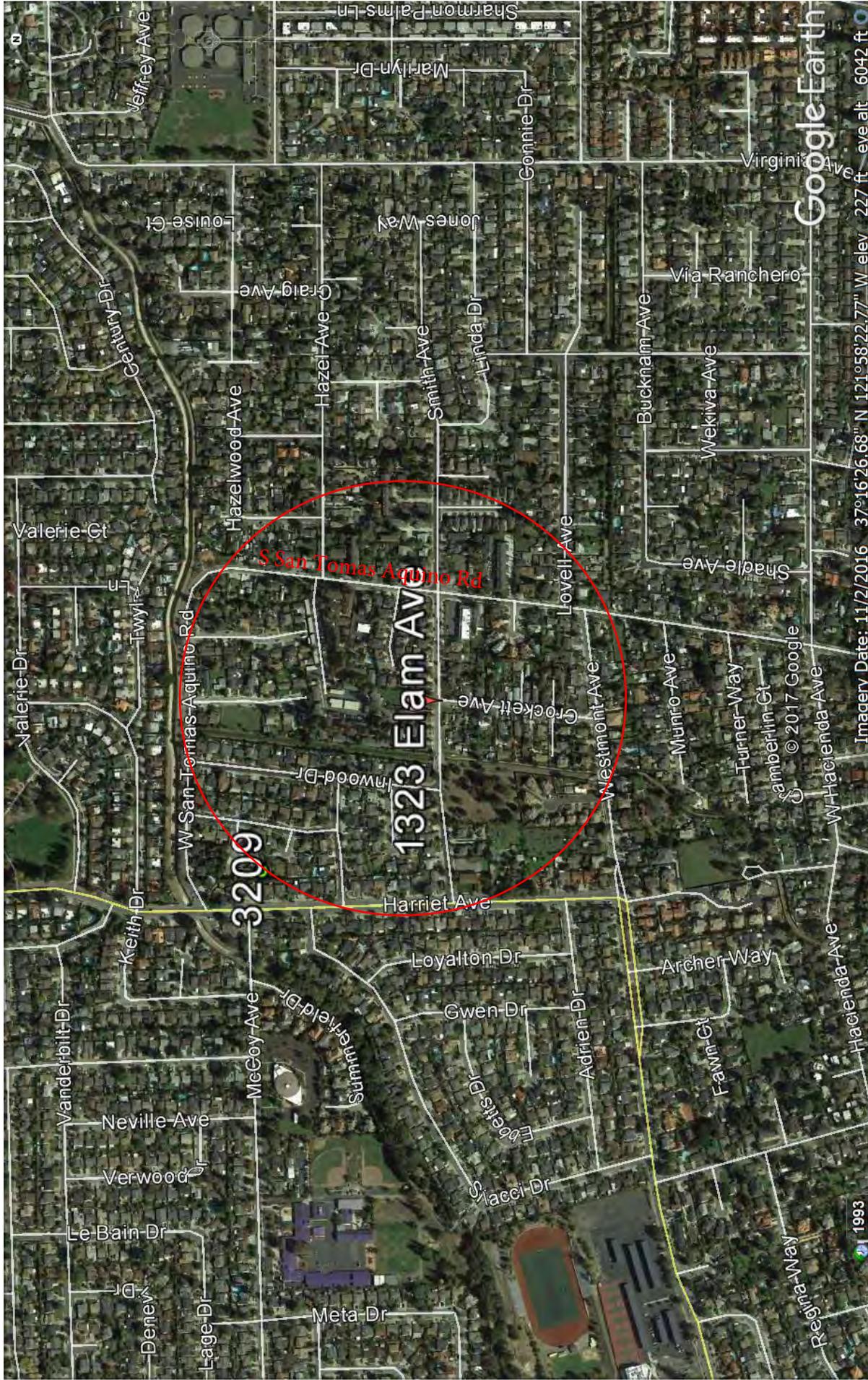
Highway and Roadway Sources, Risks

No highway sources were identified. Based on data obtained from the City of Campbell, all five identified roadways have estimated vehicles per day significantly below 10,000 AADT and therefore by inference would be below the applicable BAAQMD's Thresholds of Significance¹: Cancer Risk: 100 in a million; PM2.5: 0.8 µg/m³; Hazard Index: 10. Therefore there are no significant impacts with regards to the five identified roadways and no further analysis is needed.

Cumulative Impacts, All Identified Sources

The one identified stationary source (Elite Cleaners, Plant # 3209) was shut down in 2012. Nonetheless, the identified stationary source had a BAAQMD listed Cancer Risk of 30.4 per Million and a Chronic Hazard Index of 0.081 (not adjusted for distance). These are well below the BAAQMD's Threshold of Significance Cancer Risk and Hazard Index of 100 in a million and 10, respectively. The five roadways were all below the 10,000 AADT threshold. Based on all six of the identified sources described above, consisting of the one stationary source shut down in 2012 and five roadways, all were below applicable Thresholds of Significance and therefore by inference cumulative impacts from the six identified sources are less than significant.

¹Source: *California Environmental Quality Act, Air Quality Guidelines*, BAAQMD, May 2017; from Table 1. Threshold of Significance for Local Community Risk and Hazard Impacts. (Cumulative Impacts, New Receptor).



Identified Stationary Sources & Roadways within 1,000 Feet of Site
Source: BAAQMD, Google Earth Image, Image Date 2016-11-02

Imagery Date: 11/2/2016 37°16'26.68" N 121°58'22.77" W elev 227 ft eye alt 6042 ft

1993

ENCLOSURE 3

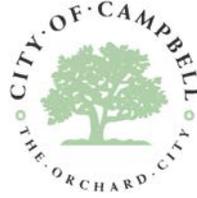
IRC Environmental Consulting, LLC

LIMITATIONS

This document has been prepared according to generally accepted practices. No other warranty, either expressed or implied as to the methods, results, conclusions or recommendations is made. The user is notified that uncertainty is not eliminated, assessments are not exhaustive, reasonable time and cost constraints and other limitations are inherent, certain conditions may not be detected during an assessment of this type, and no level of assessment can guarantee that a site is completely free of hazardous substances. This assessment was based on a specific scope of work with a defined budget, was not intended to be comprehensive, identify all potential concerns, or eliminate the possibility of any environmental impacts to the subject property. Sampling is inherently limited; each sample point is at a specific lateral location and vertical depth or height; conditions may differ away from any specific sample point.

The results of all assessments are subject to differing professional interpretations and opinions, the conclusions of others may differ. If you wish to reduce the level of uncertainty associated with this study, we should be contacted for additional consultation. Regulatory agency environmental regulations, priorities, and enforcement change over time and tend to get stricter / more conservative; potential impacts previously unknown or of little concern, such as but not limited to vapor intrusion, tend to become more important environmental regulatory concerns over time. Work not performed under the regulatory oversight of any local, state, or federal regulatory oversight agency is not intended to meet specific public agency requirements.

The findings, analysis, opinions, conclusions and recommendations contained in this document are based on site conditions as they existed at the time of our assessment, sample results and review of practically reviewable information relevant to the site conditions that was reasonably available and ascertainable at the time of this assessment. Changes in the information or data gained from any of these sources could result in changes in our opinions, conclusions or recommendations. If such changes do occur, we should be advised so that we can review our document in light of those changes. This assessment and document are for the sole use of the client unless indicated otherwise. Unless indicated otherwise, reliance upon the information in this document by others is solely at their own risk. Nothing in this document shall be construed as a legal opinion. This assessment / document may be based in part upon verbal or written information possessed by the client / user or other non-public privately-owned information. All of IRC Environmental Consulting, LLC's (IRC) Standard Terms and Conditions and Limitations apply at all times to this document and all documents by IRC.



CITY OF CAMPBELL
Community Development Department

DRAFT MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
Air Quality - AIR							
<p><i>Mitigation Measure AIR-1:</i> The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites:</p> <ol style="list-style-type: none"> a. All active construction areas shall be watered twice daily or more often if necessary. Increased watering frequency shall be required whenever wind speeds exceed 15 miles-per-hour. b. Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads and parking and staging areas at construction sites. c. Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials shall be covered. d. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. e. Subsequent to clearing, grading, or excavating, exposed portions of the Site shall be watered, landscaped, treated with soil stabilizers, or covered 	Site Preparation and Construction	City of Campbell	Public Works Department and Building Division	Periodic Compliance Report			

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
<p>as soon as possible.</p> <p>f. Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways.</p> <p>g. Replanting of vegetation in disturbed areas as soon as possible after completion of construction.</p> <p>h. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.</p> <p>i. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</p> <p>j. Post a publicly visible sign with the telephone number and person to contact at the City of Campbell regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.</p>							
Cultural Resources – CUL							
<p><i>Mitigation Measure CUL-1:</i> If archaeological or paleontological resources are encountered during excavation or construction, construction personnel shall be instructed to immediately suspend all activity in the immediate vicinity of the suspected resources and the City and a licensed archeologist or paleontologist shall be contacted to evaluate the situation. A licensed archeologist or paleontologist shall be retained to inspect the discovery and make any necessary recommendations to evaluate the find under current CEQA guidelines prior to the submittal of a resource mitigation plan and monitoring program to the City for review and approval prior to the continuation of</p>	Site Preparation and Construction	City of Campbell	Building Division	Periodic Compliance Report			

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
any on-site construction activity.							
Cultural Resources – GEO							
<i>Mitigation Measure GEO-1:</i> The applicant shall comply with the recommendations in the Geotechnical Investigation, dated August 2, 2016 prepared by Kristofer T. Korth, P.E. (No. 82838) and Andrew D. Murray, P.E. (No. C44562) of Murray Engineers. Such recommendations shall be incorporated into the project's final engineering design to minimize the damage from seismic shaking, unsuitable fill, and other geological deficiencies. The project shall use standard engineering techniques and conform to the requirements of the International Building Code to reduce the potential for seismic damage and risk to future occupants.	Prior to Issuance of Building Permit	City of Campbell	Building Division	Assessment Report by Structural Engineer or Compliance Statement by Geotechnical Consultant			
Hazards and Hazardous Materials - HAZ							
<i>Mitigation Measure HAZ-1:</i> Prior to issuance of a demolition permit, a qualified contractor shall assess the property for presence of Lead-based paint (LBP) and Asbestos containing building materials (ACBM), and if present, prepare a plan, to the satisfaction of the Building Official, to properly manage and dispose of such materials.	Prior to Issuance of Demolition Permit	City of Campbell	Building Division	Assessment Report by Qualified Contractor			
Noise - NOI							
<i>Mitigation Measure NOI-1:</i> Windows must have a minimum STC rating of 20 dB, which is met by standard openable double-glazed thermal windows, with two 1/8" lights separated by a 1/2" air space and with good weather seals. For better reduction of loud vehicle noise, an STC performance of 30 STC is recommended, but not required.	Prior to Issuance of Building Permit	City of Campbell	Building Division	Assessment Report by Structural Engineer or Compliance Statement by Acoustical Consultant			
<i>Mitigation Measure NOI-2:</i> Outside doors, such as for front entrances or patios, particularly for Unit 1, should meet a tested STC rating of 20 to 30 to match the overall sound transmission mitigation criteria.	Prior to Issuance of Building Permit & Review of Installed Materials Prior to Final	City of Campbell	Building Division	Assessment Report by Structural Engineer or Compliance			

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
				Statement by Acoustical Consultant			
<i>Mitigation Measure NOI-3:</i> Mitigation of outside noise is based upon windows that are closed in order to provide the required noise protection. Therefore, all units must have a ventilation system that provides a habitable interior air quality environment with the windows closed, regardless of outside temperature. In addition, noise levels produced by heating and air conditioning units for the project must not themselves create a noise problem for any of the residential units associated with the project or adjacent properties.	Prior to Issuance of Building Permit & Review of Installed Materials Prior to Final	City of Campbell	Building Division	Assessment Report by Structural Engineer or Compliance Statement by Acoustical Consultant			
<i>Mitigation Measure NOI-4:</i> Good noise design must be implemented by good field construction practices or the design performance will not be achieved. This includes minimizing all penetrations of and connections between party wall and floor/ceiling assemblies, and acoustical sealant around any necessary penetrations.	Prior to Issuance of Building Permit & Review of Installed Materials Prior to Final	City of Campbell	Building Division	Assessment Report by Structural Engineer or Compliance Statement by Acoustical Consultant			
<i>Mitigation Measure NOI-5:</i> A six to seven-foot solid wood property line fences and gates shall be required to protect back yard activity areas, which will provide the required outdoor activity area noise reduction.	Prior to Issuance of Building Permit & Review of Installation Prior to Final	City of Campbell	Building Division	Shown on Landscape Plans or Compliance Statement by Acoustical Consultant			