

**Attachment A: Arborist Report**



# HOME2 SUITES MILPITAS, CA

## ARBORIST REPORT AND TREE INVENTORY

NOVEMBER 7, 2016



# ARBORIST REPORT

Home2 Suites  
California Circle  
MILPITAS, CA

## 1. Disclosure Statement

Certified Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the health and aesthetic qualities of trees. Arborists also attempt to address and reduce the potential and real risks inherent to trees. Clients may choose to accept or disregard the recommendations of the Arborist, or to seek additional advice.

Arborist's cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Weather conditions can turn severe and put stress on trees in a short span of time. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the Arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the Arborist. An Arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

This report considers the condition of the inventoried trees during a site review. Tree conditions change over time and, as they do, the evaluations, comments and recommendations in this report become less relevant.

## 2. Project Description Summary

The Project under consideration is the demolition of an existing single story commercial building including parking lots and the construction of a new hotel with associated parking and other support infrastructure. All trees on the property are considered for removal.

## 3. Summary of City Requirements

The City of Milpitas established policies, regulations, and standards for the protection of trees on any parcel of land within the City of Milpitas. These policies are necessary to ensure that the city will continue to realize the tangible benefit provided by its urban forest. The city requires the preservation of protected trees unless a reasonable and conforming use of a property justifies the removal, relocation, and/or encroachment into the protected zone of such tree. Reference is made to City of Milpitas Tree Maintenance and Protection Ordinance Title 10, Chapter 2, Section 7.01-1. Any tree on this property with a trunk circumference of thirty-seven inches (37") or greater is considered a 'Protected Tree'. Protected Trees are noted as such in the Tree Inventory of this report. Protected Trees may only be removed in accordance with Subsection X-2-4.02.

#### **4. Existing Site Conditions and General Observations**

The site is an existing commercial with street frontage, sidewalks, building, parking lot and interior planters bordered by curbs and is generally flat with little overall slope. It is located in an existing commercially zoned area with Interstate 880 on the west property line. The site is in a temperate climate and was inventoried in Spring that has been characterized as a drought year. All trees and landscape are acutely suffering from non-irrigation with many dead and dying plants and trees. The existing site will be cleared by demolition of virtually all built features including all interior trees. The adjoining property uses are commercial with trees occasionally overhanging the subject site. A pine tree, #64, which qualifies as a Protected Tree is located within several utility easements along the 880 Corridor. Although it is of fair-good health it is recommended for removal due to its potential for damage to planned hardscape, existing utilities and location in the Sewer, Storm Drain and PG&E easements.

#### **6. Site Observations and Evaluation of Trees**

Each tree on site was inventoried and methodically recorded during the site review on May 9, 2016. The data recorded in Exhibit A (attached) is as follows:

Definitions indicated in Exhibit A

- Species – Botanical and Common names
- Trunk Diameter – DBH standard ‘Diameter at Breast Height’ measured in inches
- Protected Tree – Indicates the protected status of the tree
- Health Rating – X = Dead, P = Poor, F = Fair, G = Good, E= Excellent. Rating of poor to excellent regarding tree health. A rating of fair/good or greater indicates no significant health concerns and generally indicates no acute structural concerns. Includes aesthetic considerations but emphasis is placed on apparent risk factor.
- Notes – Indicates off-site status for trees bordering the site.
- Recommendations – No recommendations are given since all trees are slated for removal

#### **7. Limits of the Report and Conclusions**

Every tree on the site was visited, mapped and inventoried with photographs, and other data. See Tree Inventory (Exhibit A) and Tree Location Plan (Exhibit B) attached to this report. Off-site trees are noted in Inventory.

Each tree was observed from the ground with no root crown excavations or aerial climbing performed. Observations and measurements were limited to what can be seen from the ground. Any “Protected Trees” under the definitions in City of Milpitas Municipal Code, are noted in the report. A Tree Removal Permit is required to be filed prior to the removal of any Protected Tree.

#### **9. Assumptions and Limiting Condition:**

- A. Any legal description provided to the consultant/appraiser is assumed to be correct; Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
- B. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.
- C. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.
- D. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

- E. Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purposes by any other mean. The person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.
- F. Unless required by law otherwise, neither all or any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, new, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser- particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initialed designation conferred up the consultant/appraiser as stated in his qualifications.
- G. This report and any values expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event nor upon any finding to be reported.
- H. Sketches, drawings, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultant on any sketches, drawings, or photographs is for the express purpose or coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by KLA, Inc as to the sufficiency or accuracy of said information.
- I. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plant or property in question may not arise in the future.
- J. Loss or alteration of any part of this report invalidates the entire report.

## **10. Certification of Report**

I, Daniel F. Machado, ISA certify,

1. That I have personally visited the site and inspected the trees referred to in this report, and have stated my finding accurately. The extent of the evaluation and/or appraisal is stated in the attached report.
2. That I have no current or prospective interest in the vegetation or the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
3. That the analysis, opinion and conclusions stated herein are my own, and are based on current scientific procedures and facts.
4. That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.
5. The analysis, opinion and conclusions in this report have been prepared according to commonly accepted Arboricultural practices
6. That no one provided significant professional assistance to the consultant, except as indicated within the report.

I further certify that I am an International Society of Arboriculture Certified Arborist.



Daniel F. Machado,  
ISA Certified Arborist # WC-3789

## Exhibit A - Tree Inventory, Home 2 Suites, Milpitas, CA

Health Ratings: (E) Excellent, (G) Good, (F) Fair, (P) Poor, (X) Dead

Tree #	Tree Species	Trunk Diameter (inches)	Protected Tree	Health Rating	Notes
1	Acacia melanoxylon Black Acacia	24"	Yes	G	
2	Fraxinus oxycarpa Raywood Ash	12"	Yes	G	
3	Fraxinus oxycarpa Raywood Ash	12"	Yes	P	
4	Fraxinus oxycarpa Raywood Ash	12"	Yes	P	
5	Fraxinus oxycarpa Raywood Ash	12"	Yes	G	
6	Fraxinus oxycarpa Raywood Ash	12"	Yes	P	
7	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	
8	Fraxinus oxycarpa Raywood Ash	20"	Yes	P	
9	Olea europaea Olive	6" low branching	No	P	
10	Fraxinus oxycarpa Raywood Ash	10"	No	P	

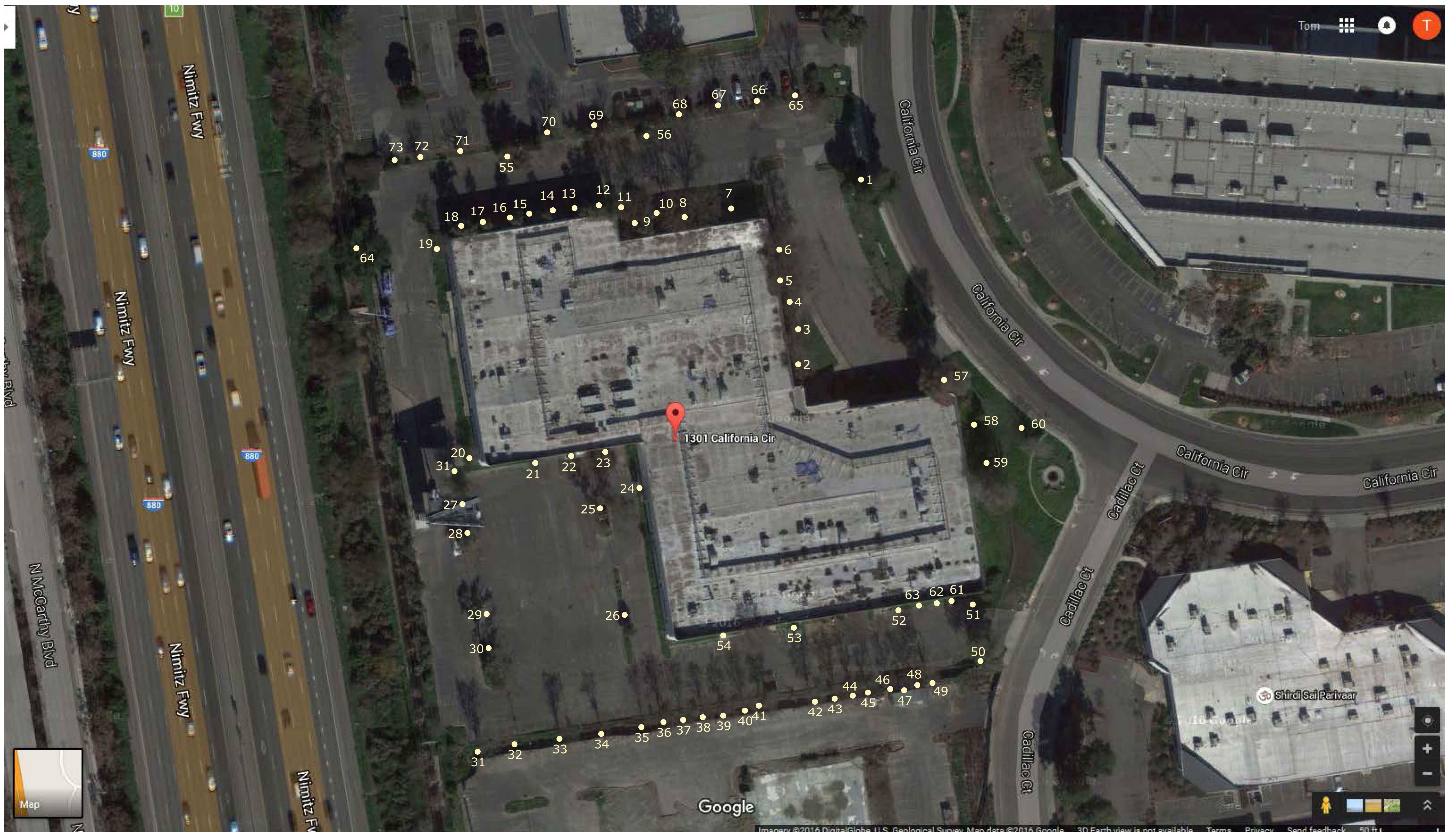
Tree #	Tree Species	Trunk Diameter (inches)	Protected Tree	Health Rating	Notes
11	Fraxinus oxycarpa Raywood Ash	14"	Yes	P	
12	Pinus spp Pine	20"	Yes	P	
13	Pinus spp Pine	12"	Yes	P	
14	Pinus spp Pine	14"	Yes	P	
15	Pinus spp Pine	8"	No	P	
16	Pinus spp Pine	8"	No	P	
17	Pinus spp Pine	8"	No	P	
18	Pinus spp Pine	20"	Yes	P	
19	Fraxinus oxycarpa Raywood Ash	12"	Yes	P	
20	Fraxinus oxycarpa Raywood Ash	10"	No	X	
21	Fraxinus oxycarpa Raywood Ash	12"	Yes	P	
22	Fraxinus oxycarpa Raywood Ash	10"	No	P	
23	Fraxinus oxycarpa Raywood Ash	12"	Yes	G	
24	Dodonea viscosa Purple Hopseed	2"	No	P	

Tree #	Tree Species	Trunk Diameter (inches)	Protected Tree	Health Rating	Notes
25	Eucalyptus citriodora Lemon Gum	18"	Yes	P	
26	Eucalyptus citriodora Lemon Gum	6" multi	No	P	
27	Eucalyptus citriodora Lemon Gum	12"	Yes	P	
28	Eucalyptus citriodora Lemon Gum	18"	Yes	P	
29	Eucalyptus citriodora Lemon Gum	18"	Yes	P	
30	Fraxinus oxycarpa Raywood Ash	12"	Yes	P	
31	Eucalyptus citriodora Lemon Gum	18"	Yes	P	Off site tree
32	Dodonea viscosa Purple Hopseed	14"	Yes	P	Off site tree
33	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
34	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
35	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
36	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
37	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
38	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
39	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
40	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree

Tree #	Tree Species	Trunk Diameter (inches)	Protected Tree	Health Rating	Notes
41	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
42	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
43	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
44	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
45	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
46	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
47	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
48	Fraxinus oxycarpa Raywood Ash	14"	Yes	F	Off site tree
49	Fraxinus oxycarpa Raywood Ash	24"	Yes	F	Off site tree
50	Acacia melanoxylon Black Acacia	20"	Yes	P	
51	Sequoia sempervirens Coast Redwood	8"	No	G	
52	Fraxinus oxycarpa Raywood Ash	18"	Yes	P	
53	Fraxinus oxycarpa Raywood Ash	18"	Yes	P	
54	Fraxinus oxycarpa Raywood Ash	8"	No	P	
55	Eucalyptus citriodora Lemon Gum	12"	Yes	G	
56	Acacia melanoxylon Black Acacia	4"	No	G	

Tree #	Tree Species	Trunk Diameter (inches)	Protected Tree	Health Rating	Notes
57	Acacia melanoxylon Black Acacia	24"	Yes	p	
58	Acacia melanoxylon Black Acacia	6"	No	G	
59	Acacia melanoxylon Black Acacia	24"	Yes	p	
60	Pyrus calleryana Flowering Pear	20"	Yes	F	
61	Acacia melanoxylon Black Acacia	6"	No	P	
62	Acacia melanoxylon Black Acacia	6"	No	P	
63	Acacia melanoxylon Black Acacia	2"	No	P	
64	Pinus spp	36"	Yes	F	
65	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	
66	Fraxinus oxycarpa Raywood Ash	20"	Yes	P	
67	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	
68	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	
68	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	
69	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	
70	Fraxinus oxycarpa Raywood Ash	24"	Yes	P	

71	Fraxinus oxycarpa Raywood Ash	18"		Yes	P	
72	Fraxinus oxycarpa Raywood Ash	12"		Yes	P	
73	Eucalyptus citriodora Lemon Gum	6"		No	P	



#### Tree Location and Removal Notes

1. See Tree Inventory List for information on trees indicated.
2. All trees on this plan are designated for removal. See Arborist Report for additional information on species, size and health.

Plan Legend  
32 ● Tree location number, See Tree Inventory List

**Attachment B: Native American Heritage Commission Letter**

**NATIVE AMERICAN HERITAGE COMMISSION**

Environmental and Cultural Department  
1550 Harbor Blvd., Suite 100  
West Sacramento, CA 95691  
(916) 373-3710  
(916) 373-5471 FAX



August 21, 2017

Ryan Gross  
LSA

Email to: [ryan.gross@lsa.net](mailto:ryan.gross@lsa.net)

RE: Native American Consultation, Pursuant to Assembly Bill 52, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2, Element Aloft Hotels Project, Santa Clara County

Dear Mr. Gross:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent of the referenced codes is to avoid and or mitigate impacts to tribal cultural resources, as defined, in the California Environmental Quality Act (CEQA).

As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding or mitigating impacts to tribal cultural resources:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.1(d))

The law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC also believes that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the Area of Potential Effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded or are adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and

- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The results of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission had a positive result. For more information about this/these site(s), please contact North Valley Yokut Tribe.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive. A negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we are able to assure that our consultation list remains current.

If you have any questions, please contact me at my email address: [frank.lienert@nahc.ca.gov](mailto:frank.lienert@nahc.ca.gov).

Sincerely,

Frank Lienert  
Associate Governmental Program Analyst

**Native American Heritage Commission  
Tribal Consultation List  
8/21/2017**

Amah Mutsun Tribal Band  
Valentin Lopez, Chairperson  
P.O. Box 5272  
Galt , CA 95632  
vlopez@amahmutsun.org  
(916) 743-5833

Ohlone/Costanoan  
Northern Valley Yokuts  
P.O. Box 28  
Hollister , CA 95024  
ams@indiancanyon.org  
(831) 637-4238

Amah Mutsun Tribal Band of Mission San Juan Bautista  
Irenne Zwierlein, Chairperson  
789 Canada Road  
Woodside , CA 94062  
amahmutsuntribal@gmail.com  
(650) 851-7489 Cell  
(650) 851-7747 Office

North Valley Yokuts Tribe  
Katherine Erolinda Perez, Chairperson  
P.O. Box 717  
Linden , CA 95236  
canutes@verizon.net  
(209) 887-3415

Muwekma Ohlone Indian Tribe of the SF Bay Area  
Rosemary Cambra, Chairperson  
P.O. Box 360791  
Milpitas , CA 95036  
muwekma@muwekma.org  
(408) 314-1898  
(510) 581-5194

The Ohlone Indian Tribe  
Andrew Galvan  
P.O. Box 3152  
Fremont , CA 94539  
chochenyo@AOL.com  
(510) 882-0527 Cell

Ohlone/Costanoan  
Bay Miwok  
Plains Miwok  
Patwin

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.1, 21080.3.1, and 21080.3.2 for Element Aloft Hotels Project, Santa Clara County

**Attachment C: Geotechnical Investigation**

**GEOTECHNICAL INVESTIGATION  
FOR  
HOME 2 SUITES 4-STORY HOTEL  
1301 CALIFORNIA CIRCLE  
MILPITAS, CALIFORNIA 95035**

October 2016

Prepared for

**Mr. Alan Patel  
c/o Amdon Investments LLC  
2625 Constitution Drive  
Livermore, California 94551**

Project No. 3464-1A

**ROMIG ENGINEERS, INC.**  
GEOTECHNICAL & ENVIRONMENTAL SERVICES

October 31, 2016  
3464-1A

**Mr. Alan Patel**  
**c/o Amdon Investments LLC**  
2625 Constitution Drive  
Livermore, California 94551

**RE: GEOTECHNICAL INVESTIGATION**  
**HOME 2 SUITES 4-STORY HOTEL**  
**1301 CALIFORNIA CIRCLE**  
**MILPITAS, CALIFORNIA**

Dear Mr. Patel:

In accordance with your request, we have performed a geotechnical investigation for the proposed 4-story hotel building to be constructed at 1301 California Circle in Milpitas, California. The accompanying report summarizes the results of our field exploration, laboratory testing, and engineering analysis, and presents our geotechnical recommendations for the project.

We refer you to the text of our report for specific recommendations. Thank you for the opportunity to work with you on this project. If you have any questions or comments about our findings or recommendations for the project, please call.

Very truly yours,

**ROMIG ENGINEERS, INC.**



Lucas J. Ottoboni, P.E.



Copies: Addressee (6)  
RYS Architects (via email)  
Attn: Mr. Jim Rato  
Cornerstone Structural Engineering Group, LLC (via email)  
Attn: Mr. Tom Swayze  
Baumbach & Piazza, Inc. (via email)  
Attn: Mr. Steve Pechin

**GEOTECHNICAL INVESTIGATION  
HOME 2 SUITES 4-STORY HOTEL  
1301 CALIFORNIA CIRCLE  
MILPITAS, CALIFORNIA 95035**

**PREPARED FOR:  
MR. ALAN PATEL  
C/O AMDON INVESTMENTS LLC  
2625 CONSTITUTION DRIVE  
LIVERMORE, CALIFORNIA 94551**

**PREPARED BY:  
ROMIG ENGINEERS, INC.  
1390 EL CAMINO REAL, SECOND FLOOR  
SAN CARLOS, CALIFORNIA 94070**

**OCTOBER 2016**

## TABLE OF CONTENTS

	Page No.
Letter of transmittal	
Cover Page	
TABLE OF CONTENTS	
INTRODUCTION.....	1
Project Description .....	1
Scope of Work .....	1
Limitations.....	2
SITE EXPLORATION AND RECONNAISSANCE.....	3
Surface Conditions .....	3
Subsurface Conditions.....	3
Ground Water .....	4
Infiltration Rate of Near-Surface Soil.....	4
GEOLOGIC SETTING.....	4
Faulting and Seismicity .....	5
Table 1. Earthquake Magnitudes and Historical Earthquakes .....	6
Earthquake Design Parameters .....	6
Compressible Bay Mud .....	6
Table 2. Estimated 30-Year Consolidation Settlement .....	7
Liquefaction Evaluation .....	8
Table 3: Results of Liquefaction Evaluation.....	9
Corrosion Potential Testing.....	10
Geologic Hazards .....	11
CONCLUSIONS.....	11
GROUND IMPROVEMENT .....	13
MAT FOUNDATION.....	14
Lateral Loads .....	15
Estimated Settlements .....	15
Modulus of Subgrade Reaction .....	15
Mat and Elevator Pit Damp-Proofing.....	16
SPREAD FOOTINGS.....	16
RETAINING AND ELEVATOR PIT WALLS .....	17
SLABS-ON-GRADE .....	17
General Slab Considerations .....	17
Exterior Flatwork.....	18
At-grade Interior Slabs .....	18
VEHICLE PAVEMENTS.....	19
Asphalt Concrete Pavements .....	19
Table 4. Minimum Asphalt Concrete Pavement Section Thicknesses .....	20
Rigid Concrete Pavements.....	20
Table 5. Rigid Concrete Pavement Design .....	21
EARTHWORK.....	21
Clearing and Subgrade Preparation .....	21
Re-use of Existing Concrete and Aggregate Base and Subbase .....	21
Utility Trench Backfill.....	22

## TABLE OF CONTENTS

(Continued)

Underground Utilities .....	22
Temporary Slopes and Excavations.....	22
Temporary Dewatering For Excavations .....	23
Material For Fill.....	23
Compaction.....	24
Table 6. Compaction Recommendations .....	24
Permanent Slopes .....	24
Surface Drainage .....	25
FUTURE SERVICES .....	25
Plan Review .....	25
Construction Observation and Testing .....	26

## REFERENCES

FIGURE 1 - VICINITY MAP

FIGURE 2 - SITE PLAN

FIGURE 3 - VICINITY GEOLOGIC MAP

FIGURE 4 - REGIONAL FAULT AND SEISMICITY MAP

## APPENDIX A - FIELD INVESTIGATION

Figure A-1 - Key to Exploratory Boring Logs

Exploratory Boring Logs EB-1 and EB-2

Cone Penetration Tests CPT-1 through CPT-4

## APPENDIX B - SUMMARY OF LABORATORY TESTS

Figure B-1 - Plasticity Chart

Figure B-2 - R-value Test Report

Figure B-3 - Consolidation Test Result

Figure B-4 - Unconsolidated-Undrained Triaxial Test

Figure B-5 - Corrosivity Test Summary

## APPENDIX C - LIQUEFACTION EVALUATION

Figure C-1 - Liquefaction analysis for CPT-1

Figure C-2 - Liquefaction analysis for CPT-2

Figure C-3 - Liquefaction analysis for CPT-3

Figure C-4 - Liquefaction analysis for CPT-4

**GEOTECHNICAL INVESTIGATION  
FOR  
HOME 2 SUITES 4-STORY HOTEL  
1301 CALIFORNIA CIRCLE  
MILPITAS, CALIFORNIA**

## **INTRODUCTION**

This report presents the results of our geotechnical investigation for the proposed 4-story hotel building to be constructed at 1301 California Circle in Milpitas, California. The location of the site is shown on the Vicinity Map, Figure 1. The purpose of this investigation was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for the project.

### **Project Description**

The project will consist of constructing a 4-story hotel building on the northern half of the subject property in Milpitas. The hotel is expected to have a footprint of approximately 70 feet by 275 feet in plan dimension and will be constructed as a wood-frame building. The hotel will not include a basement. Asphalt concrete and pervious paver driveways and parking areas are also planned around the building.

Since the project is located in a flood zone, the finished floor elevation is prescribed to be 16.1 feet (project datum). The area of the existing building pad (similar to the proposed building pad location) has a finished floor elevation of about 14 to 14.5 feet. Therefore, grades within the building pad area will be raised up by about 2 feet.

The existing building will be demolished prior to construction and the northern half of the site will not be utilized for this project.

### **Scope of Work**

The scope of work of this investigation was presented in detail in our proposal to you dated June 15, 2016. In order to accomplish our investigation, we performed the following work.

- Review of geologic and seismic conditions in the site vicinity and evaluate the potential for geologic hazards to impact the site.
- Subsurface exploration consisting of drilling, sampling, and logging of two exploratory borings and four cone penetration tests (CPT) in the area of the proposed hotel building.
- Laboratory testing of selected samples to aid in soil classification and to help evaluate the engineering properties of the soils encountered.
- Engineering analysis and evaluation of the subsurface data to develop geotechnical design criteria for the project. Our analyses included evaluation of liquefaction potential and ground settlement due to fill and building loads.
- Preparation of this report presenting our recommendations for the proposed construction.

#### **Limitations**

This report has been prepared for the exclusive use of Mr. Alan Patel for specific application to developing geotechnical design criteria for the proposed 4-story hotel to be constructed at 1301 California Circle in Milpitas, California. We make no warranty, expressed or implied, for the services we performed for this project. Our services were performed in accordance with geotechnical engineering principles generally accepted at this time and location. This report was prepared to provide engineering opinions and recommendations only. In the event there are any changes in the nature, design or location of the project, or if any future improvements are planned, the conclusions and recommendations contained in this report should not be considered valid unless 1) the project changes are reviewed by us, and 2) the conclusions and recommendations presented in this report are modified or verified in writing.

The analysis, conclusions, and recommendations presented in this report are based on site conditions as they existed at the time of our investigation; the currently planned improvements; review of readily available reports relevant to the site conditions; and laboratory test results. In addition, it should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes occur, we should be advised so that we can review our report in light of those changes.

## **SITE EXPLORATION AND RECONNAISSANCE**

Our site reconnaissance and subsurface exploration were performed on September 9, 2016. The subsurface exploration consisted of advancing two exploratory borings to depths of 30 and 45 feet, and four CPTs to depths ranging from approximately 50 to 70 feet. The exploratory borings were advanced using a truck-mounted drill rig equipped with 8-inch diameter hollow-stem augers, and the CPTs were advanced using an electronic cone penetration test system (CPT), which was mounted on a truck having a down pressure capacity of 20 tons. The approximate locations of the borings and CPTs are shown on the Site Plan, Figure 2. The boring and CPT logs are attached in Appendix A, and the laboratory test results are attached in Appendix B.

### **Surface Conditions**

The property is located in a commercial area bounded by California Circle on the east side, Interstate Highway 880 on the west side, and commercial developments on the north and south sides. At the time of our investigation, the site was occupied by a single-story vacant commercial building. An asphalt concrete parking lot and driveway were located around the building. In addition, pebble concrete walkways were located at the east and north sides. The relatively flat site was landscaped with native grasses, small to medium shrubs and small to large trees.

An existing concrete lined drainage channel is located near the western property line and is approximately 15 feet wide and about 5 feet deep. The proposed building is expected to be set back from the channel by at least 30 feet.

The depth and width of the foundations supporting the existing building are unknown. The asphalt concrete parking generally appeared to be in good to fair condition. The pebble concrete walkways were observed to be out of level by up to about 2 inches between slabs.

### **Subsurface Conditions**

At the locations of our exploratory borings and CPTs, we generally encountered about 6 to 8.5 feet of stiff sandy silt and loose to medium dense silty sand below the existing asphalt concrete pavement. The upper portion of these silty and sandy soils appeared to be fill material. Beneath the upper silts and sands, we encountered about 4 to 19 feet of bay margin materials consisting of soft to firm fat clay of high plasticity (Younger Bay Mud) and soft to firm sandy silt/lean clay of low plasticity to moderate plasticity. Beneath the bay margin materials, we generally encountered interbedded strata of medium dense silty and clayey sand, stiff sandy silt/lean clay of low to moderate plasticity and fat clay of high plasticity.

The bay margin materials generally had a high water content and are expected to be highly compressible under small foundation or fill loads. The bay margin materials appeared to be thicker within the northeastern portion of the site (in the areas of our Boring EB-1, CPT-1 and CPT-2), and transitioned to thinner strata toward the southwestern portion of the site (in the areas of our Boring EB-2, CPT-3 and CPT-4). In addition, portions the interbedded silts and sands encountered primarily in the upper 30 feet appear to be susceptible to liquefaction. Details of our liquefaction evaluation are included in the section below titled "Liquefaction Evaluation."

A Liquid Limit of 39 and Plasticity Index of 12 were measured on one sample of near-surface soil from Boring EB-1, indicating the near-surface soils have low plasticity and a relatively low potential for expansion.

### **Ground Water**

Ground water was encountered during drilling at depths ranging from about 4.3 to 14 feet in our borings and CPTs. The borings were backfilled immediately after drilling and sampling was completed, and therefore a stabilized ground water level may not have been obtained. Please be cautioned that fluctuations in the level of ground water can occur due to variations in rainfall, tidal fluctuations, local surface and subsurface drainage patterns, landscaping, and other factors.

Information contained in the Seismic Hazard Zone Report 051 for the Milpitas Quadrangle (California Geological Survey, 2001) indicates the historic high ground water level in the area of the site is shallower than 5 feet below existing grade. Based on our experience in the area, in our opinion, ground water may periodically rise to as high as about 3 to 4 feet below existing grade.

### **Infiltration Rate of Near-Surface Soil**

Based on observation of the near-surface soil encountered at the site, the results of our Atterberg limits testing, and review of the CPT data, the near-surface soil at the site consists primarily of lean clay and silty sand and/or sandy silt, which is expected to have a relatively low infiltration rate (0.1 inch per hour or lower). This infiltration rate and the relatively shallow ground water level at the project site should be considered in the design of on-site water disposal and detention systems.

## **GEOLOGIC SETTING**

We reviewed our local experience and geologic literature pertinent to the general area of the site. The information reviewed indicates the site is underlain by Holocene-age flood basin deposits, Qhfp (Helley et al., 1994). These deposits are expected to primarily

consist of sandy and silty clay, with lenses of silt, sand and pebbles in localized areas. The geology of the site vicinity is shown on the Vicinity Geologic Map, Figure 3.

The lot and the immediate site vicinity are located in an area that slopes very gently to the west towards the San Francisco Bay. The site is located at an elevation of approximately 10 feet above sea level.

The Seismic Hazard Zones Map of the Milpitas Quadrangle prepared by the California Division of Mines and Geology in 2004 indicates the site is located in an area that may be underlain by soils potentially susceptible to liquefaction during a major earthquake. The potential for liquefaction of the soils encountered at the site is discussed later in this report.

#### **Faulting and Seismicity**

There are no mapped through-going faults within or adjacent to the site and the site is not located within a State of California Earthquake Fault Zone (formerly known as a Special Studies Zone), an area where the potential for fault rupture is considered probable. The closest active fault is the Hayward fault, which is located approximately 1.9 miles northeast of the property. Thus, the likelihood of surface rupture occurring from active faulting at the site is low.

The San Francisco Bay Area is an active seismic region. Earthquakes in the region result from strain energy constantly accumulating because of the northwestward movement of the Pacific Plate relative to the North American Plate. On average about 1.6-inches of movement occur per year. Historically, the Bay Area has experienced large, destructive earthquakes in 1838, 1868, 1906, and 1989. The faults considered most likely to produce large earthquakes in the area include the San Andreas, Hayward, San Gregorio, and Calaveras faults. The Calaveras fault is located approximately 5.9 miles northeast of the site. The San Andreas and San Gregorio faults are located approximately 16 and 28 miles southwest of the site, respectively. These faults and significant earthquakes that have been documented in the Bay Area are listed in Table 1 on the following page and are shown on the Regional Fault and Seismicity Map, Figure 4.

In the future, the subject property will undoubtedly experience severe ground shaking during moderate and large magnitude earthquakes produced along the San Andreas fault or other active Bay Area fault zones. The Working Group On California Earthquake Probabilities, a panel of experts that are periodically convened to estimate the likelihood of future earthquakes based on the latest science and ground motion prediction modeling, concluded there is a 72 percent chance for at least one earthquake of Magnitude 6.7 or larger in the Bay Area before 2045. The Hayward fault has the highest likelihood of an earthquake greater than or equal to magnitude 6.7 in the Bay Area, estimated at 14

percent, while the likelihood on the San Andreas and Calaveras faults is estimated at approximately 6 and 7 percent, respectively (Working Group, 2015).

**Table 1. Earthquake Magnitudes and Historical Earthquakes**  
**Home 2 Suites 4-Story Hotel**  
**Milpitas, California**

<b><u>Fault</u></b>	<b><u>Maximum Magnitude (Mw)</u></b>	<b><u>Historical Earthquakes</u></b>	<b><u>Estimated Magnitude</u></b>
San Andreas	7.9	1989 Loma Prieta	6.9
		1906 San Francisco	7.9
		1865 N. of 1989 Loma Prieta Earthquake	6.5
		1838 San Francisco-Peninsula Segment	6.8
		1836 East of Monterey	6.5
Hayward	7.1	1868 Hayward	6.8
		1858 Hayward	6.8
Calaveras	6.8	1984 Morgan Hill	6.2
		1911 Morgan Hill	6.2
		1897 Gilroy	6.3
San Gregorio	7.3	1926 Monterey Bay	6.1

#### **Earthquake Design Parameters**

The State of California requires that all buildings be designed in accordance with the seismic design provisions presented in the 2013 California Building Code (CBC), and in ASCE 7, “Minimum Design Loads for Buildings and Other Structures.” Based on site geologic conditions, and on information from our subsurface exploration and proposed construction at the site, the southwest and northeast portions of the site may be classified as Site Class D (stiff soil) and Site Class E (Soft Clay), respectively, in accordance Chapter 20 of ASCE 7-10. Spectral Response Acceleration parameters S<sub>s</sub> and S<sub>1</sub>, and site coefficients F<sub>a</sub> and F<sub>v</sub>, may be taken directly from the U.S.G.S. website based on the site longitude and latitude. Since the property is classified as both Site Classes D and E, in our opinion, the hotel building and other improvements should be designed for the higher seismic design parameters among Site Classes D and E. For the site latitude (37.4468) and longitude (-121.9201), the governing values appear to be F<sub>a</sub> = 1.0, F<sub>v</sub> = 2.4, S<sub>D</sub> = 1.161 and S<sub>D1</sub> = 1.104.

#### **Compressible Bay Mud**

As discussed previously, the bay margin materials (including the Younger Bay Mud), which ranges in thickness from about 4 to 19 feet across the site, are expected to be compressible under new building and fill loads. Due to the varying thicknesses across the site, significant differential settlement is expected from one side of the site (and building) to the other. Based on the preliminary grading plans provided to us, the finished floor

elevation of building will be about 2 feet above existing grades, which will induce a new load of approximately 250 pounds per square foot (psf), and up to about 4 feet of fill may be needed in some localized areas to raise the surrounding parking lot to the design elevations. In addition, the average structural loads (dead plus live loads) across the hotel building footprint are expected to be approximately 300 psf. To analyze the amount of consolidation settlement, we considered a range of loading conditions based on the above information. The results of our settlement evaluations are presented in Table 2.

**Table 2. Estimated 30-Year Consolidation Settlement**  
**Home 2 Suites 4-Story Hotel**  
**Milpitas, California**

<b>Loading Conditions</b>	<b>Fill/Building Loads (psf)</b>	<b>Approximate 30-Year Consolidation Settlement (inches)</b>
Northeast Portion of Building (near Boring EB-1)	550	6.0
Southwest Portion of Building (near Boring EB-2)	550	2.0
Parking Areas (1 foot of fill)	125	0.5 to 1.25*
Parking Areas (2 feet of fill)	250	1.0 to 2.5*
Parking Areas (3 feet of fill)	375	1.5 to 3.75*
Parking Areas (4 feet of fill)	500	2.0 to 6.0*
Parking Areas (5 feet of fill)	625	2.75 to 8.0*

\* We note that when fills are placed within the areas underlain by 4 feet of compressible soils, or when thicker fills are placed in small localized areas, the amount of settlement is expected to be within the lower end of the range estimated above.

About 70 percent of the total settlement estimated in Table 2 from new fill/building loads will occur in a time period of about four to five years (within the areas underlain by about 19 feet of compressible soils), with 90 percent of the total settlement occurring over about ten years. However, when fills are placed within the areas underlain by 4 feet of bay margin materials, we expect that the rate of settlement will be significantly faster.

Due to the amount of differential settlement across the building, we recommend the building be supported on a mat foundation bearing on soil-cement columns or drill displacement columns (DDC) installed to a depth of about 30 feet below existing grades, which will significantly reduce the amount of settlement across the building footprint. Therefore, differential settlement will occur between the building footprint and the surrounding areas receiving fill. This differential settlement should be considered in the design of entrance slabs or ramps that will not be supported on improved soils. The adjacent site flatwork and entrance areas may need to be adjusted in the future. In addition, the above estimated settlement should be considered during the design of the underground utilities to be constructed within or around the building pads or across portions of the site requiring varying amounts of new fill.

### **Liquefaction Evaluation**

Severe ground shaking during an earthquake can cause loose to medium dense granular soils to densify. If the granular soils are below ground water, their densification can cause increases in pore water pressure, which can lead to soil softening, liquefaction, and ground deformation. Soils most prone to liquefaction are saturated, loose to medium dense, silty sands and sandy silts with limited drainage, and in some cases, sands and gravels that are interbedded with or that contain seams or layers of impermeable soil.

To evaluate the potential for earthquake-induced liquefaction of the soils at the site, we performed a liquefaction analysis of the CPT data using the program CLiq, produced by GeoLogismiki, by applying several published methodologies, including Roberson NCEER 2001, Roberson 2009, Idriss and Boulanger 2008 and 2014, and Moss et al 2006; however the results listed below reflect Idriss and Boulanger 2014 which appeared to be a representative average of the four. The silty sand, sandy silt, and clayey silt to silty clay strata that we encountered at the site below the projected high ground water depth of 4 feet were considered in our liquefaction analysis. Because the CPT tests included continuous measurement to a depth of 50 feet and deeper, the CPT liquefaction evaluation is considered more reliable, in our opinion.

We also evaluated the potential for liquefaction in Boring EB-2, which was located immediately adjacent to CPT-4. Thereby allowing us to compare the results of the two analyses. The liquefaction analysis of the boring data from Boring EB-2 was performed by following the methods described in the 2008 publication by Idriss and Boulanger titled "Soil Liquefaction During Earthquakes". The loose to medium dense sands and silts encountered below the projected high ground water depth of 4 feet were considered in our liquefaction analysis. Soils with normalized standard penetration test,  $(N_1)_{60}$ , greater than 30 blows per foot were considered too dense to liquefy.

The results of our analyses indicate that the interbedded strata of loose to medium dense sand, silty sand, sandy silt, and clayey silt to silty clay encountered in the CPT's and Boring EB-2 could liquefy when subjected to a peak ground acceleration (PGA) of 0.67g, the  $PGA_M$  for the maximum considered earthquake based on ASCE 7-10. Based on our analyses of the CPT and boring data, total settlement that could occur as a result of liquefaction from the design-level earthquake is estimated to range from approximately 1 to 4.5 inches. The results of our liquefaction evaluation are presented in Table 3 below, and are presented in Figures C-1 to C-4 in Appendix C.

**Table 3: Results of Liquefaction Evaluation**  
**Home 2 Suites 4-Story Hotel**  
**Milpitas, California**

CPT Liquefaction Analysis

CPT No.	Strata Depth Susceptible to Liquefaction (ft)	Normalized Soil Behavior Type (SBTn #)	Estimated Settlement (in)	Total Dynamic Settlement (in)
CPT-1	4.1 – 6.6	Silty Sand to Sandy Silt (#5)	1	1
CPT-2	4.1 – 7.7	Silty Sand to Sandy Silt (#5) to Clay & Silty Clay (#4)	1.2	<b>3.6</b>
	19.9 – 26.7	Sand (#6) and Silty Sand to Sandy Silt (#5)	2.4	
CPT-3	11.8 – 12.8	Silty Sand to Sandy Silt (#5)	0.5	<b>1.8</b>
	18.2 – 21.2	Sand and Silty Sand (#6) to Silty Sand to Sandy Silt (#5)	1.3	
CPT-4	4.8 – 8	Silty Sand to Sandy Silt (#5)	1	<b>4.5</b>
	9.4 – 11	Sand (#6) and Silty Sand to Sandy Silt (#5)	0.6	
	14 – 15	Silty Sand to Sandy Silt (#5)	0.5	
	18.7 – 25	Sand and Silty Sand (#6)	1.8	
	30.5 – 32	Sand (#6) and Silty Sand to Sandy Silt (#5)	0.6	

Boring EB-2 Liquefaction Analysis

Boring No.	Strata Depth Susceptible to Liquefaction (ft)	Soil Classification	Estimated Settlement (in)	Total Dynamic Settlement (in)
EB-2 (adjacent to CPT-4)	4.5 – 7.5	SM – 36% fines	0.8	<b>3.0</b>
	17 – 25	SM – 30% fines	2.2	

The amount of estimated liquefaction settlement is located primarily within the upper 30 feet. Since we are recommending the building be supported on a mat foundation bearing on improved soils (by soil-cement columns or drill displacement columns, DDC), significant dynamic settlement from liquefaction is not expected beneath the building footprint. We note that an estimated differential dynamic settlement on the order of about 1/2-inch over a horizontal distance of about 50 feet is possible from liquefaction of the silty/sandy soils below the anticipated depth of ground-improved soil (30 feet).

### **Corrosion Potential Testing**

Corrosion potential tests were performed by Cooper Testing Laboratory on two samples from Borings EB-1 and EB-2 at depths ranging from about 3 to 4.5 feet. The soil samples were tested for resistivity, pH, sulfate content, chloride content, and redox potential. The results of these tests are presented in Appendix B.

The water-soluble sulfate content of the samples that were tested in accordance with California Test Method 4327-modified were measured to range from about 48 to 157 mg/kg (parts per million, ppm), and up to about 0.0157% by dry weight. ACI 318 classifies a water-soluble sulfate content of 0.0 to 0.10% by dry weight as producing negligible sulfate exposure to concrete.

Resistivity of the lab-saturated soil samples measured in accordance with ASTM Test G57 ranged from about 1,475 to 4,068 ohm-cm. ASTM STP 1013 titled “Effects of Soil Characteristics on Corrosion” indicates soil resistivity below 2,300 ohm-cm would classify soil as severely corrosive.

The pH values of the soil samples were measured to range from about 8.2 to 8.3. Chloride contents were measured to range from about 10 to 151 mg/kg (ppm), and the oxidation-reduction potential (Redox) was measured to range from about 491 to 520 mv.

The corrosion potential test values described above were interpreted to result in a soil corrosivity value of above 15 points, which is considered to be “extremely corrosive,” according to the PG&E guidelines for “Selection of the Type of Underground Equipment.”

Please note that the above corrosion evaluation should be considered preliminary. For specific long-term corrosion control design recommendations, a corrosion engineer should be retained to evaluate the corrosion potential and protection for buried metal and concrete elements.

### **Geologic Hazards**

We briefly reviewed the potential for geologic hazards other than liquefaction to impact the site, considering the geologic setting and the soils encountered during our investigation. The results of our review are presented below.

- **Fault Rupture** - The site is not located in a State of California Earthquake Fault Zone or area where fault rupture is considered likely. Therefore, active faults are not believed to exist beneath the site and the potential for fault rupture at the site is considered low.
- **Ground Shaking** - The site is located in an active seismic area. Moderate to large earthquakes are probable along several active faults in the greater Bay Area over a 30 to 50 year design life. Strong ground shaking should therefore be expected several times during the design life of the development, as is typical for sites throughout the Bay Area. The proposed structure should be designed in accordance with current earthquake resistance standards.
- **Differential Compaction** - Differential compaction can occur during moderate and large earthquakes when soft or loose, natural or fill soils are densified and settle, often unevenly across a site. Up to about 3 feet of undocumented fill were encountered in our borings (CPT soundings were not used to quantify the amount of fill). As discussed above, the building is expected to be supported on a mat foundation bearing on a soil-cement column or DDC improved subgrade. In our opinion, the likelihood of significant differential compaction affecting the proposed structure is low provided the recommendations presented in our report are followed during design and construction.

### **CONCLUSIONS**

From a geotechnical viewpoint, the site is suitable for the planned development provided the recommendations presented in this report are followed during design and construction. Specific recommendations are provided in the following sections of our report. The primary geotechnical concerns for the project are:

- 1) The presence of sand, silt, and clay strata that are susceptible to significant liquefaction induced settlements during seismic shaking (primarily within the upper 30 feet);
- 2) The varying thickness and location of the liquefiable layers;

- 3) The varying thickness of bay margin soils ranging from about 4 to 19 feet thick that are compressible under the expected building loads and/or placement of additional fill on the site;
- 4) The presence of up to about 3 feet of undocumented fill at the site; and
- 5) The potential for severe ground shaking at the site during a major earthquake.

Relatively large total and differential settlements were estimated for both (static) consolidation settlement of bay margin soils and (dynamic) liquefaction settlement during a design level earthquake. When designing for these two modes of settlement, there are two main variables, time and spatial location. With respect to time, consolidation of bay margin soils is expected to occur over a three to 10 year time period irrespective of an earthquake event, whereas liquefaction settlement will happen during an earthquake event, whenever that may occur. With respect to location, the compressible soil thickness and potentially liquefiable strata vary in depth and thickness across the site. We note that in general the Bay Mud and liquefiable strata appear to be primarily within the upper 30 feet.

Due to the magnitude of potential differential settlement and the varying thicknesses of the Bay Mud and liquefiable strata, in our opinion, supporting the hotel on a mat foundation over ground-improved soil appears to be the most cost effective foundation support alternative. For this alternative, ground improvement such as deep soil mixing (soil-cement columns) or drill displacement columns (DDC) should be performed within the upper 30 feet of soils, which are most prone to liquefaction and soil consolidation. The building may then be supported on a structural mat foundation bearing on the soil-cement column or DDC treated subgrade, provided a high enough bearing capacity for the building under static and seismic loading conditions is achieved. The soil-cement columns or DDC will need to be designed and installed by an experienced design-build ground improvement contractor. As an alternative to ground improvement, the building could be supported on a driven or auger cast pile foundation; however, we expect the deep foundation alternative would have a higher construction cost and was therefore not included as a design alternative in this report.

Differential settlement should be considered in the design of entrance slabs or ramps that will not be supported on improved soils. The adjacent site flatwork may need to be adjusted in the future. In addition, the above estimated settlement should be considered during the design of the underground utilities to be constructed within or around the building pads or across portions of the site requiring varying amounts of new fill.

In addition, portions of existing undocumented fills that were not properly compacted are prone to compression and/or differential movement. To reduce the potential for variable subgrade support due to undocumented fill, any variable or poorly compacted fill encountered during earthwork construction should be removed and recompacted as recommended in the Earthwork section of this report. Some decisions regarding the suitability of the existing fills may need to be delayed until they are exposed after demolition and removal of existing buildings, utilities, and pavements, and the start of earthwork construction.

Because subsurface conditions may vary from those encountered at the location of our borings and CPT's, and to observe that our recommendations are properly implemented, we recommend that we be retained to 1) review the project plans for conformance with our recommendations and 2) observe and test during the earthwork and foundation installation phases of construction.

### **GROUND IMPROVEMENT**

As discussed above, for mat foundation support the subgrade soil should be improved by deep soil mixing (soil-cement columns) or drill displacement columns (DDC) to reduce the potential for significant differential settlement due to static loads and dynamic settlement during a seismic event and to provide adequate bearing capacity for the building foundation.

Deep soil mixing is a ground improvement technique that improves the characteristics of weak soils by mechanically mixing them with cementitious binder slurry, resulting in a series of soil-cement columns across the building area. On a preliminary basis, the soil-cement columns should have a diameter of about 3 to 6 feet, and should extend to a depth of about 30 feet. In addition, the columns should cover about 30 percent of the building area (as determined by the design-build contractor depending on the desired bearing capacity), and could be constructed in a grid pattern to help mitigate the potential effects of earthquake-induced liquefaction.

Mixing shaft speed, penetration rate, batching, and pumping operations are typically adjusted after constructing one or more test columns in a convenient area on site. Pre-production laboratory testing is used to prescribe mix methodology, energy, and the grout slurry system. Real-time monitoring of all mixing parameters should be performed during the mixing process. Wet sampling in fresh columns and coring of cured columns should also be used to verify strength. Test columns can be excavated for visual inspection of the uniformity of the soil-cement mix. Our representative should observe the soil-cement column construction, and the project special inspector should perform compression tests to verify the strength of the collected soil-cement samples.

DDC is a deep, full displacement, pressure grout column ground improvement method used for support of building loads on footing or mat foundations. The DDC offers a well-defined, grout column, with relatively high vertical capacity by extending the DDC below any soft/loose soils. The large cavity expansion effect in the displaced soil also produces the increased strength and ground improvement of the system. On a preliminary basis, the DDCs should have a diameter of at least 18 inches, should extend to a depth of about 30 feet, and be installed in a grid pattern at a spacing determined by the design-build contractor to achieve the desired bearing capacity and resistance for liquefaction. Wet sampling of the grout and/or coring of cured columns should also be used to verify strength, and load tests should be performed on at least two to three columns. Our representative should observe the DDC installation and load testing.

The soil-cement columns or DDC should be designed and installed by a design-build contractor with at least four years of experience in the Bay Area with this type of work.

### **MAT FOUNDATION**

In our opinion, the building may be supported on a structural mat foundation bearing on an improved subgrade designed by a design-build contractor consisting of deep soil mixing or DDC installed to a depth of about 30 feet (soil-cement columns constructed in a grid pattern) to help mitigate the potential effects of earthquake-induced liquefaction and settlement of the firm compressible bay margin soils.

Based on our previous experience, the allowable bearing pressure values able to be achieved will likely be at least 3,000 pounds per square foot for combined dead plus live loads, but will need to be verified by the design-build ground improvement contractor. The confirmed allowable bearing pressure may be increased by one-third for total loads including wind or seismic forces. These above preliminary pressures are net values. Please note that the allowable bearing pressure will vary depending on the total improved area relative to the building areas. The design-build contractor will have to design the ground improvements to accommodate the desired bearing capacity under static and seismic loadings and to mitigate the effects of liquefaction and ground settlement. In addition, the mat should be reinforced to provide structural continuity and to permit spanning of local irregularities between the soil-cement columns or DDC.

A member of our staff should observe the excavation and ground improvement construction. A 6-inch thick layer of  $\frac{3}{4}$ -inch crushed rock or a thin working slab may be placed on the prepared and approved mat subgrade after the ground improvement is completed as a working surface if desired by the contractor.

**Lateral Loads**

Lateral loads may be resisted by friction between the vapor barrier or damp proofing membrane below the mat and the supporting subgrade. The structural engineer should consult with the membrane manufacturer for the coefficient of friction to be assumed for design. Lateral resistance may also be provided by passive soil pressure acting against the sides of the mat foundation provided the mat is cast neat in a foundation excavation or is backfilled with compacted structural fill.

We recommend assuming an equivalent fluid pressure of 300 pounds per cubic foot for passive soil resistance, where appropriate. The upper foot of passive soil resistance should be neglected where soil adjacent to the mat foundation will be landscaped or subject to softening from rainfall and/or surface water runoff, rather than covered with a concrete slab or pavement.

**Estimated Settlements**

We understand from the project structural engineer that the building loads will be relatively uniform on the mat foundation and that the average contact pressure on the subgrade soil below a mat foundation is estimated to be about 600 pounds per square foot from dead plus live loads (which include the weight of the mat). Based on the estimated distribution of contact pressure, on a preliminary basis, 30-year post-construction total and differential settlement from static loads are expected to be about 1-inch across the mat foundation bearing on soil-cement columns or DDC installed to a depth of about 30 feet. In addition, as discussed above, up to about 1/2 inch of liquefaction-induced differential settlement could occur across a horizontal distance of 50 feet within the soils beneath a depth of 30 feet (improved ground) as a result of the analyzed seismic event. The estimated differential settlement should be considered in the structural design.

We note that higher (and localized) concentrated structural loads on the mat foundation or on the soil-cement columns/DDC may increase the amount of total/differential settlement. We should re-evaluate the long-term settlement due to static loads when the project structural engineer has a better understanding of the loading conditions across the mat foundation.

**Modulus of Subgrade Reaction**

A modulus of subgrade reaction ( $K_v$ ) of 100 pounds per cubic inch (pci) may be assumed for the mat subgrade. This value is based on a 1-foot-square bearing area and should be scaled to account for mat foundation size effects. Alternatively, based on our analysis of differential static settlement across the planned building, a modulus of subgrade reaction ( $K_v$ ) of 10 pounds per cubic inch (pci) near the center of the mat to approximately 20 pounds per cubic foot near the corners and along the sides of the mat.

**Mat and Elevator Pit Damp-Proofing**

We note that projected high ground water level at the site is about 4 feet below grade. We have not provided recommendations regarding the method or details for damp-proofing of the mat slab or the elevator pit since design of damp-proofing systems is outside of our scope of services and expertise. Installing adequate damp-proofing below and along the sides of the mat slab and the elevator pit is essential for the success of the structure.

Placing concrete with a low water:cement ratio should be considered as one step of good damp-proofing as discussed in the section of this report titled "Slabs-On-Grade." The damp-proofing system below the elevator pit may be placed directly on the compacted and approved soil subgrade, on a thin layer of crushed rock, or on a thin working slab, as determined by the water-proofing consultant.

**SPREAD FOOTINGS**

In our opinion, miscellaneous lightly loaded landscape improvements may be supported on conventional spread footings bearing on stiff/medium dense onsite soils. Once the type of structures to be supported on shallow foundations are known, these preliminary recommendations and estimated settlements should be updated for the specific loading and type of improvement proposed. In general, footings should have a minimum width of 15 inches and extend at least 24 inches below the bottom of slabs-on-grade and at least 24 inches below exterior finish grade. Footings may be designed for allowable bearing pressures of 2,000 pounds per square foot for dead plus live loads, with a one-third increase allowed for total loads including wind or seismic forces. The weight of the footings can be neglected for design purposes.

All footings located adjacent to utility lines or other footings should bear below a 1:1 plane extended upward from the bottom edge of the utility trench. All continuous footings should be reinforced with top and bottom steel to provide structural continuity and to permit spanning of local irregularities.

The bottom of all footing excavations should be cleaned of loose material. Our representative should observe the excavations to confirm that they are founded in suitable materials and have been properly cleaned prior to placing concrete forms and reinforcing steel. If soft or loose materials are encountered at the foundation bearing depth, our field representative may require over-excavation and/or compaction before the reinforcing steel is placed or may require a deeper footing embedment depth.

### **RETAINING AND ELEVATOR PIT WALLS**

Retaining walls and elevator pit walls should be designed to resist lateral pressures from the wall backfill and from hydrostatic pressure due to surface water infiltration and or ground water. In our opinion, the elevator pit walls should be assumed to be undrained and should be designed to resist an equivalent fluid pressure of 80 pounds per cubic foot plus an additional uniform lateral pressure of  $8H$  pounds per square foot (where  $H$  is the height of the wall in feet). Retaining walls to support level backfill, are free to rotate, and will include wall drainage, such as site retaining walls, should be designed to resist an equivalent fluid pressure of 45 pounds per cubic foot (drained condition).

Where retaining walls will be subjected to surcharge loads, such as from foundations, traffic loading or construction loading, they should be designed for an additional uniform lateral pressure equal to one-half of the surcharge pressure.

Based on the site peak ground acceleration (PGA), on Seed and Whitman (1970); Al Atik and Sitar (2010); and Lew et al. (2010); seismic loads on retaining walls that can yield may be simulated by a line load of  $11H^2$  (in pounds per foot, where  $H$  is the wall height in feet). Seismic loads on walls that cannot yield may be subjected to a seismic load as high as about  $17H^2$ . This seismic surcharge line load should be assumed to act at  $1/3H$  above the base of the wall (in addition the active wall design pressures of 45 and 80 pounds per cubic foot drained and undrained conditions, respectively).

Retaining walls should be properly damp-proofed in areas where wall dampness and efflorescence would be undesirable. Backfill placed behind the elevator pit walls should be compacted to at least 90 percent relative compaction using light compaction equipment. If heavy compaction equipment is used, the walls should be temporarily braced.

The elevator pit retaining walls may be supported on a mat foundation, and site walls described above may be supported on spread footing foundations in accordance with the recommendations presented previously.

### **SLABS-ON-GRADE**

#### **General Slab Considerations**

To reduce the potential for movement of the slab subgrade, at least the upper 6 inches of soil subgrades should be scarified and compacted at a moisture content above the laboratory optimum where underlain by expansive soils. The native soil subgrade should be kept moist up until the time the non-expansive fill, crushed rock and vapor barrier, and/or aggregate base is placed. Slab subgrades and non-expansive fill should be

prepared and compacted as recommended in the section of this report titled “Earthwork.” Exterior flatwork and interior slabs-on-grade should be underlain by a layer of non-expansive fill as discussed below.

The non-expansive fill should consist of aggregate base rock or a clayey soil with a plasticity index of 15 or less; it may also be possible to reuse some of the existing on-site materials or concrete grindings provided they meet the gradation requirements for base rock.

Considering the potential for soil movements, we expect that a reinforced slab will perform better than an unreinforced slab. Consideration should also be given to using a control joint spacing on the order of 2 feet in each direction for each inch of slab thickness.

### **Exterior Flatwork**

Concrete walkways and exterior flatwork should be at least 4 inches thick and should be constructed on at least 6 inches of Class 2 aggregate base. To improve performance, exterior slabs-on-grade, such as for patios, may be constructed with a thickened edge to improve edge stiffness and to reduce the potential for water seepage under the edge of the slabs and into the underlying base and subgrade. In our opinion, the thickened edges should be at least 8 inches wide and ideally should extend at least 4 inches below the bottom of the underlying aggregate base layer.

### **At-grade Interior Slabs**

If small areas of concrete slab-on-grade floors will be built at-grade near the existing ground surface, they should be constructed on a layer of non-expansive fill at least 6 inches thick that is placed and compacted on a properly prepared and compacted soil subgrade. Due to the potential for earthquake-induced dynamic differential settlement, we recommend that slab-on-grade floors be at least 5 inches thick, and be reinforced with sufficient steel reinforcement to span across local irregularities. To reduce the potential for slab distress and significant differential settlement, miscellaneous at-grade interior slabs may be designed as a structural mat supported on soil-cement columns or DDC.

In areas where dampness of concrete floor slabs would be undesirable, concrete slabs should be underlain by at least 6 inches of free-draining gravel, such as  $\frac{1}{2}$ - to  $\frac{3}{4}$ -inch clean crushed rock with no more than 5 percent passing the ASTM No. 200 sieve. Pea gravel should not be used for this capillary break material. The crushed rock layer should be densified and leveled with vibratory equipment, and may be considered as the non-expansive fill recommended above.

To reduce vapor transmission up through the concrete floor slabs or the mat foundation, the crushed rock section should be covered with a high-quality, UV-resistant membrane vapor retarder meeting the minimum ASTM E 1745, Class C requirements or better. If moisture-sensitive floor coverings are proposed and/or additional protection is desired by the owner, a higher quality vapor barrier conforming to the requirements of ASTM E 1745 Class A, with a water vapor transmission rate less than or equal to 0.01 perms (such as 15-mil thick "Stego Wrap Class A") may be used rather than a Class C vapor retarder. The vapor retarder or barrier should be placed directly below the concrete slab. Sand above the vapor retarder/barrier is not recommended. The vapor retarder/barrier should be installed in accordance with ASTM E 1643. All seams and penetrations of the vapor barrier should be sealed in accordance with manufacturer's recommendations.

The permeability of concrete is affected significantly by the water:cement ratio of the concrete mix, with lower water:cement ratios producing more damp-resistant slabs and stronger concrete. Where moisture protection is important and/or where the concrete will be placed directly on the vapor barrier, the water:cement ratio should be 0.45 or less. To increase the workability of the concrete, mid-range plasticizers can be added to the mix. Water should not be added to the concrete mix unless the slump is less than specified and the water:cement ratio will not exceed 0.45. Other steps that may be taken to reduce moisture transmission through the concrete slabs-on-grade include moist curing for 5 to 7 days and allowing the slab to dry for a period of two months or longer prior to placing floor coverings. Also, prior to installation of the floor covering, it may be appropriate to test the slab moisture content for adherence to the manufacturer's requirements and to determine whether a longer drying time is necessary.

## VEHICLE PAVEMENTS

### Asphalt Concrete Pavements

Based upon the available laboratory test results and our field investigation, an R-value of 12 appears to be appropriate for design of the parking areas and traffic driveways. Using estimated traffic indices for various pavement loading conditions, we developed the minimum pavement section thicknesses presented in Table 4 on the following page based on the procedure included in Chapter 630 of the Caltrans Highway Design Manual.

The Traffic Indices used in our pavement thickness calculations are considered reasonable values for this development and are based on engineering judgment rather than on detailed traffic projections. Asphalt concrete and aggregate base should conform to and be placed in accordance with the requirements of the Caltrans Standard Specifications, latest edition, except that compaction should be based on ASTM Test D1557.

We recommend that measures be taken to limit the amount of surface water that seeps into the aggregate base and subgrade below vehicle pavements, particularly where the pavements are adjacent to landscape areas. Seepage of water into the pavement base material tends to soften the subgrade, increasing the amount of pavement maintenance that is required and shortening the pavement service life. Deepened curbs extending 4-inches below the bottom of the aggregate base layer are generally effective in limiting excessive water seepage. Other types of water cutoff devices or edge drains may also be considered to maintain pavement service life.

**Table 4. Minimum Asphalt Concrete Pavement Section Thicknesses**  
**Home 2 Suites 4-Story Hotel**  
**Milpitas, California**

<b>General Traffic Condition</b>	<b>Traffic Index</b>	<b>AC Thickness (inches)</b>	<b>Aggregate Base* (inches)</b>	<b>Total Section (inches)</b>
Automobile Parking	4.0	2.5	7.0	9.5
Automobile Access	4.5	3.0	7.0	10.0
Light Truck Access	5.0	3.0	9.0	12.0
Moderate Truck Access	6.0	3.5	12.0	15.5
Heavy Truck Access	6.5	3.5	14.0	17.5

\*Caltrans Class 2 Aggregate Base (minimum R-value = 78).

#### **Rigid Concrete Pavements**

The minimum thickness of the concrete pavements at the site should be based on the anticipated traffic loading, the modulus of rupture of the concrete used for pavement construction, and the composition and supporting characteristics of the subgrade below the pavement section. If rigid concrete pavement is planned for the proposed driveway and parking area, the pavement section may be designed and constructed in accordance with American Concrete Institute (ACI) 330R-08 - Guide for Design and Construction of Concrete Parking Lots.

Based on the near-surface clayey soils we encountered at the project site, a low subgrade-subbase support strength value of 100 pci was assumed in our analysis. In addition, our design assumes that pavements are restrained laterally by a concrete shoulder or curb, and the concrete should have a compressive strength,  $f'_c$ , of at least 3,500 psi and a flexural strength,  $M_R$ , of at least 500 psi.

Reinforcing steel may be used for shrinkage crack control. In addition, maximum spacing should be provided between contraction joints on both directions. Our recommendations for minimum rigid pavement sections and maximum spacing between joints are presented in Table 5 below.

**Table 5. Rigid Concrete Pavement Design**  
**Home 2 Suites 4-Story Hotel**  
**Milpitas, California**

Traffic Categories	Maximum ADTT*	Concrete Thickness (inches)	Aggregate Base (inches)	Total Section (inches)	Maximum Spacing between Joints (feet)
Car Parking and Access Lanes	1	5.0	6.0	11.0	12
Truck Parking and Access Lanes	25	6.0	8.0	14.0	15
	300	7.0	8.0	15.0	15

\*ADTT = Average daily truck traffic in both directions (excludes panel trucks, pickup trucks, and other four-wheel vehicles)

## **EARTHWORK**

### **Clearing and Subgrade Preparation**

All deleterious materials, such as existing foundations, slabs, pavements, fill soils, designated utilities, vegetation, topsoil, and root systems, should be cleared from areas to be built on or paved. The actual stripping depth should be established by us at the time of construction. Excavations that extend below finish grade should be backfilled with structural fill that is water-conditioned, placed, and compacted as recommended in the section titled "Compaction."

After the site has been properly cleared, stripped, and excavated to the required grades, exposed soil surfaces in areas to receive structural fill or slabs-on-grade should be scarified to a depth of 6 inches, moisture conditioned, and compacted as recommended for structural fill in the section titled "Compaction."

### **Re-use of Existing Concrete and Aggregate Base and Subbase**

After demolition of the existing concrete buildings and stripping of the existing pavement, the removed concrete, aggregate base and subbase materials may be re-used as structural fill or non-expansive fill, provided that the concrete will be grinded and mixed with the on-site aggregate base and subbase materials. In addition, the mixture should be well-graded with sufficient binder, have a plasticity index of 15 or less, and have a

maximum particle size and meeting the structural fill requirements as described in the Material for Fill section below. Placement of asphalt grindings should be avoided below the structure.

### **Utility Trench Backfill**

Utility trench excavations should follow in accordance with all applicable local, state and federal safety regulations, including the current OSHA excavation and trench safety standards. All trench backfill material should be moisture conditioned and compacted as recommended in the section of this report titled "Compaction." Utility penetrations through walls or footings should be properly sealed. Proper compaction of utility trenches below pavement areas is essential to prevent future settlement and the resulting damage and maintenance costs of the pavement.

Utilities with sand bedding can become conduits to bring subsurface water below building and pavements particularly when located adjacent to well irrigated landscaping areas. Where utility trenches interface with the building pad or pavement areas, an impermeable plug should be installed to limit the potential for subsurface water to flow along the utility trench and saturate subgrade soils. In our opinion, the impermeable plug could consist of compacted clayey on-site soil, lean concrete slurry, or other approved impermeable material.

### **Underground Utilities**

As discussed above, varying amounts of settlement is expected across the site due to the loads from the new fill and presence of the compressible Bay Mud. The above estimated settlement should be considered during the design of the underground utilities to be constructed within or around the building pads or across portions of the site requiring varying amounts of new fill. In addition, underground utilities should be designed to tolerate the estimated differential settlements by including flexible connections, and gravity-flow pipes may require a steeper gradient to ensure the intended positive flow.

### **Temporary Slopes and Excavations**

The contractor should be responsible for the design and construction of all temporary slopes and any required shoring. Shoring and bracing should be provided in accordance with all applicable local, state, and federal safety regulations, including current OSHA excavation and trench safety standards.

Because of the potential for variation of the on-site soils, field modification of temporary cut slopes may be required. Unstable materials encountered on slopes during and after excavation should be trimmed off even if this requires cutting the slopes back to a flatter inclination.

Protection of structures near cuts should also be the responsibility of the contractor. In our experience, a preconstruction survey is generally performed to document existing conditions prior to construction, with intermittent monitoring of the structures during construction.

We noted that the sands and silts encountered at the site were judged to have limited cohesion and will be prone to sloughing and/or caving if excavated near-vertical. This information should be considered by the contractor when establishing temporary shoring/sloping criteria for deep excavations, such as utility trenches.

#### **Temporary Dewatering For Excavations**

As discussed above, ground water was encountered at a depth of up to about 4.5, the site is located in a Flood Zone, and the State's Seismic Hazard Zone Report indicates the historic high ground water level in the area of the site is shallower than 5 feet below existing grade. Therefore, construction dewatering may be required depending on the depth of temporary excavations, such as for utility trenches and/or elevator shafts, and the ground water level at the time of excavation.

Temporary dewatering for construction should be the responsibility of the contractor. The selection of equipment and methods of dewatering should be left up to the contractor and, due to the variable nature of the subsurface conditions, they should be aware that modifications to the dewatering system may be required during construction depending on the conditions encountered. Additionally, the ground water should be maintained at least 2 feet below all local excavations for deepened foundations, utilities or other structures. The contractor should design a system to achieve these criteria.

Special considerations may be required prior to discharge of ground water from dewatering activities depending on the quality of the ground water, and environmental impacts at the site or at nearby locations. These requirements may include storage, testing and/or treatment under permit prior to discharge.

#### **Material For Fill**

On-site soil containing less than 3 percent organic material by volume (ASTM D2974) may be suitable for use as structural fill. Structural fill should not contain rocks or pieces larger than 6 inches in greatest dimension and no more than 15 percent larger than 2.5 inches. Imported fill should have a plasticity index no greater than 15 percent, should be predominantly granular, and should have sufficient binder so as not to slough or cave into utility trenches and foundation excavations. Our representative should evaluate and approve proposed import materials prior to their delivery to the site.

### **Compaction**

Scarified soil surfaces and all structural fill should be compacted in uniform lifts no thicker than 8 inches in pre-compactated thickness, conditioned to the appropriate moisture content, and compacted as recommended for structural fill in Table 6 below. The relative compaction and moisture content in Table 6 is relative to ASTM Test D1557, latest edition.

**Table 6. Compaction Recommendations**  
**Home 2 Suites 4-Story Hotel**  
**Milpitas, California**

<b><u>General</u></b>	<b><u>Relative Compaction*</u></b>	<b><u>Moisture Content*</u></b>
• Scarified native subgrade in areas to receive structural fill.	90 percent	Above optimum
• Structural fill composed of native soil.	90 percent	Above optimum
• Structural fill composed of non-expansive fill.	90 percent	Above optimum
• Structural fill below a depth of 4 feet.	92 percent	Above optimum
<b><u>Pavement Subgrade</u></b>		
• On-site soil.	95 percent	Above optimum
• Aggregate base.	95 percent	Near optimum
<b><u>Utility Trench Backfill</u></b>		
• On-site soil.	90 percent	Above optimum
• Imported sand.	95 percent	Near optimum

\* Relative to ASTM Test D1557, latest edition.

### **Permanent Slopes**

Permanent slopes should be cut or filled preferably to an inclination of 2.5:1 (horizontal to vertical). Exposed slopes may be subject to minor sloughing and erosion, which may require periodic maintenance. We recommend that the slopes be planted to minimize erosion.

**Surface Drainage**

Finished grades should be designed to prevent ponding and to drain surface water away from foundations, edges of slabs and slopes and pavements, and toward suitable collection and discharge facilities. Slopes of at least 2 percent are recommended for flatwork and pavement areas with 5 percent preferred in landscape areas within 8 feet of the structures, where possible. Preferably, roof and concentrated drainage should be collected in a closed pipe drainage system that is routed to a suitable discharge point. Infiltration basins or bioswales, if any, preferably should not be placed within about 5 feet of the building or flatwork areas. Drains should be provided for infiltration basins that direct water to an appropriate outlet as required by the civil engineer.

Any drainage improvements required should be observed to verify that they are adequate and that no adjustments need to be made, especially during first two years following construction. We recommend that an as-built plan showing the location of the surface drain lines and clean outs be developed. The drainage facilities should be periodically checked to verify that they are continuing to function properly, and likely will need to be periodically cleaned of silt which may build up in the lines.

**FUTURE SERVICES****Plan Review**

Romig Engineers should review the completed grading and foundation plans for conformance with the recommendations in this report. We should be provided with these plans as soon as possible upon completion in order to limit the potential for delays in the permitting process that might otherwise be attributed to our review process. In addition, it should be noted that many of the local building and planning departments now require “clean” geotechnical plan review letters prior to acceptance of plans for their final review. Since our plan reviews often result in recommendations for modification of the plans, our generation of a “clean” review letter often requires two iterations.

At a minimum, we recommend the following note be added to the plans:

“Earthwork, slab subgrade and non-expansive fill preparation, foundation construction, shoring construction, ground improvement construction, utility trench backfill, pavement construction, and site drainage should be performed in accordance with the geotechnical report prepared by Romig Engineers, Inc., dated October 31, 2016. Romig Engineers should be notified at least 48 hours in advance of any earthwork and foundation construction and should observe and test during earthwork and foundation construction as recommended in the geotechnical report.”

**Construction Observation and Testing**

The earthwork and foundation phases of construction should be observed and tested by us to 1) establish that subsurface conditions are compatible with those used in the analysis and design; 2) observe compliance with the design concepts, specifications and recommendations; and 3) allow design changes in the event that subsurface conditions differ from those anticipated. The recommendations in this report are based on a limited amount of subsurface exploration. The nature and extent of variation across the site may not become evident until construction. If variations are exposed during construction, it will be necessary to reevaluate our recommendations.



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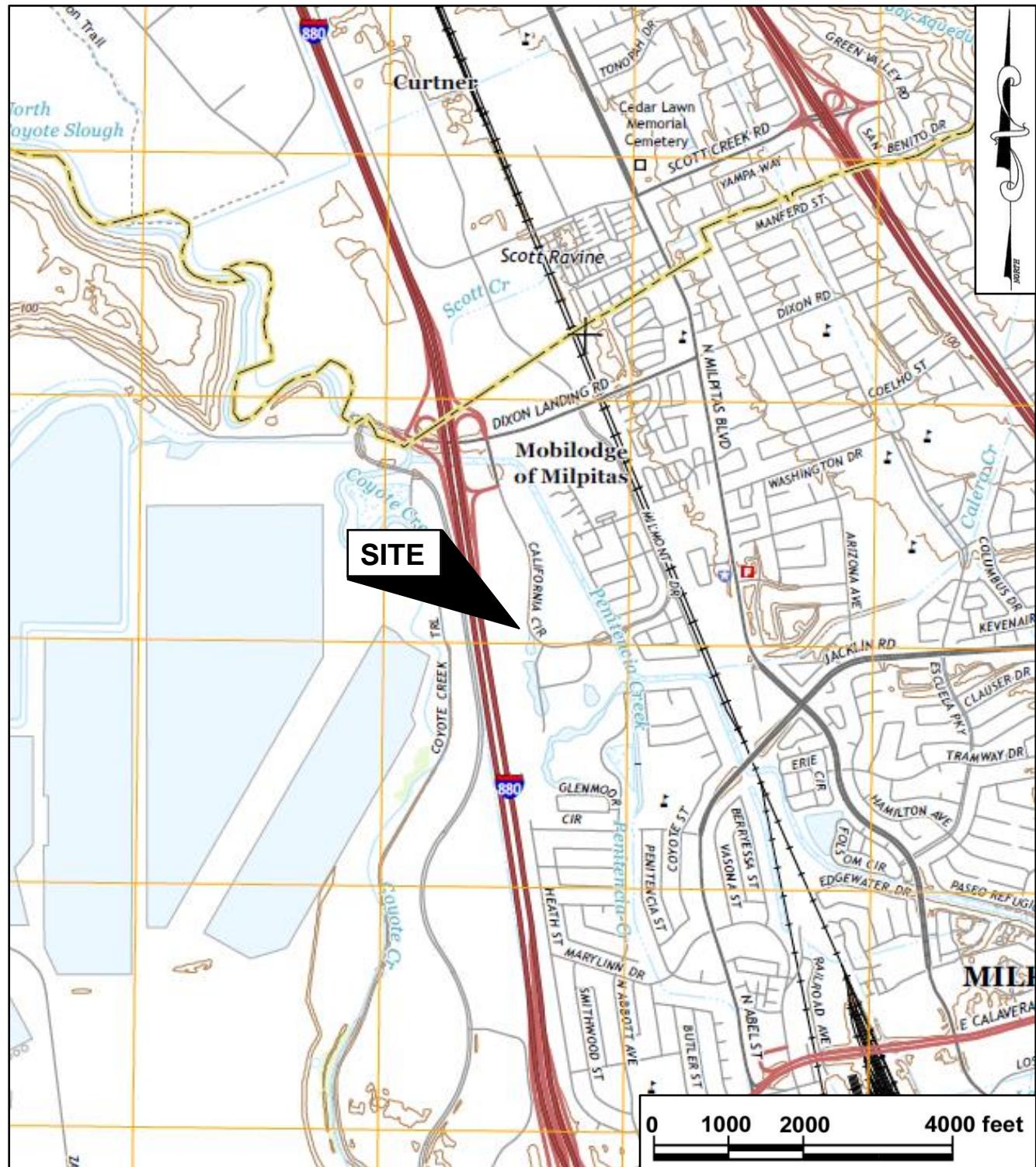
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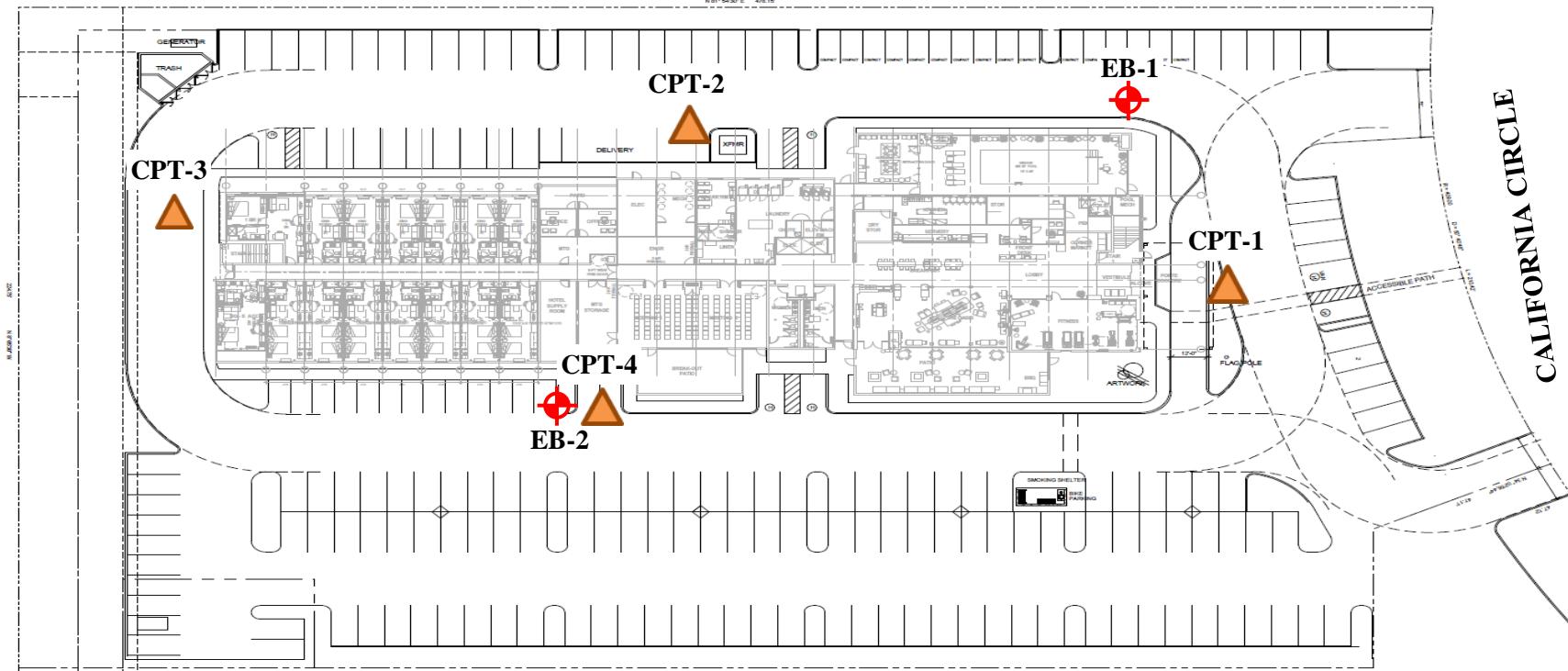


Scale: 1 inch = 2000 feet

Base is United States Geological Survey Milpitas 7.5 Minute Quadrangle, dated 2015.

**VICINITY MAP**  
**HOME 2 SUITES 4-STORY HOTEL**  
**MILPITAS, CALIFORNIA**

**FIGURE 1**  
**OCTOBER 2016**  
**PROJECT NO. 3464-1A**



LEGEND

EB-2 Approximate Locations of Exploratory Borings.  
 CPT-4 Approximate Locations of Cone Penetration Tests.

Approximate Scale: 1 inch = 60 feet.

Base is site plan prepared by RYS Architects, dated May 24, 2016.



**SITE PLAN**

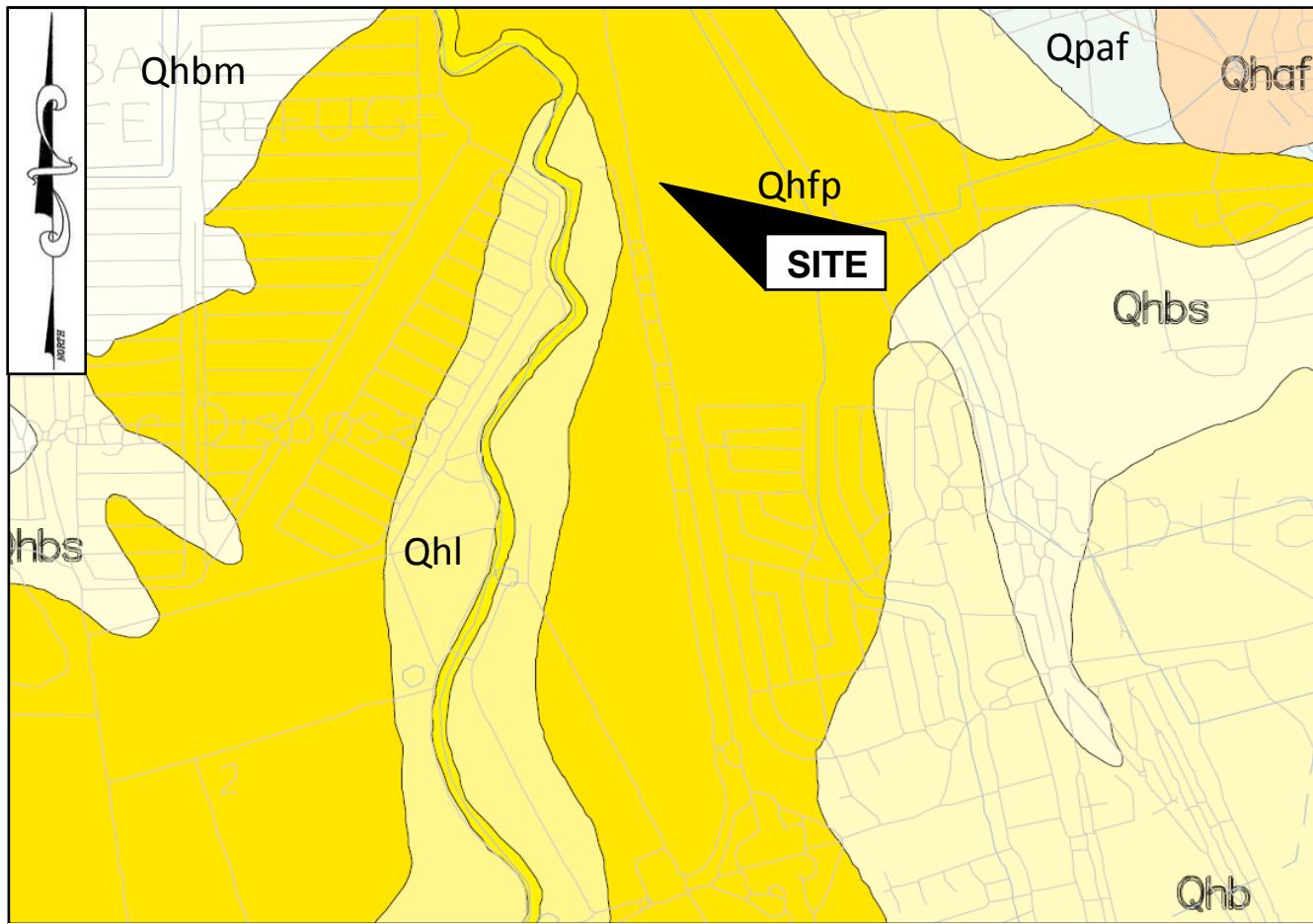
HOME 2 SUITES 4-STORY HOTEL

MILPITAS, CALIFORNIA

**FIGURE 2**

OCTOBER 2016

PROJECT NO. 3464-1A



### Legend

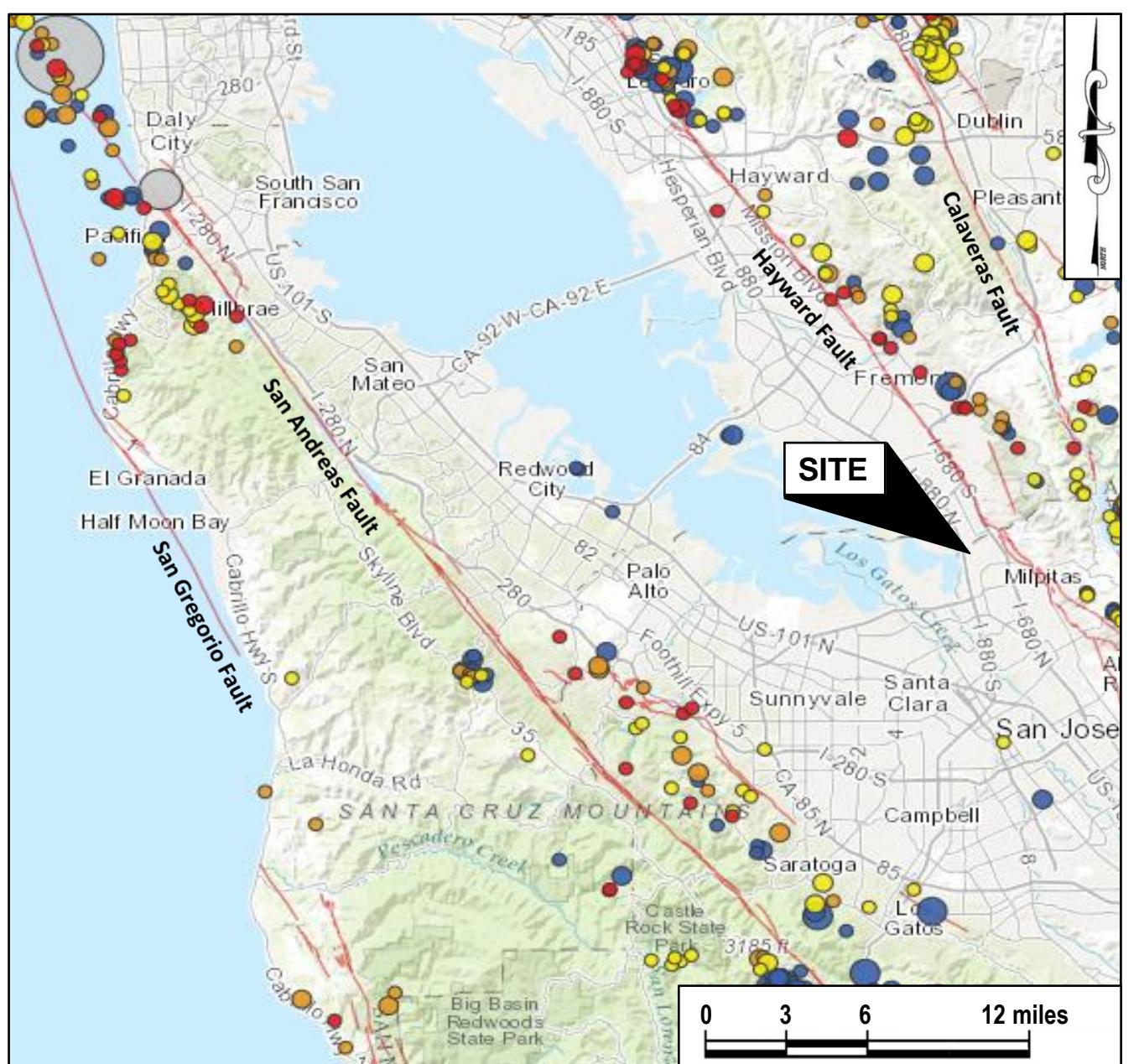
<b>Qhl</b>	Stream Channel Deposits	<b>Qhaf</b>	Alluvial Fan Deposits (Holocene)	
<b>Qhfp</b>	Floodplain Deposits	<b>Qpaf</b>	Alluvial Fan Deposits (Pleistocene)	
<b>Qhb</b>	Floodbasin Deposits	Geologic Contact - dashed where approximate, dotted where inferred.		
<b>Qhbs</b>	Salt-affected Floodplain Deposits			
<b>Qhbm</b>	Estuary Deposits			

0 1000 2000 4000 feet

Base is Quaternary Geology of Santa Clara Valley, Santa Clara, Alameda, and San Mateo Counties, California (Holley, Graymer, Phelps, Showalter, and Wentworth, 1994).

**VICINITY GEOLOGIC MAP**  
**HOME 2 SUITES 4-STORY HOTEL**  
**MILPITAS, CALIFORNIA**

**FIGURE 3**  
**OCTOBER 2016**  
**PROJECT NO. 3464-1A**



Earthquakes with M5+ from 1900 to 1980, M2.5+ from 1980 to January 2015. Faults with activity in last 15,000 years. Based on data sources from Northern California Earthquake Data Center and USGS Quaternary Fault and Fold Database, accessed May 2015.

**REGIONAL FAULT AND SEISMICITY MAP**  
**HOME 2 SUITES 4-STORY HOTEL**  
**MILPITAS, CALIFORNIA**

**FIGURE 4**  
**OCTOBER 2016**  
**PROJECT NO. 3464-1A**

## **APPENDIX A**

### **FIELD INVESTIGATION**

The soils encountered during drilling were logged by our representative and samples were obtained at depths appropriate to the investigation. The samples were taken to our laboratory where they were examined and classified in accordance with the Unified Soil Classification System. The logs of our borings and a summary of the soil classification systems that were used (Figure A-1) is attached.

Several tests were performed in the field during drilling. The standard penetration test resistance was determined by dropping a 140-pound hammer through a 30-inch free-fall and recording the blows required to drive the 2-inch (outside diameter) sampler 18 inches. The standard penetration test (SPT) resistance is the number of blows required to drive the sampler the last 12 inches and is recorded on the boring log at the appropriate depths. Soil samples were also collected using 2.5-inch and 3.0-inch O.D. drive samplers. The blow counts shown on the logs for these larger samplers do not represent SPT values and have not been corrected in any way.

The Cone Penetration Tests (CPT) were carried out by Middle Earth Geo Testing, Inc. using an integrated electronic cone system. The CPT soundings were performed in accordance with ASTM standards (D 5778-95). A 20 ton capacity cone was used for all of the soundings. The cone had a tip area of  $10 \text{ cm}^2$  and friction sleeve area of  $150 \text{ cm}^2$ . The logs of our CPTs are attached in this Appendix.

The locations of the borings and CPTs were established by pacing using the site plan provided to us. The locations of the borings should be considered accurate only to the degree implied by the method used.

The boring and CPT logs and related information depict our interpretation of subsurface conditions only at the specific location and time indicated. Subsurface conditions and ground water levels at other locations may differ from conditions at the location where sampling and testing were conducted. The passage of time may also result in changes in the subsurface conditions.



## USCS SOIL CLASSIFICATION

PRIMARY DIVISIONS			SOIL TYPE	SECONDARY DIVISIONS	
COARSE GRAINED SOILS (< 50 % Fines)	GRAVEL	CLEAN GRAVEL (< 5 % Fines)	GW	Well graded gravel, gravel-sand mixtures, little or no fines.	
		GRAVEL with FINES	GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.	
		CLEAN SAND (< 5 % Fines)	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.	
		SAND WITH FINES	GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.	
	SAND	CLEAN SAND (< 5 % Fines)	SW	Well graded sands, gravelly sands, little or no fines.	
		SAND WITH FINES	SP	Poorly graded sands or gravelly sands, little or no fines.	
		SAND WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.	
		SAND WITH FINES	SC	Clayey sands, sand-clay mixtures, plastic fines.	
FINE GRAINED SOILS (> 50 % Fines)	SILT AND CLAY Liquid limit < 50%	ML	Inorganic silts and very fine sands, with slight plasticity.		
		CL	Inorganic clays of low to medium plasticity, lean clays.		
		OL	Organic silts and organic clays of low plasticity.		
	SILT AND CLAY Liquid limit > 50%	MH	Inorganic silt, micaceous or diatomaceous fine sandy or silty soil.		
		CH	Inorganic clays of high plasticity, fat clays.		
		OH	Organic clays of medium to high plasticity, organic silts.		
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils.		
BEDROCK		BR	Weathered bedrock.		

### RELATIVE DENSITY

SAND & GRAVEL	BLOWS/FOOT*
VERY LOOSE	0 to 4
LOOSE	4 to 10
MEDIUM DENSE	10 to 30
DENSE	30 to 50
VERY DENSE	OVER 50

### CONSISTENCY

SILT & CLAY	STRENGTH^	BLOWS/FOOT*
VERY SOFT	0 to 0.25	0 to 2
SOFT	0.25 to 0.5	2 to 4
FIRM	0.5 to 1	4 to 8
STIFF	1 to 2	8 to 16
VERY STIFF	2 to 4	16 to 32
HARD	OVER 4	OVER 32

### GRAIN SIZES

BOULDERS	COBBLES	GRAVEL		SAND			SILT & CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	
12 "	3"	0.75"		4	10	40	200
SIEVE OPENINGS		U.S. STANDARD SERIES SIEVE					

Classification is based on the Unified Soil Classification System; fines refer to soil passing a No. 200 sieve.

\* Standard Penetration Test (SPT) resistance, using a 140 pound hammer falling 30 inches on a 2 inch O.D. split spoon sampler; blow counts not corrected for larger diameter samplers.

^ Unconfined Compressive strength in tons/sq. ft. as estimated by SPT resistance, field and laboratory tests, and/or visual observation.

### KEY TO SAMPLERS

- Modified California Sampler (3-inch O.D.)
- Mid-size Sampler (2.5-inch O.D.)
- Standard Penetration Test Sampler (2-inch O.D.)

**KEY TO EXPLORATORY BORING LOGS**  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA

**FIGURE A-1**  
OCTOBER 2016  
PROJECT NO. 3464-1A

**DRILL TYPE:** Mobile Drill B-40 with 8" Hollow Stem Auger

**LOGGED BY:** LF

**DEPTH TO GROUND WATER:** Not Encountered

**SURFACE ELEVATION:** NA

**DATE DRILLED:** 9/9/16

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL		PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
					0	5				
3-inches asphalt concrete, 4-inches aggregate base.		AC	████████	0						
Dark brown/gray, Sandy Silt, moist, fine grained sand, low plasticity, roots. ■ Liquid Limit = 39, Plasticity Index = 12.	Stiff	ML	████████					13 29		3.8
Brown, Silty Sand, moist, fine grained sand, low plasticity fines.	Loose	SM	████████	5				10 23		
Fines increase in plasticity.								10 31	0.2	
<b>Bay Mud:</b> Dark brown/black/gray, Fat Clay, moist, high plasticity, organic material.	Soft	CH	████████	10				5 36		
Gray in color, interbedded sandy silt to silty sand material.				15				2 47	0.2 <0.5	
▲ Dry Density = 71pcf. ◆ Undrained Shear Strength = 0.3ksf.				20				50		
Continued on Next Page								6 48	0.2	

**EXPLORATORY BORING LOG EB-1**

HOME 2 SUITES 4-STORY HOTEL

MILPITAS, CALIFORNIA

**BORING EB-1**

PAGE 1 OF 2

OCTOBER 2016

PROJECT NO. 3464-1A

**DRILL TYPE:** Minuteman with 3-1/4" Continuous Flight Auger

**LOGGED BY:** LF

**DEPTH TO GROUND WATER:** Not Encountered    **SURFACE ELEVATION:** NA

**DATE DRILLED:** 9/9/16

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL			
					PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
<b>Bay Mud:</b> Dark brown/black/gray, Fat Clay, moist, high plasticity, organic material.	Soft to Firm	CH		20				
Brown, Clayey Sand, wet, fine to coarse grained sand, low plasticity fines. ● 31% Passing No. 200 Sieve.	Medium Dense	SC		25	9	43	0.2	16 24
Light brown, Sandy Silt, moist, fine grained sand, low plasticity. ● 66% Passing No. 200 Sieve.	Stiff	ML		30	15	23		
Bottom of Boring at 30 feet.				35				
				40				

Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.

\*Measured using Torvane and Pocket Penetrometer devices.

**EXPLORATORY BORING LOG EB-1**  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA

**BORING EB-1**  
PAGE 2 OF 2  
OCTOBER 2016  
PROJECT NO. 3464-1A

**DRILL TYPE:** Minuteman with 3-1/4" Continuous Flight Auger

**LOGGED BY:** LF

**DEPTH TO GROUND WATER:** Not Encountered    **SURFACE ELEVATION:** NA

**DATE DRILLED:** 9/9/16

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	TEST RESULTS		
						PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*
3-inches asphalt concrete.		AC	████	0				
<b>Fill:</b> Light brown/tan, Poorly Graded Sand, fine to medium grained.	Medium Dense	SP	████			20	13	
						4		
Brown, Sandy Silt, moist, fine to medium grained sand, low plasticity, some large roots.	Stiff	ML	████			14	23	1.5
Brown, Silty Sand, moist, fine to medium grained, low plasticity fines. ● 36% Passing No. 200 Sieve.	Medium Dense	SM	████	5		14	11	
Brown, Sandy Silt, wet, fine to medium grained sand, low plasticity fines.	Soft to Firm	ML	████			5	30	0.2 <0.5
<b>Bay Mud:</b> Brown/gray, Fat Clay, very moist, trace fine grained sand, high plasticity. Sand lens at 9.5 feet.	Soft	CH	████	10			39	
Gray, Sandy Silt/Sandy Lean Clay, very moist, fine to medium grained sand, low plasticity fines.	Soft to Firm	ML/CL	████			7	30	
◆ Undrained Shear Strength = 0.26 ksf, dry density = 96pcf.				15				
Dark brown/gray, Silty Sand, wet, fine to coarse grained. ● 30% Passing No. 200 Sieve.	Medium Dense	SM	████	20		15	27	
							20	
Continued on Next Page								

**EXPLORATORY BORING LOG EB-2**

HOME 2 SUITES 4-STORY HOTEL

MILPITAS, CALIFORNIA

**BORING EB-2**

PAGE 1 OF 3

OCTOBER 2016

PROJECT NO. 3464-1A

**DRILL TYPE:** Minuteman with 3-1/4" Continuous Flight Auger

**LOGGED BY:** LF

**DEPTH TO GROUND WATER:** Not Encountered    **SURFACE ELEVATION:** NA

**DATE DRILLED:** 9/9/16

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL			
					PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Dark brown/gray, Silty Sand, wet, fine to coarse grained.	Medium Dense	SM	▨	20				
Brown, Sandy Lean Clay to Sandy Silt, very moist, low to moderate plasticity, orange and tan mottling.	Stiff	CL/ML	▨▨▨▨	25				16
■ Liquid Limit = 25, Plasticity Index = 5.				30			10 20	3.0
Sand lens at 33.5 feet and 34 ft.				35			17 24	23
Brown, Lean Clay to Fat Clay, very moist, moderate to high plasticity.	Stiff	CL/CH	▨▨▨▨	40			29 22 24 0.9 1.8	
Continued on Next Page							16 28 26	2.0

**EXPLORATORY BORING LOG EB-2**

**BORING EB-2**

HOME 2 SUITES 4-STORY HOTEL

PAGE 2 OF 3

MILPITAS, CALIFORNIA

OCTOBER 2016

PROJECT NO. 3464-1A

**DRILL TYPE:** Minuteman with 3-1/4" Continuous Flight Auger

**LOGGED BY:** LF

**DEPTH TO GROUND WATER:** Not Encountered    **SURFACE ELEVATION:** NA

**DATE DRILLED:** 9/9/16

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL			
					PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Brown, Lean Clay to Fat Clay, very moist, moderate to high plasticity.	Stiff	CL/ CH		40				
Bottom of Boring at 44.9 feet.				45		12	24	

Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.

\*Measured using Torvane and Pocket Penetrometer devices.

**EXPLORATORY BORING LOG EB-2**  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA

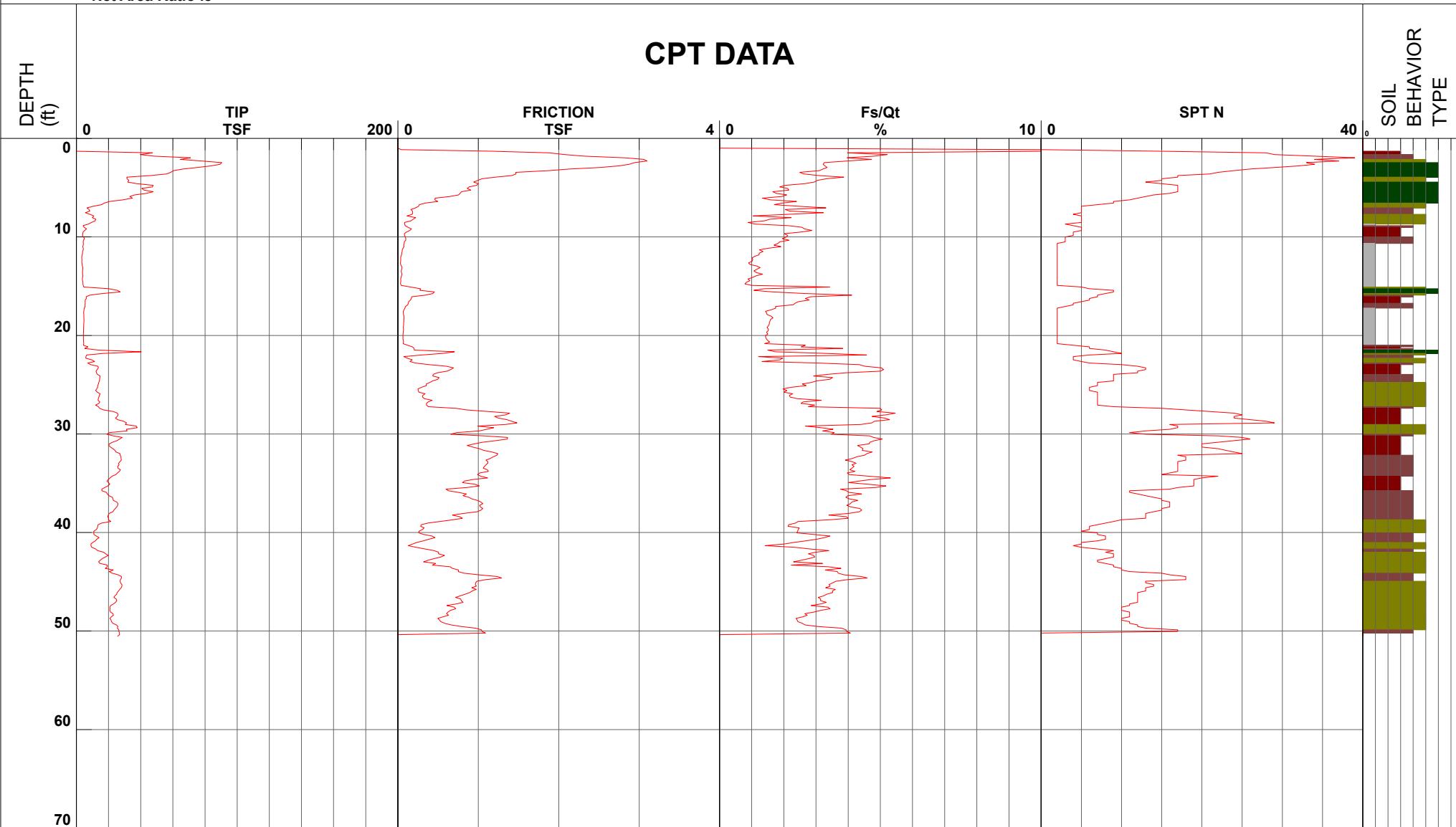
**BORING EB-2**  
PAGE 3 OF 3  
OCTOBER 2016  
PROJECT NO. 3464-1A



# Romig Engineers

Project	Home 2 Suites 4-Story Hotel	Operator	JH-KK	Filename	SDF(054).cpt
Job Number	3464-1A	Cone Number	DDG1333	GPS	
Hole Number	CPT-01	Date and Time	9/9/2016 10:30:34 AM	Maximum Depth	
EST GW Depth During Test	10.00 ft				50.52 ft

Net Area Ratio .8



1 - sensitive fine grained

2 - organic material

3 - clay

4 - silty clay to clay

5 - clayey silt to silty clay

6 - sandy silt to clayey silt

7 - silty sand to sandy silt

8 - sand to silty sand

9 - sand

10 - gravelly sand to sand

11 - very stiff fine grained (\*)

12 - sand to clayey sand (\*)



# Romig Engineers

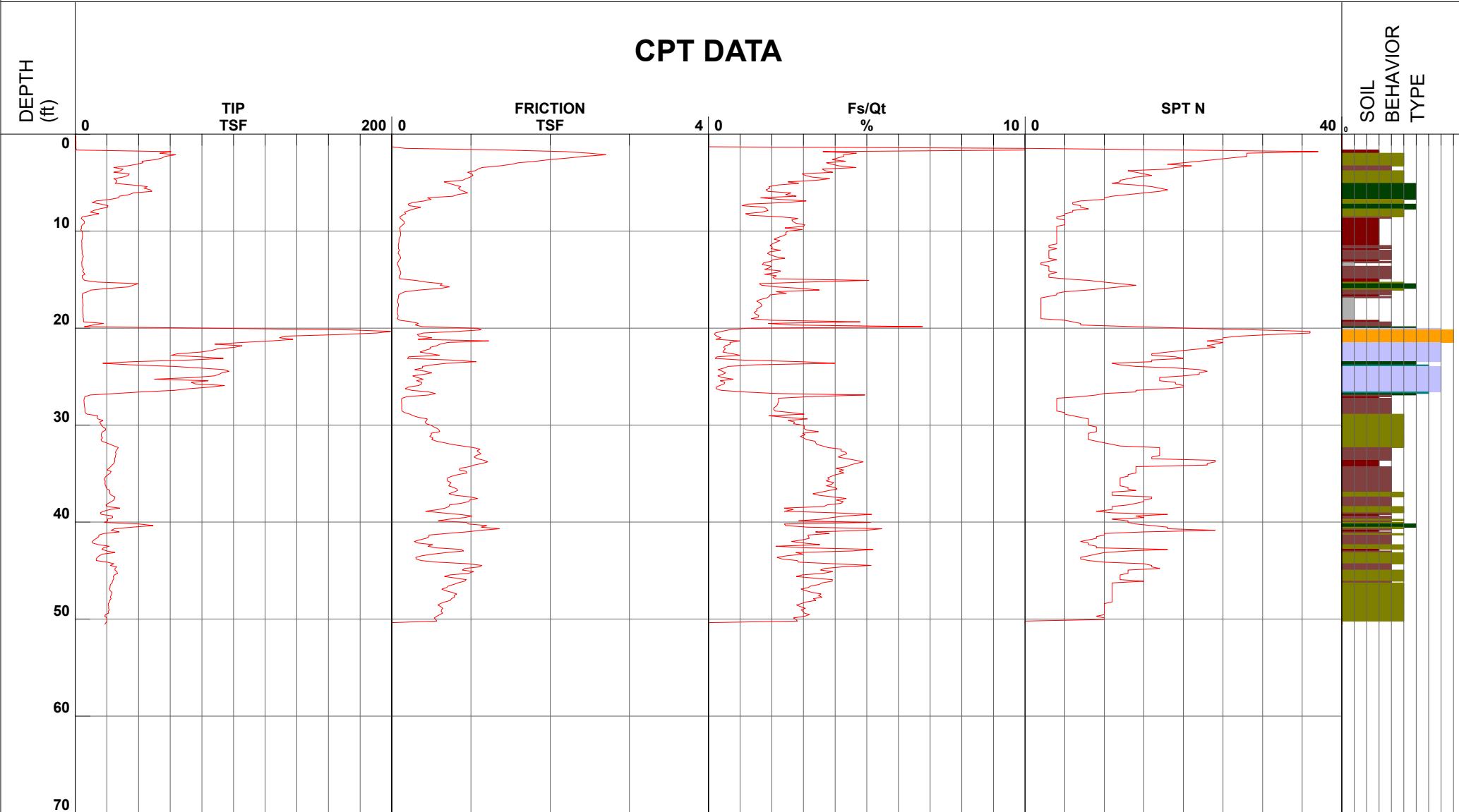
Project Home 2 Suites 4-Story Hotel  
Job Number 3464-1A  
Hole Number CPT-02  
EST GW Depth During Test

Operator JH-KK  
Cone Number DDG1333  
Date and Time 9/9/2016 9:39:30 AM

Filename SDF(053).cpt  
GPS  
Maximum Depth 50.52 ft

Net Area Ratio .8

## CPT DATA



■ 1 - sensitive fine grained

■ 4 - silty clay to clay

■ 7 - silty sand to sandy silt

■ 10 - gravelly sand to sand

■ 2 - organic material

■ 5 - clayey silt to silty clay

■ 8 - sand to silty sand

■ 11 - very stiff fine grained (\*)

■ 3 - clay

■ 6 - sandy silt to clayey silt

■ 9 - sand

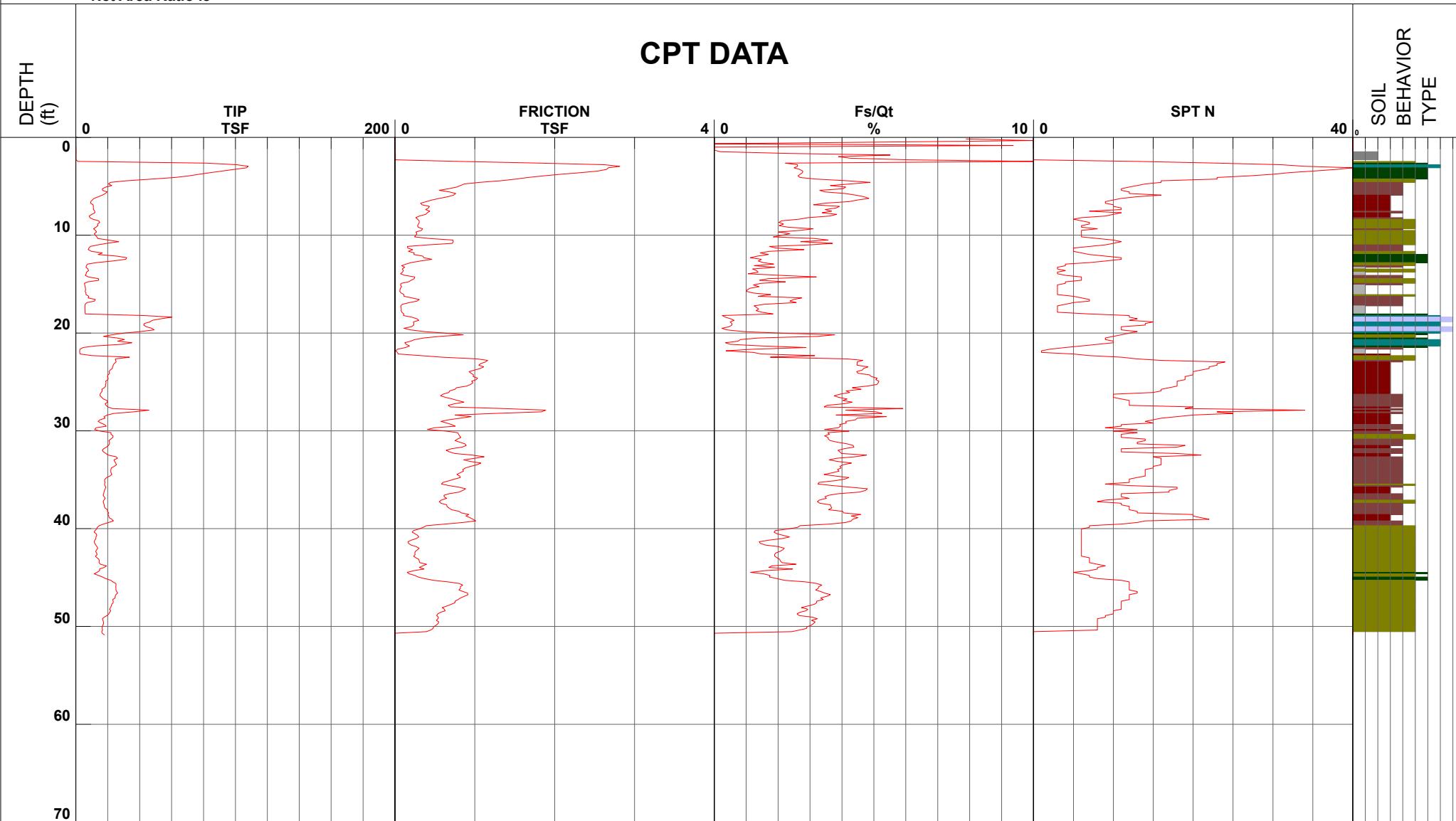
■ 12 - sand to clayey sand (\*)



# Romig Engineers

Project	Home 2 Suites 4-Story Hotel	Operator	JH-KK	Filename	SDF(052).cpt
Job Number	3464-1A	Cone Number	DDG1333	GPS	
Hole Number	CPT-03	Date and Time	9/9/2016 8:47:08 AM	Maximum Depth	
EST GW Depth During Test	10.00 ft				50.85 ft

Net Area Ratio .8



1 - sensitive fine grained

2 - organic material

3 - clay

4 - silty clay to clay

5 - clayey silt to silty clay

6 - sandy silt to clayey silt

7 - silty sand to sandy silt

8 - sand to silty sand

9 - sand

10 - gravelly sand to sand

11 - very stiff fine grained (\*)

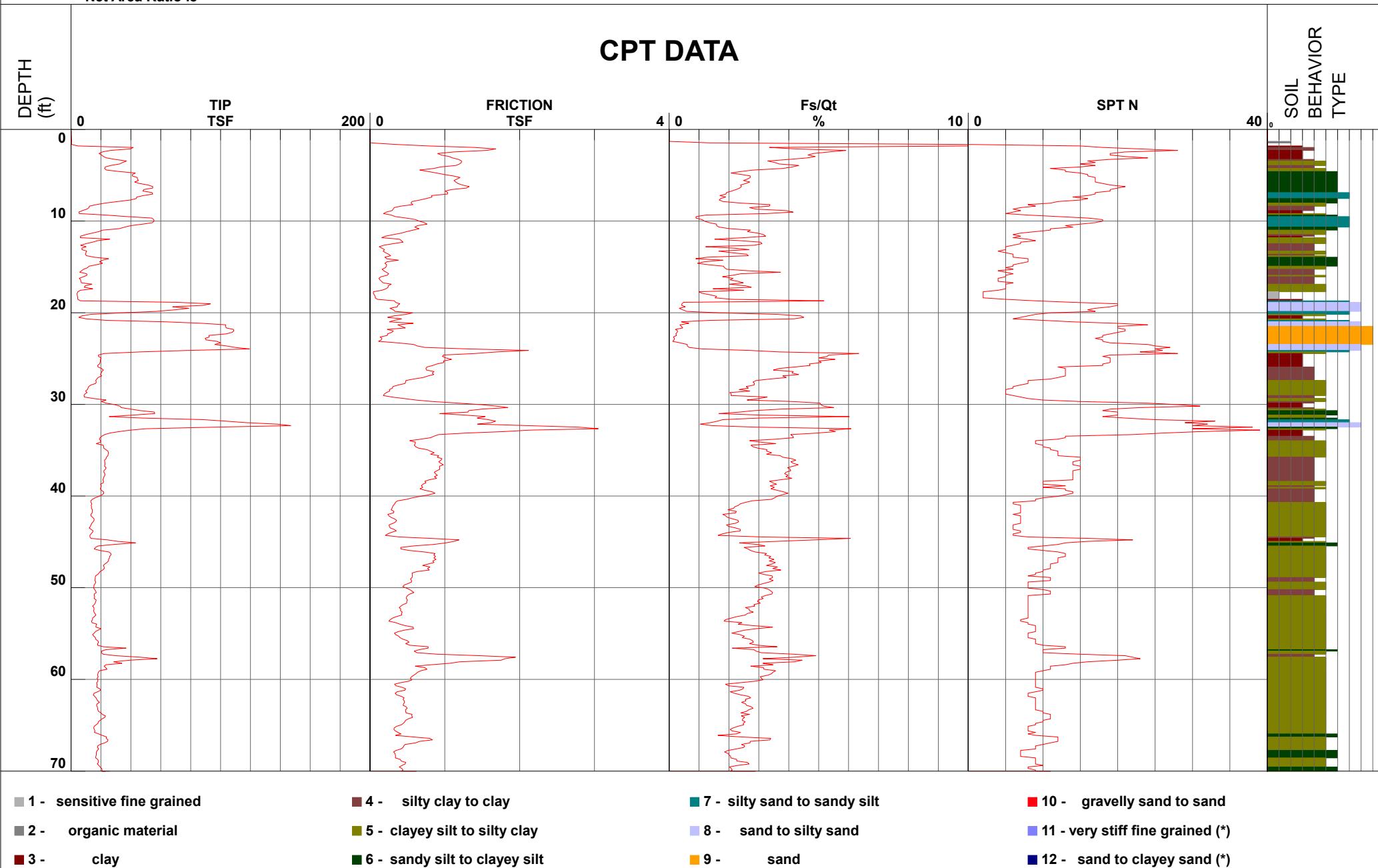
12 - sand to clayey sand (\*)



# Romig Engineers

Project	Home 2 Suites 4-Story Hotel	Operator	JH-KK	Filename	SDF(051).cpt
Job Number	3464-1A	Cone Number	DDG1333	GPS	
Hole Number	CPT-04	Date and Time	9/9/2016 7:24:24 AM	Maximum Depth	
EST GW Depth During Test	10.00 ft				70.70 ft

Net Area Ratio .8



## APPENDIX B

### LABORATORY TESTS

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

The natural moisture content was determined in accordance with ASTM D2216 on nearly all samples recovered from the borings. This test determines the moisture content, representative of field conditions, at the time the samples were collected. The results are presented on the boring logs at the appropriate sample depths.

The Atterberg Limits were determined on two samples in accordance with ASTM D4318. The Atterberg Limits are the moisture content within which the soil is workable or plastic. The results of these tests are presented in Figure B-1 and on the boring logs at the appropriate sample depths.

The amount of silt and clay-sized material present was determined on four samples of soil in accordance with ASTM D422. The results are presented on the boring logs at the appropriate sample depths.

An R-value test was performed on one sample of surface soil from the site to provide data for pavement thickness design. The R-value test was performed in accordance with California Test Method 301-F. The results of this test are presented on Figure B-2 in this Appendix.

A one-dimensional consolidation test was performed on one sample of soil in accordance with ASTM D2435. The results of this test is presented tests are presented on Figure B-3.

Unconsolidated-undrained triaxial tests were performed on two samples of soil in accordance with ASTM D2850. The results of these tests are presented on Figure B-4.

The following corrosion potential tests were performed by Cooper Testing Laboratory on one sample of subsurface soil from the site: resistivity, pH, chloride content, sulfate content, and Redox Potential (Oxidation/Reduction Potential). The test methods that were used and the results of these tests are included in this appendix.



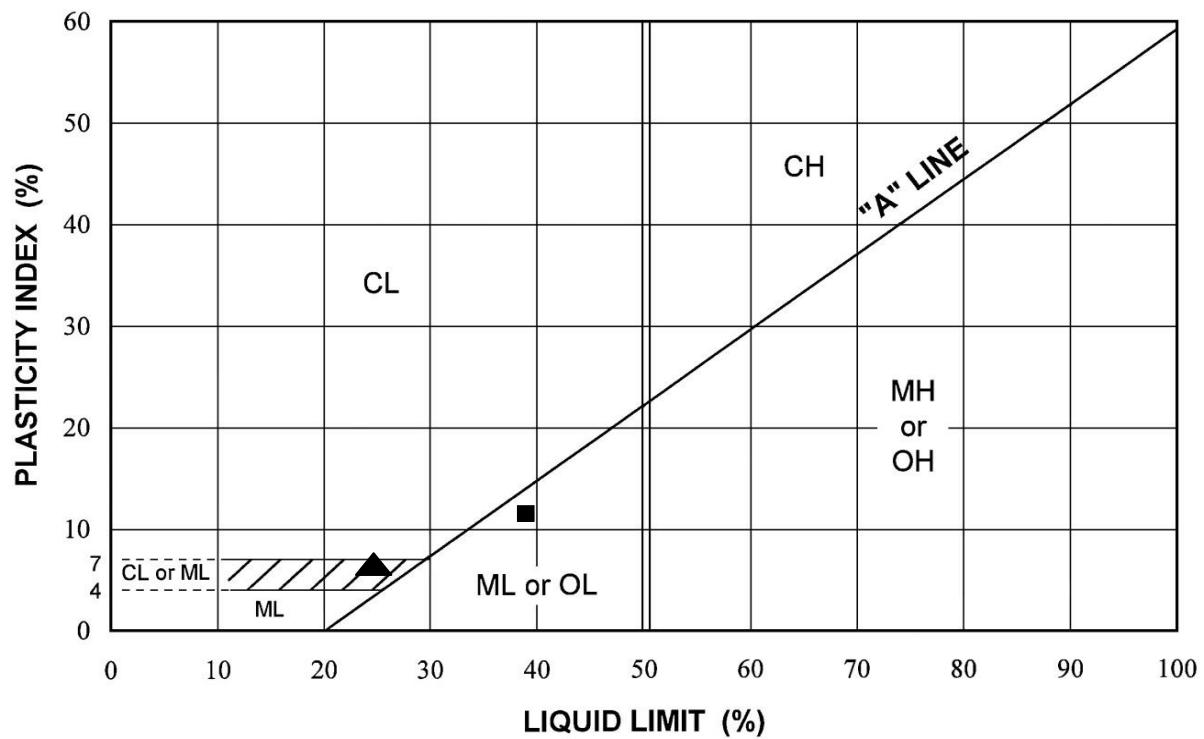


Chart Symbol	Boring Number	Sample Depth (feet)	Water Content (percent)	Liquid Limit (percent)	Plasticity Index (percent)	Liquidity Index (percent)	Passing No. 200 Sieve (percent)	USCS Soil Classification
■	EB-1	1-2.5	29	39	12			ML
▲	EB-2	29.5-30.5	24	25	5			CL/ML

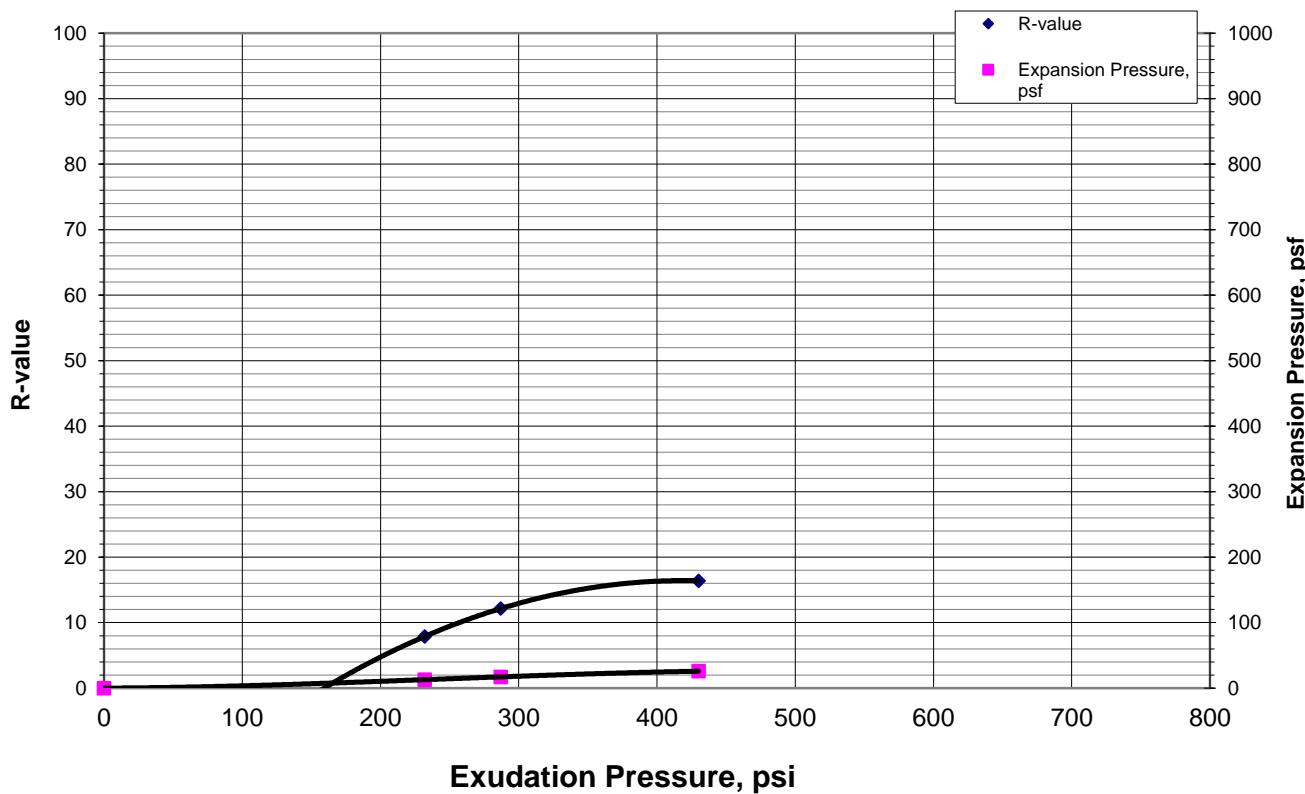
**PLASTICITY CHART**  
 HOME 2 SUITES 4-STORY HOTEL  
 MILPITAS, CALIFORNIA

**FIGURE B-1**  
 OCTOBER 2016  
 PROJECT NO. 3464-1A



## R-value Test Report (Caltrans 301)

Job No.:	192-204	Date:	09/20/16	Initial Moisture,	12.4
Client:	Romig Engineers, Inc.	Tested	PJ	R-value	13
Project:	Home 2 Suites-Milpitas - 3464-1A	Reduced	RU	Expansion	
Sample	Bag Sample	Checked	DC	Pressure	20 psf
Soil Type:	Olive Brown CLAY w/ Sand				
Specimen Number	A	B	C	D	Remarks:
Exudation Pressure, psi	430	287	232		
Prepared Weight, grams	1200	1200	1200		
Final Water Added, grams/cc	32	44	60		
Weight of Soil & Mold, grams	3216	3171	3077		
Weight of Mold, grams	2102	2106	2097		
Height After Compaction, in.	2.54	2.45	2.34		
Moisture Content, %	15.4	16.5	18.0		
Dry Density, pcf	115.2	113.1	107.6		
Expansion Pressure, psf	26	17	13		
Stabilometer @ 1000					
Stabilometer @ 2000	132	136	144		
Turns Displacement	2.78	3.12	3.10		
R-value	16	12	8		



**R-VALUE TEST RESULT**  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA

**FIGURE B-2**  
OCTOBER 2016  
PROJECT NO. 3464-1A

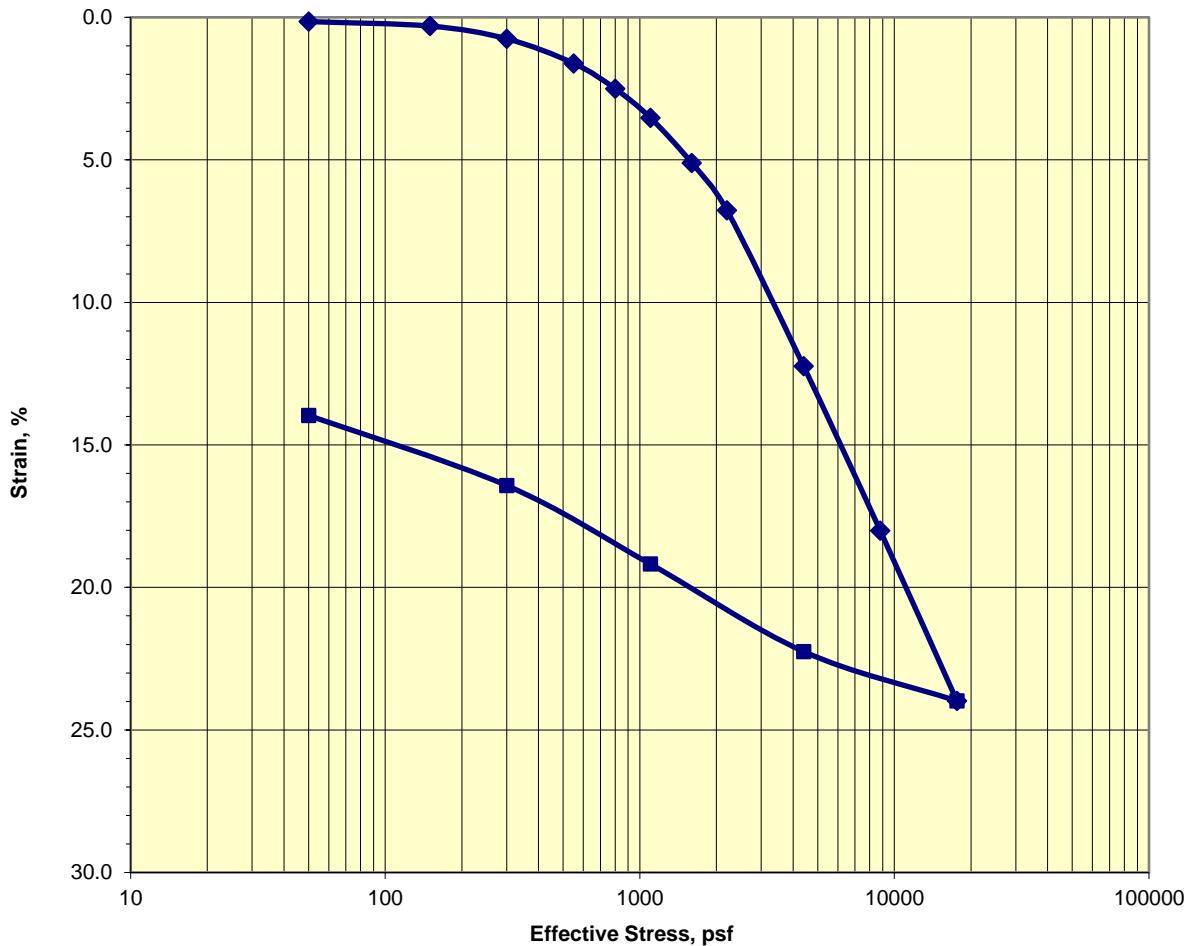


# Consolidation Test

ASTM D2435

Job No.: 192-204 Boring: EB-1 Run By: MD  
Client: Romig Engineers Inc. Sample: Reduced: PJ  
Project: Home 2 Suites-Milpitas - 3464-1A Depth, ft.: 15-17.5(Tip-3") Checked: PJ/DC  
Soil Type: Greenish Gray CLAY w/ Sand pockets (Bay Mud) Date: 10/3/2016

## Strain-Log-P Curve



Assumed Gs	2.8	Initial	Final
Moisture %:		49.8	37.7
Dry Density, pcf:		73.0	85.0
Void Ratio:		1.396	1.055
% Saturation:		99.9	100.0

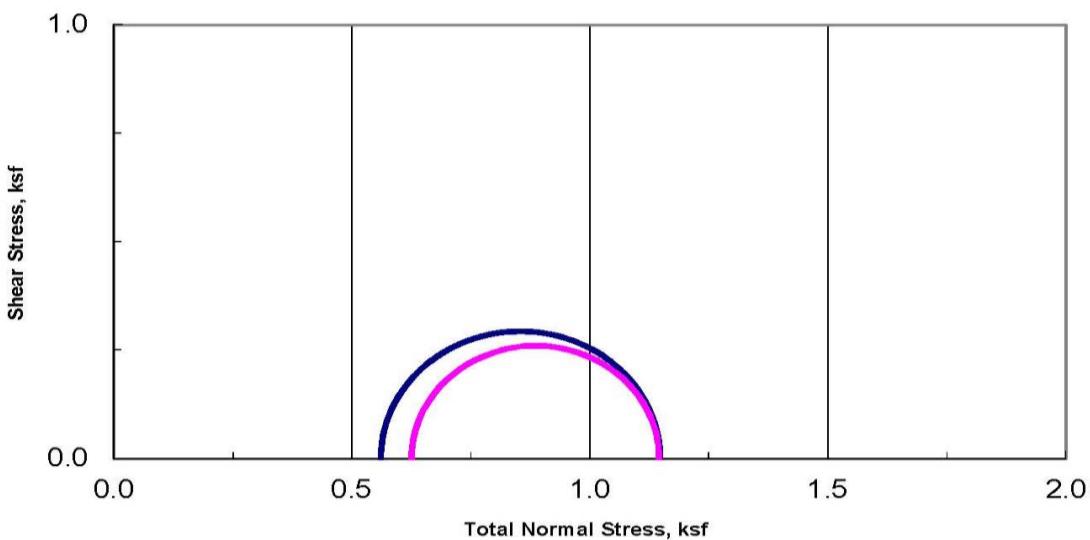
Remarks:

**CONSOLIDATION TEST RESULT**  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA

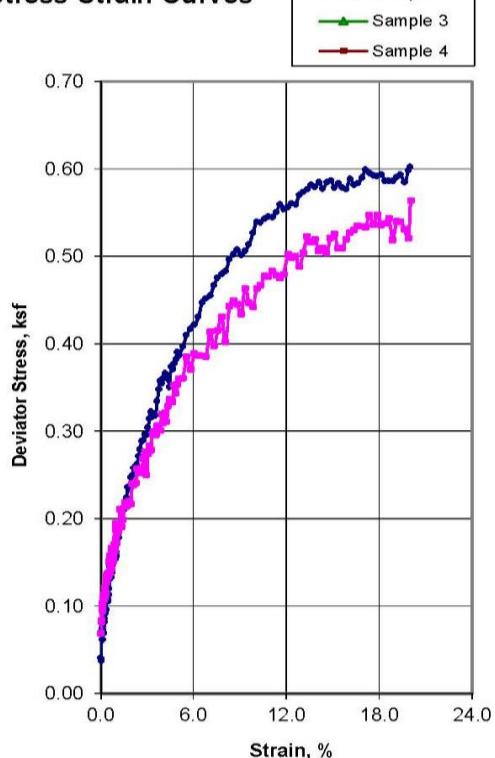
**FIGURE B-3**  
OCTOBER 2016  
PROJECT NO. 3464-1A



## Unconsolidated-Undrained Triaxial Test ASTM D2850



### Stress-Strain Curves



— Sample 1  
— Sample 2  
— Sample 3  
— Sample 4

### Sample Data

	1	2	3	4
Moisture %	49.8	27.0		
Dry Den,pcf	70.9	96.2		
Void Ratio	1.377	0.751		
Saturation %	97.7	97.0		
Height in	6.08	5.03		
Diameter in	2.87	2.40		
Cell psi	3.9	4.3		
Strain %	15.00	15.00		
Deviator, ksf	0.587	0.521		
Rate %/min	1.00	1.00		
in/min	0.061	0.050		

Job No.: 192-204  
Client: Romig Engineers Inc.  
Project: Home 2 Suites-Milpitas - 3464-1A  
Boring: EB-1 EB-2  
Sample:  
Depth ft: 15-17.5(Top-9") 19-19.5

### Visual Soil Description

Sample #  
1 Gray CLAY  
2 Gray Sandy CLAY  
3  
4  
Remarks:

Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.

UNCONSOLIDATED-UNDRAINED TRIAXIAL TEST  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA

FIGURE B-4  
OCTOBER 2016  
PROJECT NO. 3464-1A



## Corrosivity Tests Summary

CTL # 192-204 Date: 9/30/2016 Tested By: PJ Checked: PJ  
Client: Romig Engineers Inc. Project: Home 2 Suites-Milpitas Proj. No: 3464-1A

**Remarks:**

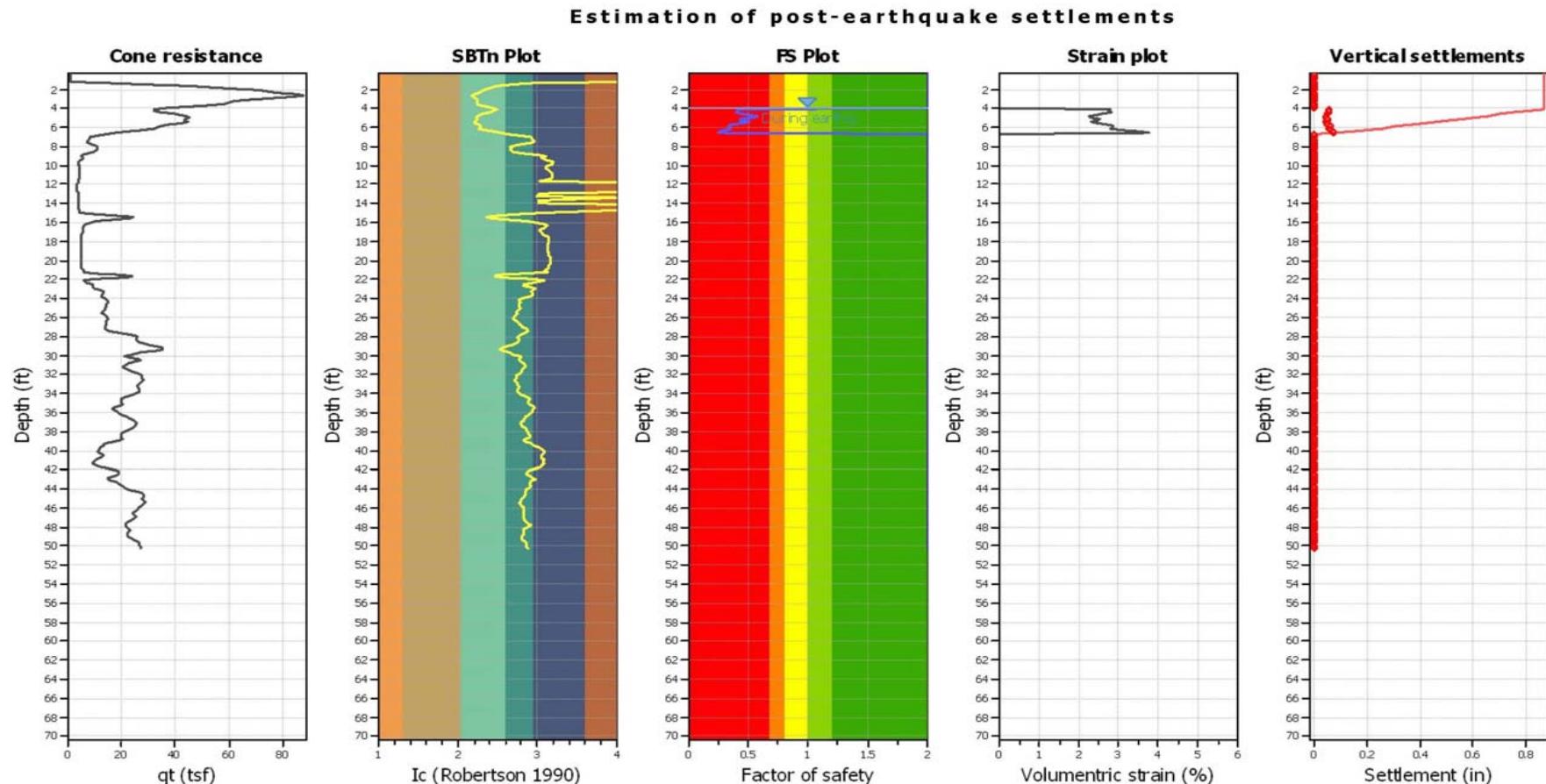
**CORROSIVITY TEST SUMMARY  
HOME 2 SUITES 4-STORY HOTEL  
MILPITAS, CALIFORNIA**

ROMIG ENGINEERS, INC.

**FIGURE B-5**  
OCTOBER 2016  
PROJECT NO. 3464-1A

**APPENDIX C**  
**LIQUEFACTION EVALUATION**



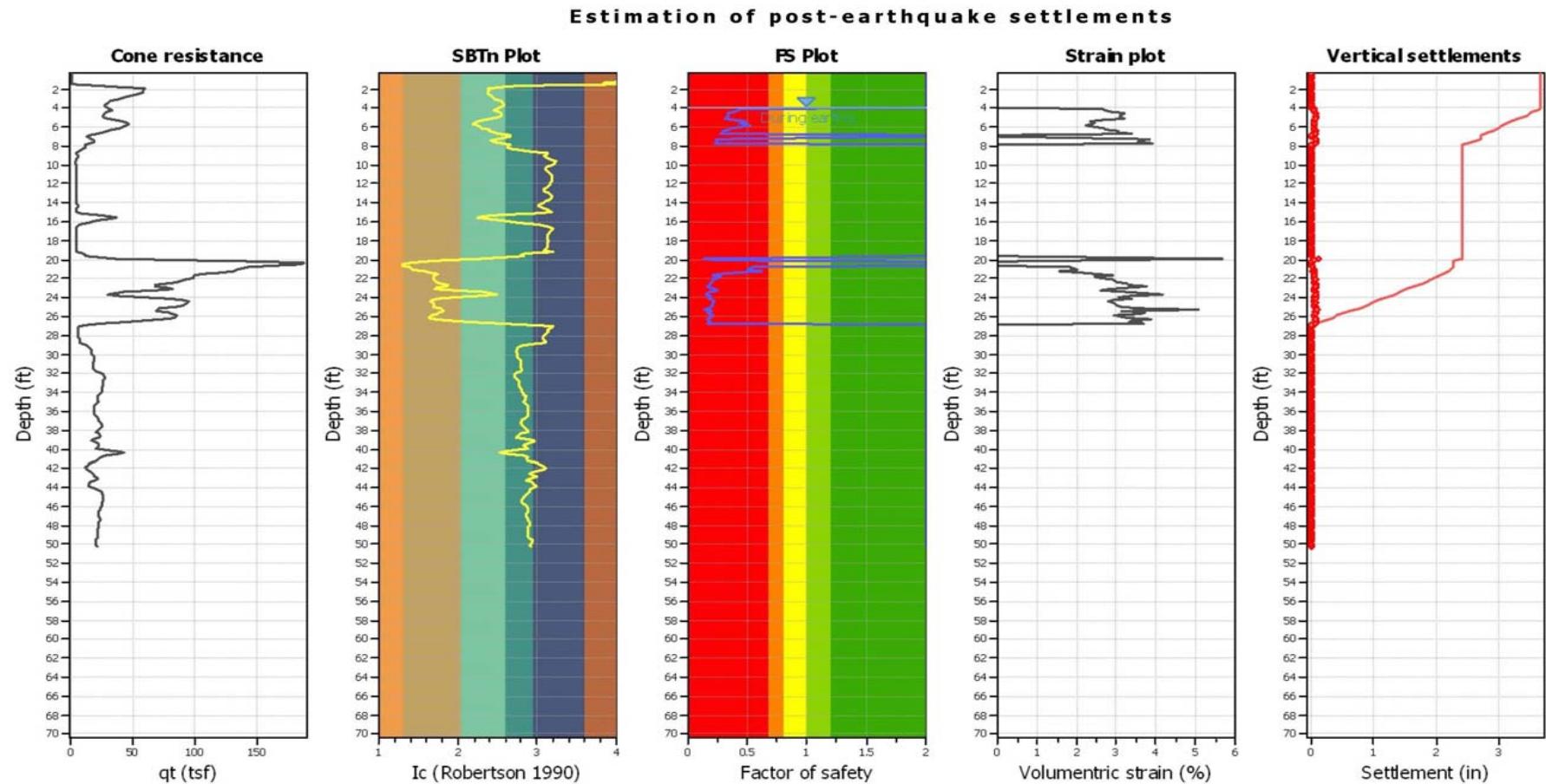


**Abbreviations**

q: Total cone resistance (cone resistance  $q_c$  corrected for pore water effects)  
 I<sub>c</sub>: Soil Behaviour Type Index  
 FS: Calculated Factor of Safety against liquefaction  
 Volumetric strain: Post-liquefaction volumetric strain

**LIQUEFACTION ANALYSIS FOR CPT-1**  
 PATEL HOME 2 SUITES  
 MILPITAS, CALIFORNIA

**FIGURE C-1**  
 OCTOBER 2016  
 PROJECT NO. 3464-1A

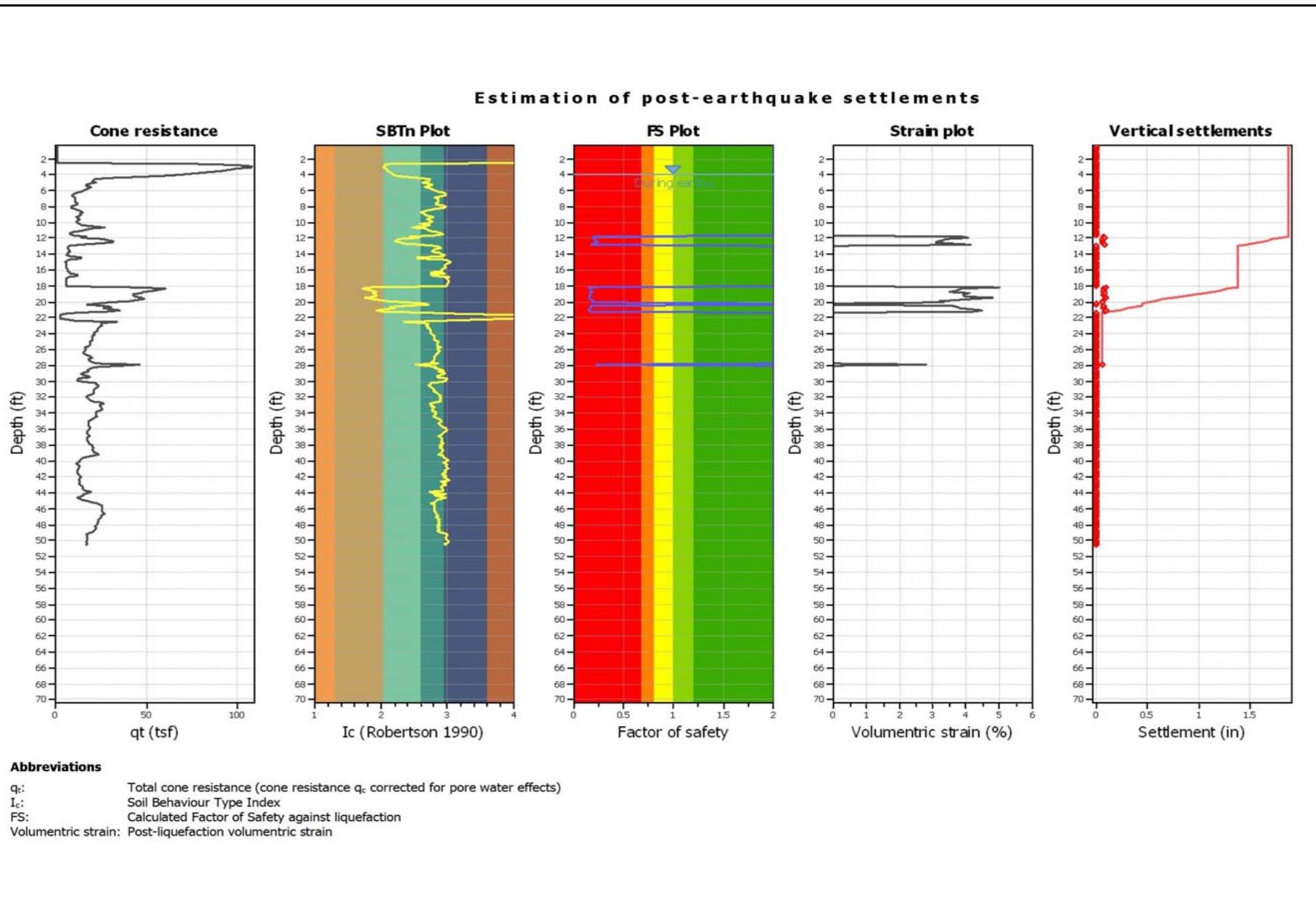


**Abbreviations**

q: Total cone resistance (cone resistance  $q_c$  corrected for pore water effects)  
 I<sub>c</sub>: Soil Behaviour Type Index  
 FS: Calculated Factor of Safety against liquefaction  
 Volumetric strain: Post-liquefaction volumetric strain

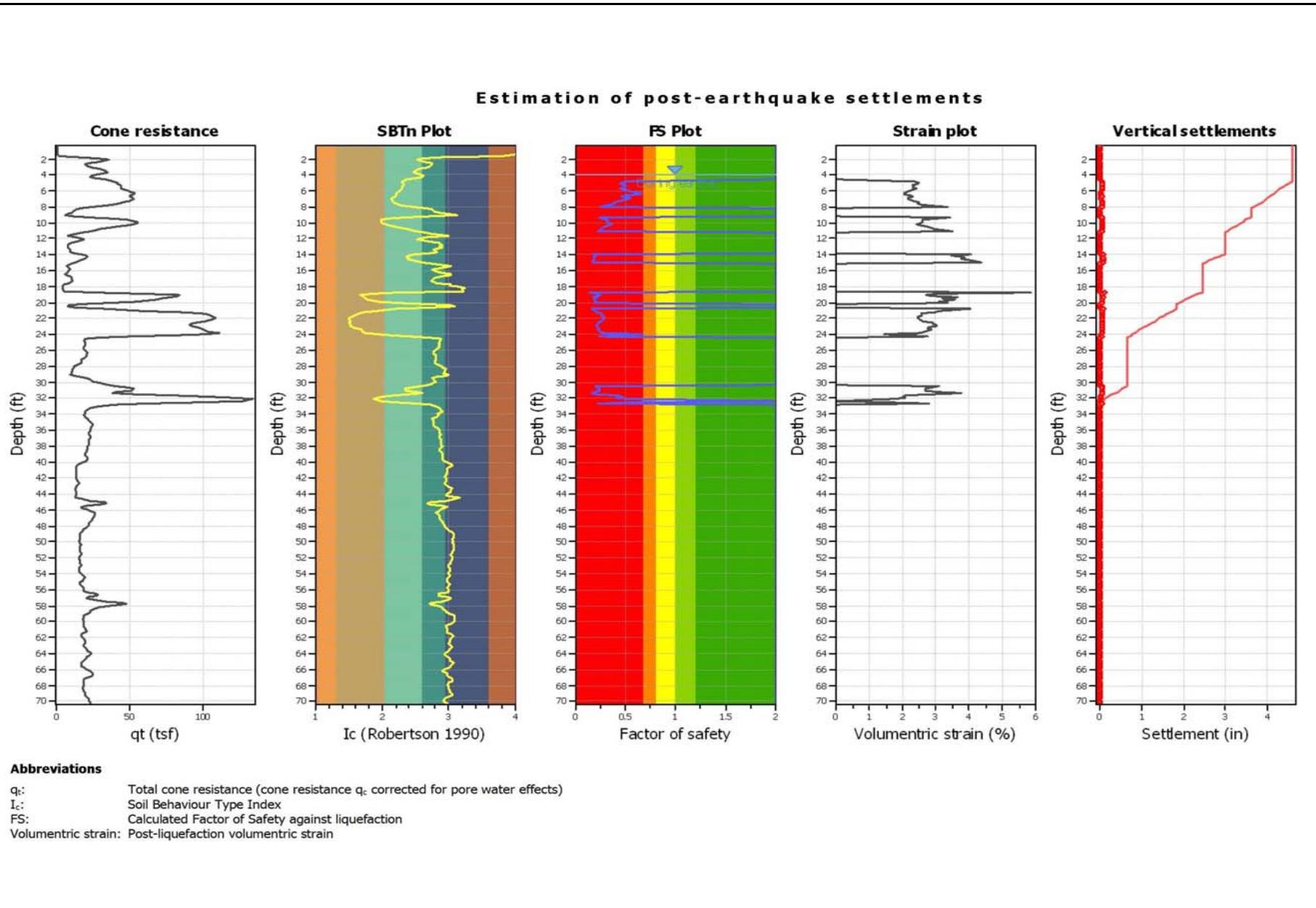
**LIQUEFACTION ANALYSIS FOR CPT-2**  
 PATEL HOME 2 SUITES  
 MILPITAS, CALIFORNIA

**FIGURE C-2**  
 OCTOBER 2016  
 PROJECT NO. 3464-1A



**LIQUEFACTION ANALYSIS FOR CPT-3**  
 PATEL HOME 2 SUITES  
 MILPITAS, CALIFORNIA

**FIGURE C-3**  
 OCTOBER 2016  
 PROJECT NO. 3464-1A



**LIQUEFACTION ANALYSIS FOR CPT-4**  
 PATEL HOME 2 SUITES  
 MILPITAS, CALIFORNIA

**FIGURE C-4**  
 OCTOBER 2016  
 PROJECT NO. 3464-1A

**Attachment D: Phase I Environmental Site Assessment**

**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
1301 CALIFORNIA DRIVE  
(APN 022-38-002)  
MILPITAS, CALIFORNIA 95035**

June 2015

Prepared for

**Mr. Alan Patel  
c/o Amdon Investments LLC  
2625 Constitution Drive  
Livermore, California 94551**

Project No. 3464-1

**ROMIG ENGINEERS, INC.**  
GEOTECHNICAL & ENVIRONMENTAL SERVICES

June 15, 2015  
3464-1

**Mr. Alan Patel**  
**c/o Amdon Investments LLC**  
2625 Constitution Drive  
Livermore, California 94551

**RE: PHASE I PRELIMINARY  
ENVIRONMENTAL SITE ASSESSMENT  
1301 CALIFORNIA CIRCLE  
MILPITAS, CALIFORNIA**

Dear Mr. Patel:

In accordance with your request we have performed a Phase I Preliminary Environmental Site Assessment (ESA) for the above-referenced property in Milpitas, California. The accompanying report summarizes the results of our field reconnaissance, regulatory and historical review, and presents our conclusions regarding the assessment. Our ESA did not reveal any hazardous waste or contaminant problems on this property.

This work was performed using guidance of the standard practice for phase one environmental assessments with the limitations noted in this report. We refer you to the report for detailed discussion of our study.

Thank you for the opportunity to work with you on this property. If you have any questions concerning our study, please call.

Very truly yours,

**ROMIG ENGINEERS, INC.**



Glenn A. Romig, P.E., G.E.



Christopher M. Palmer  
Senior Consulting Geologist C.E.G. 1262  
Qualified Environmental Professional

Copies: Addressee (3)

GAR: CMP

**PHASE I ENVIRONMENTAL SITE ASSESSMENT**  
**6.23 ACRE PROPERTY**  
**(APN 022-38-002)**  
**1301 CALIFORNIA CIRCLE**  
**MILPITAS, CALIFORNIA 95035**

**PREPARED FOR:**  
**MR. ALAN PATEL**  
**c/o AMDON INVESTMENTS LLC**  
**2625 CONSTITUTION DRIVE**  
**LIVERMORE, CALIFORNIA 94551**

**PREPARED BY:**  
**ROMIG ENGINEERS, INC.**  
**1390 EL CAMINO REAL, SECOND FLOOR**  
**SAN CARLOS, CALIFORNIA 94070**

**JUNE 2015**

## TABLE OF CONTENTS

	Page No.
Letter of transmittal	
Cover Page	
TABLE OF CONTENTS	
1.0 INTRODUCTION.....	1
1.1 Purpose .....	1
1.2 Involved Parties .....	2
1.3 Scope of Work.....	3
2.0 GENERAL SITE CHARACTERISTICS .....	3
2.1 Site Location.....	3
2.2 Adjacent Properties.....	4
2.3 Site Description and Current Site Uses .....	4
3.0 ENVIRONMENTAL SETTING.....	4
3.1 Regional Physiographic Conditions .....	4
3.2 Soil Conditions .....	4
3.3 Regional Geologic Conditions.....	4
3.4 Ground Water Conditions.....	5
4.0 RESULTS OF INVESTIGATON.....	5
4.1 Site Observations.....	5
4.2 Adjacent Site and Vicinity Observations.....	6
4.3 Results of Regulatory Agency Review .....	6
Table 1. Summary of Selected Contamination, Generator and Other Lists Reviewed .....	7
4.4 Results of the Site History Review .....	10
Table 2. Aerial Photographs Reviewed.....	11
4.5 Radon.....	13
5.0 CONCLUSIONS AND RECOMMENDATIONS .....	14
6.0 LIMITATIONS AND PROFESSIONAL DECLARATION .....	15
7.0 REFERENCES .....	17

**TABLE OF CONTENTS**  
(Continued)

FIGURE 1 - Site Topographic Map

FIGURE 2 - Site Sketch Map

FIGURES 3 through 8 - Site Photographs

APPENDIX A - Lien Search Report, Sanborn Maps

APPENDIX B - Selected Building Permits and/or Files, ESA Questionnaire

APPENDIX C - Historical Topographic and Tax Maps, Aerial Photographs

APPENDIX D - Qualifications of Environmental Professional

APPENDIX E - EDR Radius Report (Provided on attached CD)

APPENDIX F - EDR City Directory Abstract Report (Provided on attached CD)

APPENDIX G - EDR Vapor Encroachment Screen Report (Provided on attached CD)

APPENDIX H - EDR Building Permit Report (Provided on attached CD)

**PHASE I ENVIRONMENTAL SITE ASSESSMENT**  
**1301 CALIFORNIA CIRCLE**  
**(APN 022-38-002)**  
**MILPITAS, CALIFORNIA**

## **1.0 INTRODUCTION**

We are pleased to present this Phase I Environmental Site Assessment (ESA) for the referenced property in Milpitas, California. The site is located at 1301 California Drive in Milpitas, California (APN 022-38-002), as shown on the Vicinity Map, Figure 1 and Site Sketch Map, Figure 2.

### **1.1 Purpose**

The purpose of this ESA was to research the environmental setting of the property, site history, and contamination incidents reported at or near the site. The ESA may be used as a part of site inquiry to ascertain potential environmental problems that may be used to satisfy one of the requirements of CERCLA landowner liability (although it is our understanding that this site is not part of a specifically designated USEPA Brownfields Assessment). This work is performed using guidance of the standard practice for “all appropriate inquiry (AAI)” with the limitations noted in this report. Analysis of soil, soil vapor, ground water, lead paint, and mold or asbestos samples was not included in our scope of work. The purpose of the ESA was to ascertain whether a “recognized environmental concern” is present on the site property as outlined in the following definition;

Excerpted from:

*ASTM E-1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* Published Nov. 2013, American Society of Testing and Materials.

The purpose of this environmental site assessment was to identify the immediate and most recognizable environmental concerns at the subject property. The assessment was generally performed in accordance with the recommendations presented in the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, E1527-13 and accepted industry standards and practices.

The work included the following: Prior Use History Review, Environmental Database Review, Visual Reconnaissance, Preliminary ACBM Screen, PCB Equipment Search, AST and UST Search, Preliminary Radon Review, Preliminary LBP Screening, and Drinking Water Quality and searching for a “release” of contaminants into the surface or subsurface on the property through agency files and site reconnaissance. The ASTM Standard Practice defines the following:

- Recognized Environmental Condition (REC) as “the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; (3) under conditions that pose a material threat of future release to the environment. De minimus conditions are not recognized environmental conditions.”
- Historic Recognized Environmental Condition (HREC) as “a past release of any hazardous substance or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to a required controls (for example property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historic recognized environmental condition the environmental professional must determine whether the past release is a REC at the time the Phase I ESA is conducted (for example if there has been a change in the regulatory criteria).”
- Controlled Recognized Environmental Condition (CREC) as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a NFA letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example property use restrictions, AULs, institutional control, or engineering controls).”

## **1.2 Involved Parties**

We have been retained by Mr. Alan Patel (Client) to perform an ESA for the referenced property. According to the EDR environmental lien research A1 Pak Co LLC currently owns the property.

### **1.3 Scope of Work**

The scope of work of this study was presented in detail in our agreement with you dated May 13, 2015. This work was performed using guidance of the ASTM E1527-13 standard that includes practice for “all appropriate inquiry” (AAI), per the final rule issued November 1, 2005 and revised November 1, 2013. In order to accomplish this work, we have performed the following services:

- Observation of current conditions at the site, on the adjoining properties and in the immediate site vicinity.
- Review of available physical and historical setting records to help establish the site history and environmental setting. This included review of aerial photographs, topographic maps, and geologic and hydrogeologic literature. We were not provided a 50-year title search or review for this work.
- Review of selected government lists and databases to help establish whether contamination incidents have been reported at the site, or in the immediate vicinity. We also contacted and reviewed information as available from the City of Milpitas Building Department, the Santa Clara County Department of Environmental Health (CCCEHD), Building and Assessors offices, the State Regional Water Quality Control Board (RWQCB) and the State Department of Toxic Substances for relevant information relating to property.
- Review of environmental lien and activity use limitation information (if any) provided by EDR and other information as available from the Client.
- Preparation of this report as a summary of our findings.

The following limitations/deviations to the Phase I scope were as follows:

- We did not speak to the previous owners, neighbors or former tenants. We did receive an ESA questionnaire from the owner, but did interview the owner on our site visit.

## **2.0 GENERAL SITE CHARACTERISTICS**

### **2.1 Site Location**

The property is a roughly rectangular-shaped parcel of about 6.23 acres located at 1301 California Drive in Milpitas, California. The Site Topographic Map, Figure 1, shows the general location of the site and adjoining properties.

## **2.2 Adjacent Properties**

The site is located in a commercial urban area in Milpitas. The adjoining properties to the site include office buildings to the north and east, a partially demolished building to the south, and a concrete-lined canal and Interstate Highway 880 to the west.

## **2.3 Site Description and Current Site Uses**

At the time of our site visit, the subject property was developed with a one-story 100,000 square-foot building with asphalt parking lots and small landscaped areas.

The approximate site layout is shown on the Site Sketch Map, Figure 2.

## **3.0 ENVIRONMENTAL SETTING**

### **3.1 Regional Physiographic Conditions**

EDR provided a historic topographic map review for the property. Topographic maps were reviewed to gather physiographic information and included the San Jose 15-minute maps (1899, 1953 and 1961 maps). We also reviewed the Milpitas 7.5-minute map (1953) and photorevised versions 1961, 1968, 1973, and 1980. These topographic maps show that the site area is located at an elevation of about 10 feet above mean sea level and that the area gently slopes to the west. The property is undeveloped on all maps through 1980. No other pertinent information was noted.

### **3.2 Soil Conditions**

Geologic information for the area indicates Quaternary-age alluvial deposits and Tertiary rocks underlie the site region. Soil surveys have mapped surface soils as Clear Lake Clay composed of silty clay loam with very low infiltration rates.

### **3.3 Regional Geologic Conditions**

The property is located in northeastern Santa Clara County. The region is underlain by thick sequences of Mesozoic and Cenozoic rocks, and Pleistocene and Quaternary unconsolidated sand, gravel, silt and clay deposits. Northwest-trending large, regional active fault systems that generate damaging earthquakes cut across the region. The Hayward fault is about 1 mile east; the Calaveras fault about 5 miles east; the Concord-Green Valley fault is about 30 miles north; and San Andreas fault is about 15 miles southwest of the property.

### **3.4 Ground Water Conditions**

The site lies in the Santa Clara Valley Ground Water Basin. Regional ground water flow direction in the area is estimated as westerly in the property vicinity. The depth to shallow ground water is estimated at about 5 to 10 feet below the surface. Deeper large aquifers in the region below about 100 to 300 feet or deeper supply large quantities of groundwater for municipal, drinking water and industrial use.

The property occurs on relatively flat ground and is listed within a 100-year flood plain but is not listed in a 500-flood zone (EDR-cited FEMA DFIRM 06085C) see EDR Radius Report). Coyote Creek occurs about one-half mile west of the property. A concrete-lined canal occurs at the western property border.

We did not observe any water bodies or vegetation indicative of wetlands on the subject property. “Wetlands” is a general term used to describe a variety of ecosystems, which may include prairie potholes, marshes, fens, bogs, wet meadows, and swamps.

## **4.0 RESULTS OF INVESTIGATION**

### **4.1 Site Observations**

Our representative, Christopher Palmer visited the site on June 3, 2015 and was accompanied by Mr. Amrat Patel and owner broker Mr. Brian Kelly. Photographs taken during our site reconnaissance are presented in Figures 3 through 8.

The subject property is developed with one two-story office building, with parking lots and landscaping. The property is reported vacant for about the last five years and temporary fencing surrounds the property perimeter. A concrete-lined canal is present just beyond the property western boundary, between the property and Interstate Highway 880 (see Figure 2). The sign “Equastone” was stenciled at the entrance of the building.

The building is divided into large spaces for walled-offices and large open common areas. The building interior has been severely damaged by vandals and has been used for living space by homeless people. Numerous interior and exterior facing windows and skylights have been broken. A large hole has been chopped through the roof and mold is present on carpet and walls. Vandals have extensively painted walls and carpeting with graffiti and have torn down the drop ceiling panels and light fixtures. Apparently some theft of building electrical wiring has also occurred. Dozens of spray paint cans litter the building floors. The landscaping has not been maintained and is overgrown.

Minor stains on the parking lot are assumed drippings from vehicle parking. One pad mounted-mounted transformer (T71) occurs on the south side of the building; no stains were observed near the transformer. We did not observe any pits, ponds, stains, odors or materials suggestive of hazardous storage or spills, and we did not observe any surface indications of underground storage tanks on the subject property.

#### **4.2 Adjacent Site and Vicinity Observations**

Our drive-by of the immediate site vicinity revealed that the general site vicinity is generally developed as commercial buildings. The adjoining properties to the site include office buildings to the north and east, a partially demolished building to the south, and Interstate Highway 880 to the west. Please note that our site vicinity reconnaissance was limited to a visual observation of the exterior of the facilities in the immediate area around the site. Other facilities, which use hazardous materials, may exist in the general site vicinity.

#### **4.3 Results of Regulatory Agency Review**

##### **City of Milpitas Building Department**

The Milpitas Building and Planning Department was visited to review available permit information for the property (see also EDR Building Permit Report and Appendix B). The earliest permit #30011 dated 4/23/84 was for a 100,000 square foot industrial shell. Other permits include #39600 dated 3/15/84 for site grading and #35591 dated 9/20/84 for a roof.

##### **Milpitas Fire Department, Fire Prevention**

The Milpitas Fire Department was contacted by fax request for files for the property address. The Fire Department did not report any files for the property address.

##### **Santa Clara County Environmental Health Department**

We contacted the Santa Clara County Environmental Health Department (EHD) by email request for file review regarding underground tank or hazardous materials files for the property addresses. EHD did not have any files for the property address.

##### **Regional Water Quality Control Board (RWQCB)**

We contacted the San Francisco Bay Area Regional Water Quality Control Board GEOTRACKER website and there were no listings for the property address.

### **Department of Toxic Substances Control (DTSC)**

We contacted the Department of Toxic Substances Control (DTSC) ENVIROSTOR website to check the property addresses for listing as a contaminant site. According to the DTSC information there were no files listed for the site address.

### **Reported Spills**

Several United States Environmental Protection Agency (EPA) and State of California environmental record lists or databases were reviewed for information on reported contamination incidents, and hazardous materials generators, in the general site vicinity. EDR prepared a database review of a number of the lists reviewed, the search radius, and an explanation of the abbreviations used in the following text are presented in Table 1 below. A more complete explanation of the lists reviewed, and a map showing the location of identified sites, are presented in Appendix E. EDR maintains contact with those agencies and periodically updates the lists. In some cases agencies no longer use or update certain lists. The EDR search of available ("reasonably ascertainable") government records did not reveal any mapped site for the following federal databases: National Priority List (NPL), Proposed National Priority List (Proposed NPL), nor the Emergency Response Notification System (ERNS). Selected regulatory database lists are shown below; please refer to the EDR database search in Appendix E for more information.

**Table 1. Summary of Selected Contamination, Generator and Other Lists Reviewed**  
**1301 California Circle**  
**Milpitas, California**

### **Federal Records**

List Name	Date rept active by EDR or Updated	Search Radius (mile/s)	Subject site Listed?	<1/8 mile	1/8-1/4 mile	1/4-1/2 mile	1/2-1 mile	Over 1 Mile	Total
NPL	<b>2/9/15</b>	<b>1.0</b>							<b>0</b>
Proposed NPL	<b>2/9/15</b>	<b>1.0</b>							<b>0</b>
Delisted NPL	<b>2/9/15</b>	<b>1.0</b>							<b>0</b>
NPL Liens	<b>11/28/11</b>	<b>TP</b>							<b>0</b>
CERCLIS	<b>2/13/14</b>	<b>0.5</b>							<b>0</b>
CERCLIS-NFRAP	<b>2/13/14</b>	<b>1.0</b>							<b>0</b>
CORRACTS	<b>1/29/15</b>	<b>1.0</b>							<b>0</b>
RCRA-TSD	<b>1/29/15</b>	<b>0.5</b>							<b>0</b>
RCRA-LQG	<b>1/29/15</b>	<b>0.25</b>		<b>1</b>					<b>1</b>
RCRA-SQG	<b>1/29/15</b>	<b>0.25</b>		<b>5</b>					<b>5</b>
RCRA-CESQG	<b>1/29/15</b>	<b>0.25</b>							<b>0</b>
RCRA-NON GEN	<b>1/29/15</b>	<b>0.25</b>		<b>1</b>					<b>1</b>
ERNS	<b>11/6/14</b>	<b>TP</b>							<b>0</b>
HMIRS	<b>11/6/14</b>	<b>TP</b>							<b>0</b>
US ENG CONTROLS	<b>10/20/14</b>	<b>0.5</b>							<b>0</b>
US INST CONTROL	<b>10/20/14</b>	<b>0.5</b>							<b>0</b>
DOD	<b>1/11/07</b>	<b>1.0</b>							<b>0</b>

FUDS	9/18/14	1.0							0
US BROWN-FIELDS	1/29/15	0.5							0
CONSENT	2/24/14	1.0							0
ROD	2/24/14	1.0							0
UMTRA	3/1/12	0.5							0
ODI	9/17/04	0.5							0
TRIS	9/11/13	TP							0
TSCA	1/29/15	TP							0
FTTS AND HIST FTTS	5/11/09 5/11/09	TP							0
SSTS	2/25/11	TP							0
US CDL	3/25/15	TP							0
PADS	11/17/14	TP							0
MLTS	1/29/15	0.25							0
MINES	11/17/14	TP							0
FINDS	3/25/15	TP							0
RAATS	6/7/95	1.0							0
RESPONSE	3/18/15	1.0							0

TP = Target Property

## STATE RECORDS

List Name	Date rept active by EDR or Updated	Search Radius (mile/s)	Subject site Listed?	<1/8 mile	1/8-1/4 mile	1/4-1/2 mile	1/2-1 mile	Over 1 Mile	Total
Hist Cal-sites	8/24/06	1.0							0
Toxic Pits	9/26/95	1.0							0
CDL	3/18/15	TP							0
CA Bond Exp. Plan	6/02/94	1.0							0
SCH	9/26/14	0.25							0
SWL/LF	3/3/15	0.5							0
CA WDS	6/29/07	TP							0
WMUDS/SWAT	5/10/00	0.5							0
NPDES	3/24/15	0.5							0
Cortese	11/19/14	0.5							0
Hist Cortese	4/8/09	0.5				2			2
Hist UST	2/12/91	0.5			2				2
LUST	10/27/14	0.5				2			2
SLIC	3/24/15	0.25				2			2
UST	3/26/15	0.25							0
CA FID UST	5/14/09	0.25		1					1
HIST UST	10/23/14	0.5				2			2
SWRCY	3/26/15	0.25			1				1
AST	10/1/09	1.0		1					1
WIP	8/3/09	0.25							0
SWEEPS UST	8/11/05	0.25		1					1
CHMIRS	2/26/15	TP							0
HMIRS	3/9/15	TP							0
Notify 65	9/26/14	1.0					1		1
DEED	8/21/14	0.5							0
VCP	3/18/15	0.5							0
DRY CLEANERS	3/12/15	0.25							0
RESPONSE	10/6/14	TP							0
HAZNET	11/19/14	0.25							3
HWP	3/3/15	TP					1		1
EMI	4/28/14	TP							0
CUPA LISTINGS	3/4/15	0.25		3					3
ENVIROSTAR	3/18/15	TP		2		2	2		6
Santa Clara Cnty	4/23/15	1.0				2			2

TP = Target Property

**EDR PROPRIETARY RECORDS**

List Name	Updated	Search Radius (mile/s)	Subject site Listed?	<1/8 mile	1/8-1/4 mile	1/4-1/2 mile	1/2-1 mile	Over 1 Mile	Total
MANUF. GAS PLANTS		<b>1.0</b>							<b>0</b>
EDR Hist. Auto Stations		<b>0.5</b>							<b>0</b>
EDR Hist. Cleaners		<b>0.25</b>							<b>0</b>
EDR Recovered Government Archives LF		<b>0.5</b>							<b>0</b>
EDR Recovered Government Archives LUST		<b>0.5</b>							<b>0</b>

TP = Target Property      X - Target Property address listed on database

\* - Date listed is date of activation of regulatory database by EDR for search or if list not updated, last date of EDR contact with agency. See EDR Radius report for more information.

The target property address of 1301 California Drive is not listed on databases by EDR.

The area around the subject property has listings for active and closed groundwater contaminant sites (see EDR report). The following sites were listed on databases prepared by EDR within about 1,700 feet of the subject property that may indicate a site use or site history that can be associated with ground water or soil vapor contamination:

Listed Site	Distance from Subject Property as Plotted by EDR	Brief Summary
Computer Products-BPSCHERT 1331 California Circle	32 ft ENE apparent up gradient	RCRA-SQG, FINDS, HAZNET: Small Quantity Generator, laboratory waste chemicals, no violations found.
Quartz international, Inc. 1181 Cadillac Ct	318 ft SSE apparent side to up gradient	ENVIROSTOR: Tiered Permit, Inactive – Needs Evaluation.
Solexir Technology 509 Fairview Way	385 ft SSE apparent side to up gradient	RCRA-LQG, FINDS: Large Quantity Generator, no violations found.
City of Milpitas 1735 California Circle	1909 ft N apparent side to down gradient	HIST CORTESE, LUST, HIST LUST, EMI: Lust Cleanup site, Completed Case Closed.

In our opinion, the remaining listed sites in the table above are either closed or in locations that should not affect the subject property by either soil vapor or groundwater contaminants. Several sites that are open are under regulatory review. We performed a preliminary review of potential sites with soil, soil vapor and/or groundwater contaminants and in our opinion these sites have a low potential for affecting the subject property (see also attached EDR Vapor Encroachment Report). No other spill incidents listed by EDR were noted which appear to have the potential to impact the subject property in our opinion.

Several facilities that reportedly use, generate, store or treat hazardous materials in the area were also identified in the property area on databases searched. No active landfills or transfer stations were identified within the radius searched.

#### **Environmental Lien Report**

Environmental Data Resources (EDR) researched whether environmental liens had been filed on the property APN numbers. No liens or activity use limitations were found. The environmental lien report is presented in Appendix A.

#### **Preliminary Title Report**

A Preliminary Title report was forwarded to us for review. There were no environmental issues noted.

#### **Specialized Knowledge**

There was no special knowledge provided to us for the subject property.

#### **Commonly Known or Reasonably Ascertainable Information**

We searched available State, City and County sources for property information and have had a database provider search the property APN/address.

#### **Valuation Reduction for Environmental Issues**

There is no information provided to us regarding any property value reduction issues.

### **4.4 Results of the Site History Review**

#### **Personnel Interviews**

Mr. Brian Kelly of Kelly Commercial Real Estate Services is the property owner representative and accompanied the Romig representative who interviewed him on the June 3, 2015 site visit. Mr. Kelly stated that the building had been used for "high tech" office space and there were no industrial or laboratory use of the property. The building had been extensively vandalized over about the last five years. The property owner returned an ESA questionnaire and stated to their knowledge there were no underground storage tanks or any hazardous materials problems reported on the property.

### **Interviews with the Local Government Officials**

We contacted the City of Milpitas and Santa Clara County Environmental Health Department regarding file searches for the property address for building permits and hazardous materials files. There were no records for the property address or APN regarding underground storage tanks. We also used web-based search software for the DTSC ENVIROSTOR database and Regional Water Quality Control Board (RWQCB) GeoTracker database for files for the site address.

### **Aerial Photographs**

We reviewed historical aerial photographs supplied by the EDR-Aerial Photography Print Service to help establish prior land use. The photographs reviewed are listed in Table 2 below. No aerial photographs were reviewed prior to 1939 or after 2012 for the property.

**Table 2. Aerial Photographs Reviewed**  
**1301 California Drive**  
**Milpitas, California**

<b><u>Date</u></b>	<b><u>Scale</u></b>	<b><u>Flyer</u></b>
1939	1"=500'	USGS
1948	1"=500'	USGS
1950	1"=500'	USGS
1956	1"=500'	USGS
1966	1"=500'	USGS
1968	1"=500'	USGS
1974	1"=500'	USGS
1982	1"=500'	USGS
1993	1"=500'	USGS/DOQQ
2005	1"=500'	USDA/NAIP
2006	1"=500'	USDA/NAIP
2009	1"=500'	USDA/NAIP
2010	1"=500'	USDA/NAIP
2012	1"=500'	USDA/NAIP

The property appears undeveloped in the 1939, 1948 and 1950 photographs and the land does not appear to be farmed and no orchards are present. No changes are observed on the property in the 1956 photograph although the two-lane road is present just west of the property that will become Interstate 880 (I-880). The property is undeveloped from 1968 through 1974. Construction activity in the 1982 photograph appears to be the initial site development with grading for California Circle. The existing building has been

constructed together with the I-880 interchange and other commercial developments along California Circle in the 1993 photograph. There are no changes on the subject property in the 2005 and 2006 photographs, however the remaining area to the east has been completely developed in urban land use. The subject property appears similar with no changes noted in the 2009, 2010 and 2012 photographs.

### **Historical Maps**

Topographic maps were reviewed to gather physiographic information for the property. We reviewed the San Jose 15-minute (1899, 1953 and 1961) maps and the Milpitas 7.5-minute maps (1953, and photorevised in 1961, 1968, 1973, and 1980). These topographic maps show that the site area is located at an elevation of about 10 feet above mean sea level and that the area gently slopes to the west. The property is undeveloped on all maps through 1980. A golf course is marked on the 1980 map that appears to be just south of the subject property. No other pertinent information was noted.

### **Sanborn Maps**

Sanborn Mapping was researched through EDR, to establish whether historical Sanborn maps were available for the site. These maps were originally produced to show buildings in sufficient detail to allow insurance underwriters to estimate risks and premiums. EDR research showed that there are no maps for the property.

### **City Directories**

EDR prepared a City Directory search from available editions of the Haines and Company, Pacific Bell White Pages, Pacific Telephone, and Polk City Directories from 1922 to 2013 with address listings by year as follows (see EDR report for complete listings). EDR provides images of the directory in their report. There were no listings for the address 1301 California Circle.

### **Asbestos-Containing Materials (ACM) and Lead Paint (LBP)**

A material is defined to be ACM, under California State regulations, if it contains greater than 0.1% asbestos by weight. When referring to asbestos, friable means the material, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM are more likely than non-friable ACM to release fibers when disturbed or damaged. The level of the preliminary screening performed was designed solely to identify the presence of the most obvious and common ACM, not to comply with the survey requirements of the Asbestos Hazard Emergency Response Act (AHERA) of 1986. The Occupational Safety and Health Administration (OSHA) found the installation of friable surfacing material and thermal system insulation after December 31, 1980 unlikely. The definition of suspect ACM and presumed asbestos containing material is taken from 29 CFR Parts 1910, et al. Occupational Exposure to Asbestos; Final Rule.

LBP, as defined in the department of Housing and Urban Development (HUD) regulations, are paints that contain greater than 0.5% or (5,000) ppm of lead, based on dry weight. Section 302 of the Lead-Based Paint Poison Prevention act requires public housing projects to be inspected for LBP. The sale of paints containing more than (600) ppm of lead to consumers was banned by the Consumer Product Safety Commission (CPSC) in 1978. The CPSC ban does not apply to structural steel building components, such as columns, beams, and decking, that are painted as part of the fabrication process.

Mr. Mike Schoedinger of Patriot Environmental Laboratory Services, Inc. in San Jose was conducting an asbestos and lead paint survey of the building at the time of our site visit.

#### **ESA User Questionnaire**

We received an ESA questionnaire from the property owner representative (see Appendix B). Hazardous materials use, spills or contaminant problems have not been reported at the subject property according to the questionnaire.

#### **Data Gaps and Data Failures**

In our opinion there are no data gaps in this study. Topographic maps dating to 1899 and aerial photographs dating to 1939 show that the property was undeveloped until the 1980s. Milpitas Building Department permits show that the existing building was permitted and constructed in 1984 and this is the original development for the property. The building was used for office space since that time. The property use appears verified by the historic research.

A data failure may occur when all the standard historic sources that are reasonably ascertainable have been reviewed to first use or 1940 and the objectives have not been met. A data failure by itself is not inherently significant but may be significant if it raises reasonable concerns. We did not interview the property owner, or any neighbors or previous owners. Since other information sources have provided the necessary property history, we do not consider this to be a significant data failure for this ESA.

#### **4.5 Radon**

The California Department of Health Services has conducted radon testing of 2,858 sites in California. Of these sites, 3.8 percent had radon levels above 4 pCi/l (Pico curies per liter) with the highest level being 29 pCi/l. EPA recommends that action be taken to reduce levels with between 4 and 26 pCi/l over a period of a few years. The USEPA Radon Zone for Contra Costa County is 2. No radon was detected above 4 pCi/l for the sites tested for the County as reported in the EDR Radius report. Radon is not believed to be a concern at the subject property.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of our study was to briefly review the history and environmental setting of the property. Our history review revealed that the subject property was undeveloped prior to 1940. The existing building was developed in 1984 and was used for office space since that time. The building has been vacant for about the last five years and vandals and homeless individuals have extensively damaged the interior. Electrical wiring has been reported stolen, and trash and dozens of spray paint cans litter the interior. The property owner representative has not reported contaminant or hazardous materials problems at the property address.

The State and local file review materials did not reveal any underground storage tanks, hazardous materials use or any contaminant problems reported for the property address. The City, County and State agency file reviews did not reveal the presence of an AST, motor oil or fuel UST, pits, lagoons or use or suspect disposal on the property. Our research did not reveal nearby sites with groundwater or soil vapor contaminants that in our opinion would impact the property.

Our review of federal and state environmental generator and spill lists revealed that several LUST and groundwater contaminant cases have been reported in the general site area and as discussed above. However, in our opinion the identified spills have been investigated or closed by the State or Federal agencies, or are located far enough from the site as to have little likelihood of impacting the site.

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 for the property at 1301 California Drive, Milpitas, California (APN 022-38-002). Any exceptions to, or deletions from, this practice are described in Section 1.3 and in text of this report.

This ESA did not reveal evidence of a recognized environmental condition in connection with the property.

We recommend the following:

- Patriot Environmental Laboratories, Inc. is performing testing for asbestos and lead paint in the existing building. A copy of that report should be reviewed when completed for any recommendations regarding asbestos and lead paint presence in the structure.
- The numerous spray paint cans and other trash should be properly disposed according to the County of Santa Clara County Environmental Health Department regulations.

## **6.0 LIMITATIONS AND PROFESSIONAL DECLARATION**

As with all preliminary site assessments, the amount of information obtained is a function of both time and budgetary constraints. Our conclusions regarding the site are based on observation of existing conditions, review of selected agency files and data collected by third parties, and our interpretation of readily available site history and usage data. Any study such as this must be qualified in that no soil or ground water analysis was performed. Soil, soil vapor, ground water, lead paint or asbestos analysis lead to a more reliable assessment of environmental conditions; conditions which often are not apparent during typical Phase I activities. If you desire a greater degree of confidence, soil, soil vapor, ground water or additional analysis could be performed to more definitively establish current environmental conditions.

This report has been prepared for the exclusive use of Mr. Alan Patel of Amdon Investments LLC, our Client. We make no warranty, expressed or implied, except that our services were performed in accordance with environmental engineering principles generally accepted at this time and location. The professional staff of Romig Engineers, Inc., in accordance with the generally accepted professional practices and from guidance with the standard practice of ASTM E 1527-13, has prepared the findings and analysis contained in this Phase One Environmental Site Assessment Report with the exceptions or limitations noted in the report. Please note that this report is valid for 180 days from the date of report issuance.

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Users must take into account their specialized knowledge to identify conditions of releases or threatened releases. Commonly known or reasonably ascertainable information within the local community about the property must also be taken into account by the user. This study is designed to reduce, but not eliminate, uncertainty regarding the existence of such conditions in a manner that recognizes reasonable limits of time and cost.

Some of the information provided in this Phase I Environmental Site Assessment report is based upon personal interviews and research of available documents, records and maps held by appropriate government and private agencies. This is subject to the limitations of the historical documentation, availability and accuracy of pertinent records, and the recollection of those persons contacted and interviewed. The information contained in this report has received appropriate technical and peer review. The findings and analysis represent professional judgments and are based upon the investigations conducted and the review and interpretation of such data based on our experience and expertise according to the existing standard. No warranty or guarantee is expressed or implied. The scope of

services within this Phase I Environmental Site Assessment did not include sample collection and/or analysis for hazardous materials. In addition, it did not include a property title search or evaluation of mold/fungi, asbestos, lead paint, radon or seismic risk.

The findings and analysis set forth in this report are strictly limited in time and scope to the date of the evaluation(s), and for the use of our client.

The Qualified Environmental Professional preparing this report declares, to the best of my professional knowledge and belief, that he meets the definition of the Environmental Professional as defined in sec. 312.10 of 40 CFR 312 and has the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. We have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR part 312.

## 7.0 REFERENCES

California Department of Health Services, September 1991, "Annual Average Radon Concentrations in California Residences."

California Department of Water Resources, California's Groundwater Bulletin 118, Update 2003.

California Regional Water Quality Control Board GeoTracker website.

California Department of Toxic Substances Control Envirostor website.

Santa Clara County Environmental Health Department.

City of Milpitas Fire Department.

City of Milpitas Building Department.

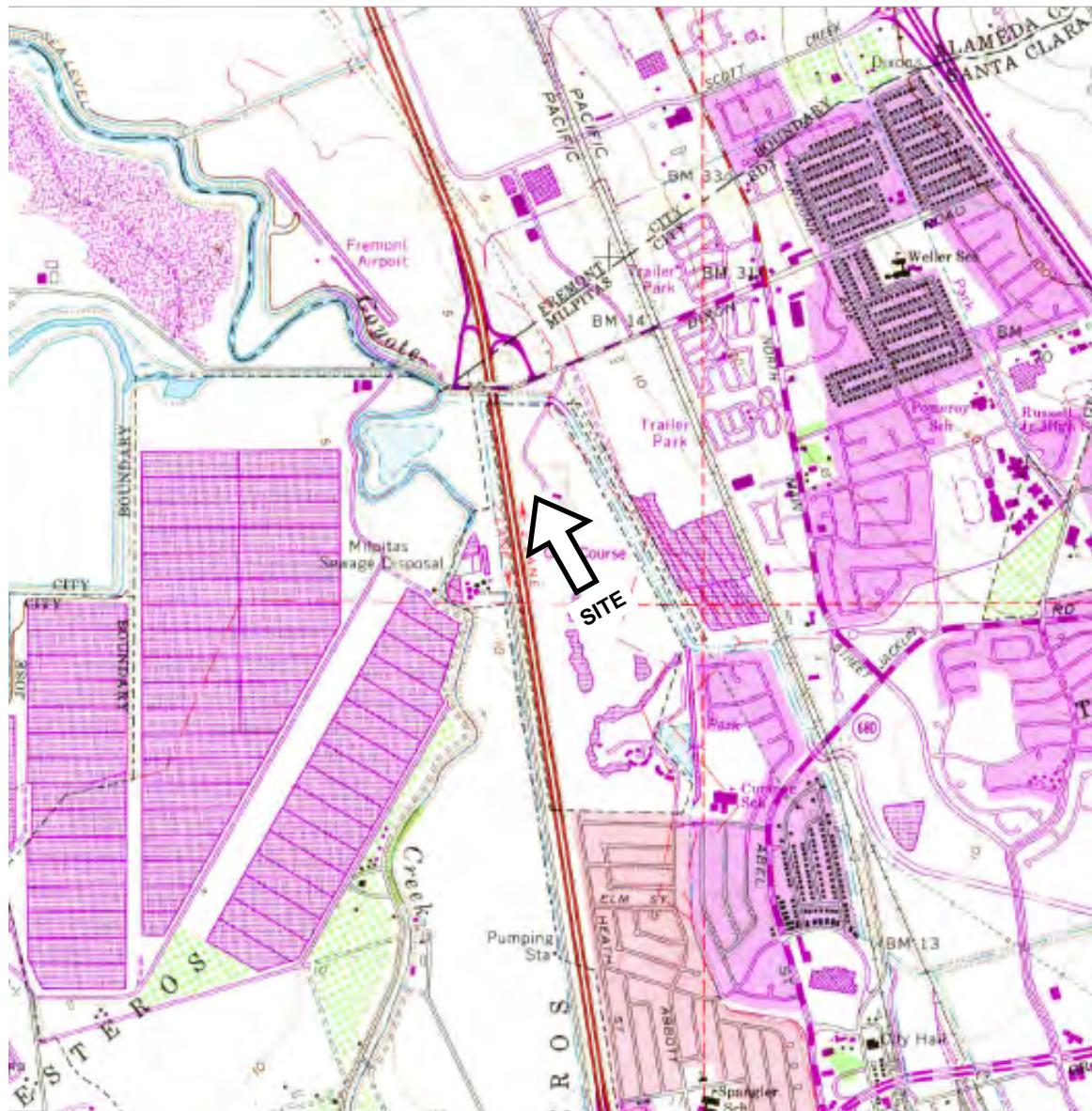
EDR Radius Report, Property at 1301 California Circle Milpitas, CA 95035 dated June 1, 2015 Inquiry Number: 4311870.2s with Topographic Map, Aerial Photograph, City Directory, Sanborn Map and Environmental Lien coverage.

Fidelity National Title Company, Preliminary Report for Property Address 1301 California Circle, Milpitas, CA.

Jennings, C. W., and Bryant W. A, 2010, Fault Activity Map of California, California Division of Mines and Geology, Scale 1:750,000.

United States Geological Survey; San Jose 15-minute map (1899, 1953 and 1961) maps; Milpitas 7.5-minute maps (1953) and the Milpitas 7.5-minute maps (1953 and photorevised in 1961, 1968, 1973, and 1980).





Scale: 1 inch = 2000 feet

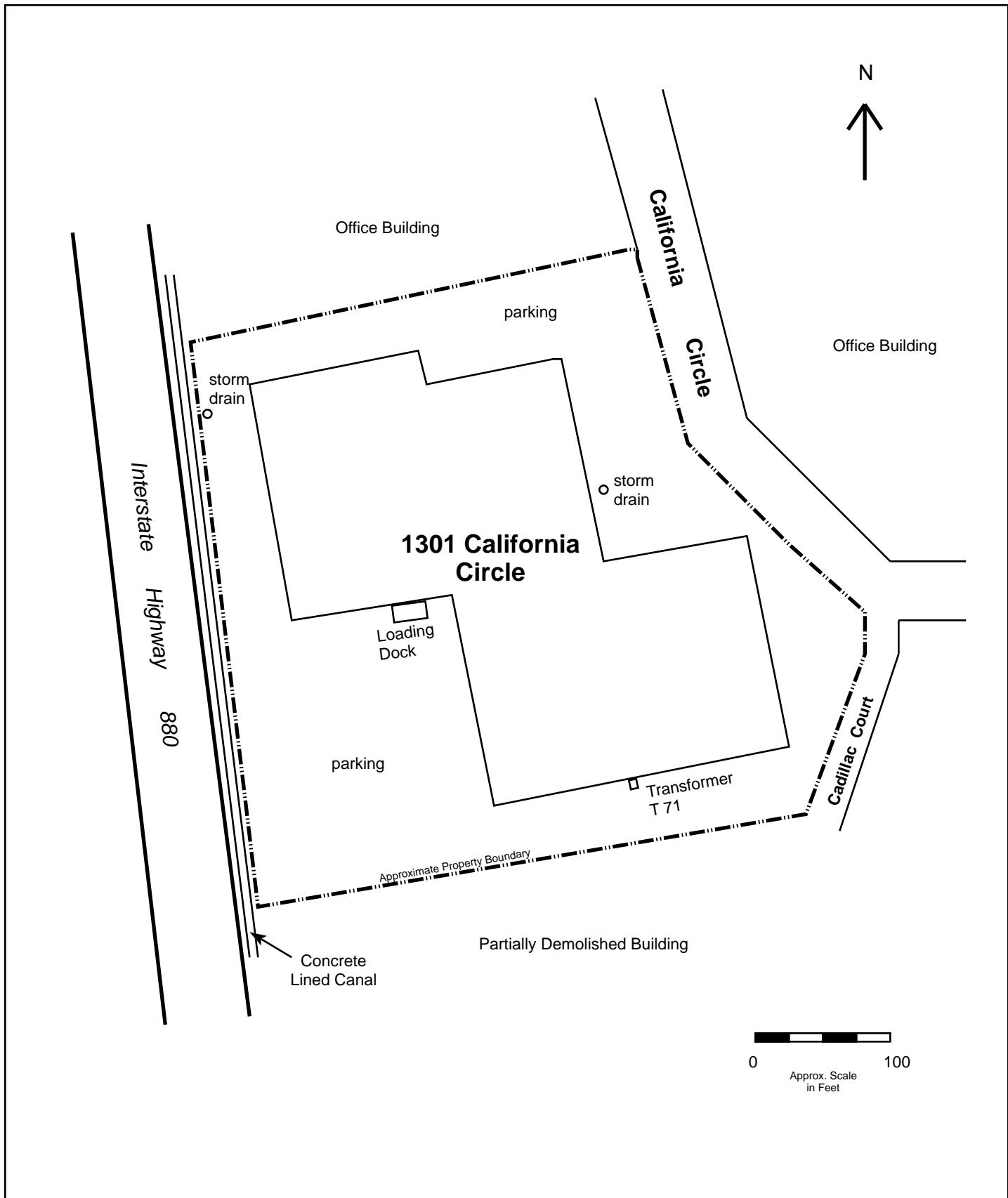
Base U. S. Geological Survey 7.5 minute Milpitas Quadrangle, 1980

**SITE TOPOGRAPHIC MAP**

1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPIITAS, SANTA CLARA COUNTY, CA

**FIGURE 1**  
JUNE 2013  
PROJ. NO. 3464-1

ROMIG ENGINEERS, INC.



**SITE SKETCH MAP**  
1301 CALIFORNIA CIRCLE  
MILPITAS, SANTA CLARA COUNTY, CA

**FIGURE 2**  
JUNE 2013  
PROJ. NO. 3464-1

**PHOTOGRAPH #1** – View of 1301 California Circle building entrance.



**PHOTOGRAPH #2** – View of storm drain in front of 1301 California Circle building.



SITE PHOTOGRAPHS  
1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPITAS, CALIFORNIA

FIGURE 3  
JUNE 2015  
PROJ. NO. 3464-1

**ROMIG ENGINEERS, INC.**

**PHOTOGRAPH #3** – View of north side of building and parking area.



**PHOTOGRAPH #4** – View of rear of property lined canal just offsite on west side of building, Interstate 880 just beyond brush to far left.



SITE PHOTOGRAPHS  
1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPITAS, CALIFORNIA

FIGURE 4  
JUNE 2015  
PROJ. NO. 3464-1

**ROMIG ENGINEERS, INC.**

**PHOTOGRAPH #5** – View of transformer T 71 on south side of building.



**PHOTOGRAPH #6** – View of building interior, damage vandalism and trash.



SITE PHOTOGRAPHS  
1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPITAS, CALIFORNIA

FIGURE 5  
JUNE 2015  
PROJ. NO. 3464-1

**ROMIG ENGINEERS, INC.**

**PHOTOGRAPH #7** – View of wrecked ceiling and hole cut through roof.



**PHOTOGRAPH #8** – View of mold covered material near building entrance.



SITE PHOTOGRAPHS  
1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPITAS, CALIFORNIA

FIGURE 6  
JUNE 2015  
PROJ. NO. 3464-1

**ROMIG ENGINEERS, INC.**

**PHOTOGRAPH #9** – View of damage and paint graffiti present throughout the building, paint cans on floor.



**PHOTOGRAPH #10** – View of vandalized restroom interior.



SITE PHOTOGRAPHS  
1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPITAS, CALIFORNIA

FIGURE 7  
JUNE 2015  
PROJ. NO. 3464-1

ROMIG ENGINEERS, INC.

**PHOTOGRAPH #11** – View of hallway interior with broken windows and moldy carpet.



**PHOTOGRAPH #12** – View of exterior loading dock rear of building.



SITE PHOTOGRAPHS  
1301 CALIFORNIA CIRCLE (APN 022-38-002)  
MILPITAS, CALIFORNIA

FIGURE 8  
JUNE 2015  
PROJ. NO. 3464-1

**ROMIG ENGINEERS, INC.**

## **APPENDIX A**

### **REGULATORY AGENCY SITE LIST DATA**

(EDR Environmental Lien Search Report, Sanborn Maps)

**Property At**

1301 California Circle  
Milpitas, CA 95035

Inquiry Number: 4311870.7  
June 03, 2015

## EDR Environmental Lien and AUL Search

## EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

### ***Thank you for your business.***

Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EDR Environmental Lien and AUL Search

### TARGET PROPERTY INFORMATION

#### ADDRESS

1301 California Circle  
Property At  
Milpitas, CA 95035

#### RESEARCH SOURCE

##### **Source 1:**

Santa Clara Recorder  
Santa Clara, CA

### PROPERTY INFORMATION

#### **Deed 1:**

Type of Deed: deed  
Title is vested in: A1 Pak Co LLC  
Title received from: Yong Su Pak Hyun Hec Pak Trustees Yong Kil Pk Youn  
Deed Dated 11/23/2011  
Deed Recorded: 2/6/2012  
Book: NA  
Page: na  
Volume: na  
Instrument: na  
Docket: NA  
Land Record Comments:  
Miscellaneous Comments:  
**Legal Description:** See Exhibit  
**Legal Current Owner:** A1 Pak Co LLC  
**Parcel # / Property Identifier:** 022-38-002  
**Comments:** See Exhibit

### ENVIRONMENTAL LIEN

Environmental Lien: Found  Not Found

### OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found  Not Found

## **Deed Exhibit 1**

**RECORDING REQUESTED BY, AND  
WHEN RECORDED MAIL TO:**

Greenberg Glusker et al. LLP  
1900 Avenue of the Stars, # 2100  
Los Angeles, CA 90067  
ATTN: Brian Kang, Esq.

**MAIL TAX STATEMENTS TO:**

A1 Pak California, LLC  
c/o A-1 Machine  
480 and 490 Gianni Street  
Santa Clara, CA 95054  
Attn: Young Cho

DOCUMENT: 21525702



Pages 6

Fees 45 00  
Taxes  
Copies  
AMT PAID 45 00

REGINA ALCOMENDRAS  
SANTA CLARA COUNTY RECORDER  
Recorded at the request of  
Attorney

RDE # 005  
2/06/2012  
12:47 PM

15

## GRANT DEED

**THE UNDERSIGNED GRANTORS declare: Documentary transfer tax is NONE. See Note #1 below.**

**FOR NO MONETARY CONSIDERATION, YONG SU PAK and HYUN HEE PAK, Trustees of the 2003 Pak Family Trust dated September 12, 2003, and YONG KIL PAK and YOUNG SUN PAK, Trustees of the 2003 Pak Family Trust dated September 12, 2003,**

**HEREBY GRANT TO: A1 PAK CALIFORNIA, LLC, a California limited liability company, the following described real property in the County of Santa Clara, State of California:**

Parcel 7, as said Parcel is shown on that certain Parcel Map, which Map was filed for record in the Office of the Recorder of the County of Santa Clara, State of California on January 27, 1983 in Book 508 of Maps, Pages 38, 39 and 40.

(Commonly known as 1301 California Circle, Milpitas, CA 95035)

APN: 022-38-002

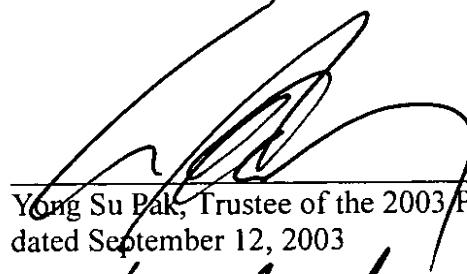
**NOTE #1:** The grantor and grantee in this conveyance are comprised of the same parties who continue to hold the same proportionate interest in the property, R&T 11925(d).

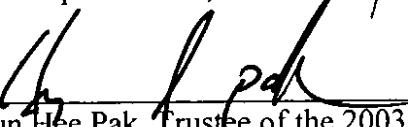
**NOTE #2:** This conveyance results in a change in the method of holding title to the real property transferred without changing the proportional interests of the co-owners in the real property, R&T 62(a)(1) and 64.

**SIGNATURES ON NEXT PAGE**

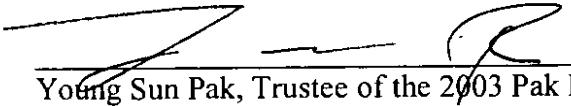
**MAIL TAX STATEMENTS TO: See Above**

Dated: 11/23, 2011

  
Yong Su Pak, Trustee of the 2003 Pak Family Trust  
dated September 12, 2003

  
Hyun Hee Pak, Trustee of the 2003 Pak Family  
Trust dated September 12, 2003

  
Yong Kit Pak, Trustee of the 2003 Pak Family Trust  
dated September 12, 2003

  
Yong Sun Pak, Trustee of the 2003 Pak Family  
Trust dated September 12, 2003

**The notarial acknowledgments for the above signatures appear on separate sheets which are attached to this GRANT  
DEED and incorporated into it by reference.**

## **NOTARIAL ACKNOWLEDGMENT**

STATE OF CALIFORNIA )  
COUNTY OF SANTA CLARA )

On 11/23/11, before me, Kathy Cleveland, Notary Public,  
(here insert name and title of the officer)

personally appeared YONG SU PAK

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

**Signature**

—(Seal)

A rectangular notary seal for Kathy Cleveland. It features a circular emblem on the left with the text "NOTARY PUBLIC" and "CALIFORNIA" around the perimeter, and a central figure holding a sword. To the right of the emblem, the name "KATHY CLEVELAND" is printed in large, bold, capital letters. Below that, "COMM. NO. 1886924" is printed. Underneath the name, "NOTARY PUBLIC - CALIFORNIA" and "COUNTY OF SANTA CLARA" are printed in smaller capital letters. At the bottom, "COMM. EXPIRES APRIL 24, 2014" is printed. The entire seal is framed by a decorative border.

## NOTARIAL ACKNOWLEDGMENT

STATE OF CALIFORNIA )  
COUNTY OF SANTA CLARA )

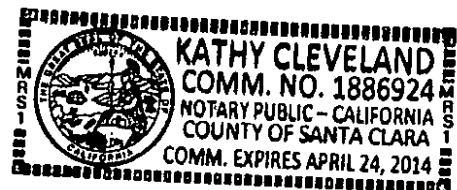
On 11/23/11, before me, Kathy Cleveland, Notary Public,  
(here insert name and title of the officer)

personally appeared HYUN HEE PAK who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that ~~he/she/they~~ executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Patricia West \_\_\_\_\_ (Seal)



## NOTARIAL ACKNOWLEDGMENT

STATE OF CALIFORNIA )  
COUNTY OF SANTA CLARA )

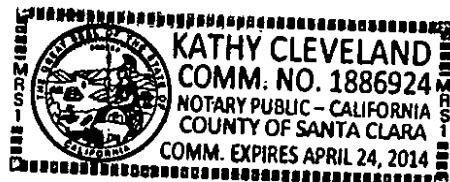
On 11/23/11, before me, Kathy Cleveland, Notary Public,  
(here insert name and title of the officer)

personally appeared YONG KIL PAK who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are-subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  Seal 



## NOTARIAL ACKNOWLEDGMENT

STATE OF CALIFORNIA )  
COUNTY OF SANTA CLARA )

On 11/23/11, before me, Kathy Cleveland, Notary Public,  
(here insert name and title of the officer)

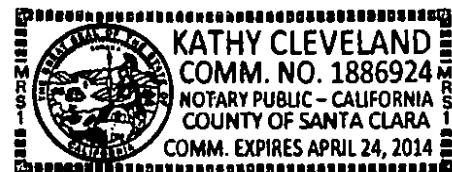
personally appeared YOUNG SUN PAK who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that ~~he/she/they~~ executed the same in ~~his/her/their~~ authorized capacity(ies), and that by ~~his/her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

**Signature**

Kathy Clark (Seal)



**Property At**

1301 California Circle  
Milpitas, CA 95035

Inquiry Number: 4311870.3  
June 01, 2015

## Certified Sanborn® Map Report



6 Armstrong Road, 4th Floor  
Shelton, Connecticut 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# Certified Sanborn® Map Report

6/01/15

**Site Name:**  
Property At  
1301 California Circle  
Milpitas, CA 95035  
  
EDR Inquiry # 4311870.3

**Client Name:**  
Romig Consulting Engineers  
1390 El Camino Real 2nd floor  
San Carlos, CA 94070  
  
Contact: Chris Palmer



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Romig Consulting Engineers were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting [www.edrnet.com/sanborn](http://www.edrnet.com/sanborn).

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

## Certified Sanborn Results:

**Site Name:** Property At  
**Address:** 1301 California Circle  
**City, State, Zip:** Milpitas, CA 95035  
**Cross Street:**  
**P.O. #** NA  
**Project:** NA  
**Certification #** 73EF-4D66-94CA



Sanborn® Library search results  
Certification # 73EF-4D66-94CA

## UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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## **APPENDIX B**

### **SELECTED BUILDING PERMITS AND/OR FILES, ESA QUESTIONNAIRE**



CITY OF MILPITAS

प्राचीन भारतीय विज्ञान विद्या

DO NOT OBFSCATE OR COVER ANY CONSTRUCTION DATA! ALL REQUIRED INSPECTIONS FOR EACH PERIOD OF WORK HAVE BEEN MADE AND RECORDED ON THE JOB SHEET AND OFFICE COPY OF THIS

INSPECTION: PLEASE GIVE PERMIT NUMBER AND JOB ADDRESS WHEN PHONING.  
ARRANGE FOR INSPECTION BY PHONING (406) 842-3591 ONE DAY BEFORE INSPECTION



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## X3. USER QUESTIONNAIRE

## INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections (LLPs)*<sup>187</sup> offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"),<sup>188</sup> the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30 and 312.31. These inquiries must also be conducted the EPA Brownfield Assessment and Characterization grantees. The user should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "all appropriate inquiries" is not complete.

## (1.) Environmental liens that are filed or recorded against the property (40 CFR 312.25).

Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law? **N/A**

## (2.) Activity and land use limitations that are in place on the property or that have been filed or recorded against the property (40 CFR 312.26(a)(1)(v) and (vi)).

Did a search of recorded land title records (or judicial records where appropriate) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state or local law? **N/A**

## (3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? **NO**

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*? **Property Sold at FMV. No contamination is Known to be present.**

(5.) Commonly known or reasonably ascertainable information about the *property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example,

a.) Do you know the past uses of the *property*? **NO**

b.) Do you know of specific chemicals that are present or once were present at the *property*? **NO**

c.) Do you know of spills or other chemical releases that have taken place at the *property*? **NO**

d.) Do you know of any environmental cleanup that have taken place at the *property*? **NO**

(6.) The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

Project Site: 1301 California Circle, Milpitas Owner: \_\_\_\_\_

Owner's Representative Brian Kelly

Signature B. Kelly

Date: June 3, 2015

<sup>187</sup> *Landowner Liability Protections*, or *LLPs*, is the term used to describe the three potential types of defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order for Bona Fide prospective Purchaser, contiguous Property Owner, Innocent Landowners Limitations CERCLA Liability ("Common Elements" Guide)* issued on March 6, 2003.

<sup>188</sup> P. L. 107-118.

## **APPENDIX C**

### **HISTORICAL TOPOGRAPHIC AND TAX MAPS, AERIAL PHOTOGRAPHS**

**Property At**

1301 California Circle  
Milpitas, CA 95035

Inquiry Number: 4311870.4  
June 01, 2015

## EDR Historical Topographic Map Report



6 Armstrong Road, 4th Floor  
Shelton, Connecticut 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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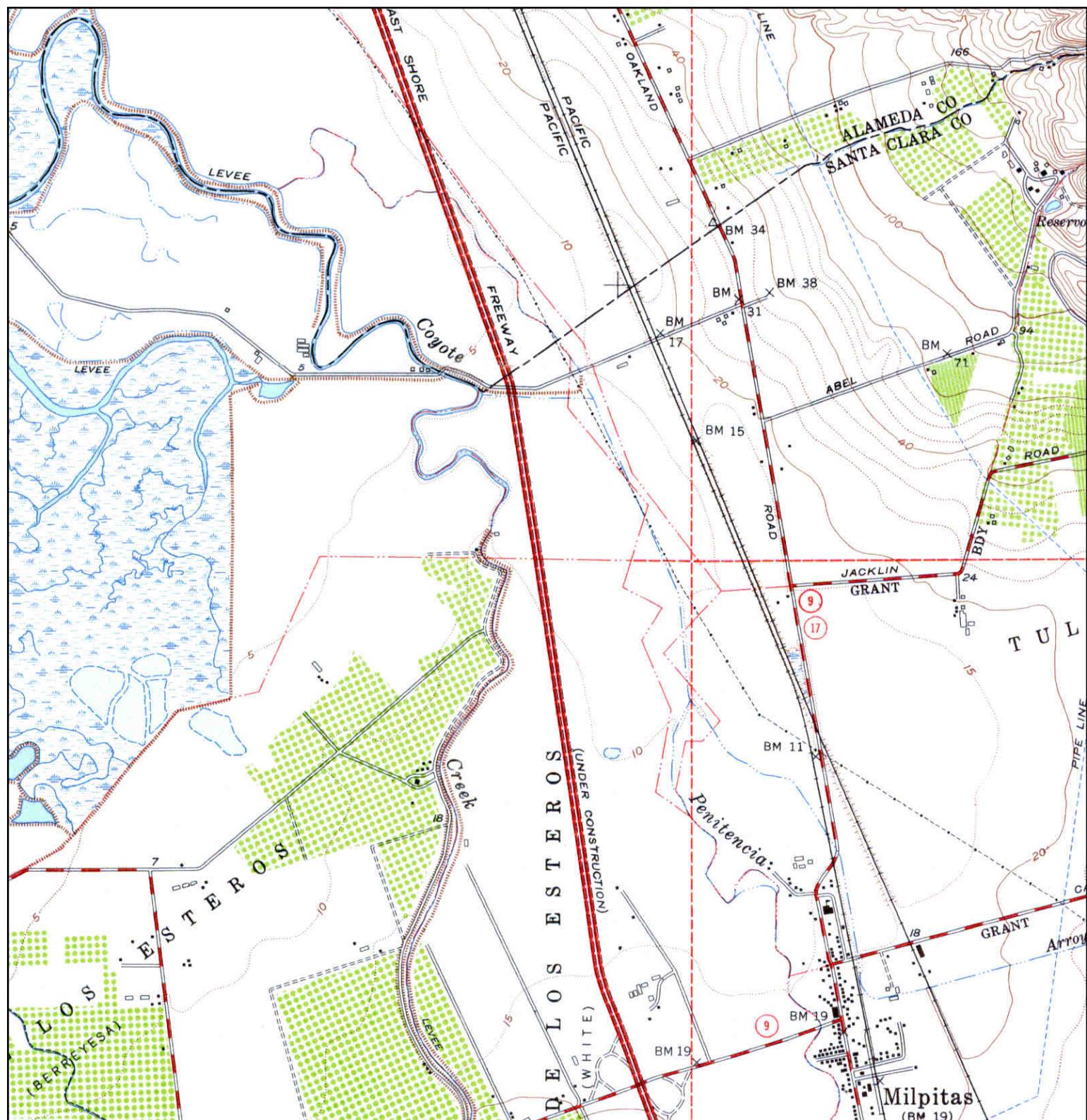
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# Historical Topographic Map



 <b>TARGET QUAD</b> NAME: SAN JOSE MAP YEAR: 1899  SERIES: 15 SCALE: 1:62500	<b>SITE NAME:</b> Property At ADDRESS: 1301 California Circle Milpitas, CA 95035  LAT/LONG: 37.447 / -121.9201	<b>CLIENT:</b> Romig Consulting Engineers <b>CONTACT:</b> Chris Palmer <b>INQUIRY#:</b> 4311870.4 <b>RESEARCH DATE:</b> 06/01/2015
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# Historical Topographic Map



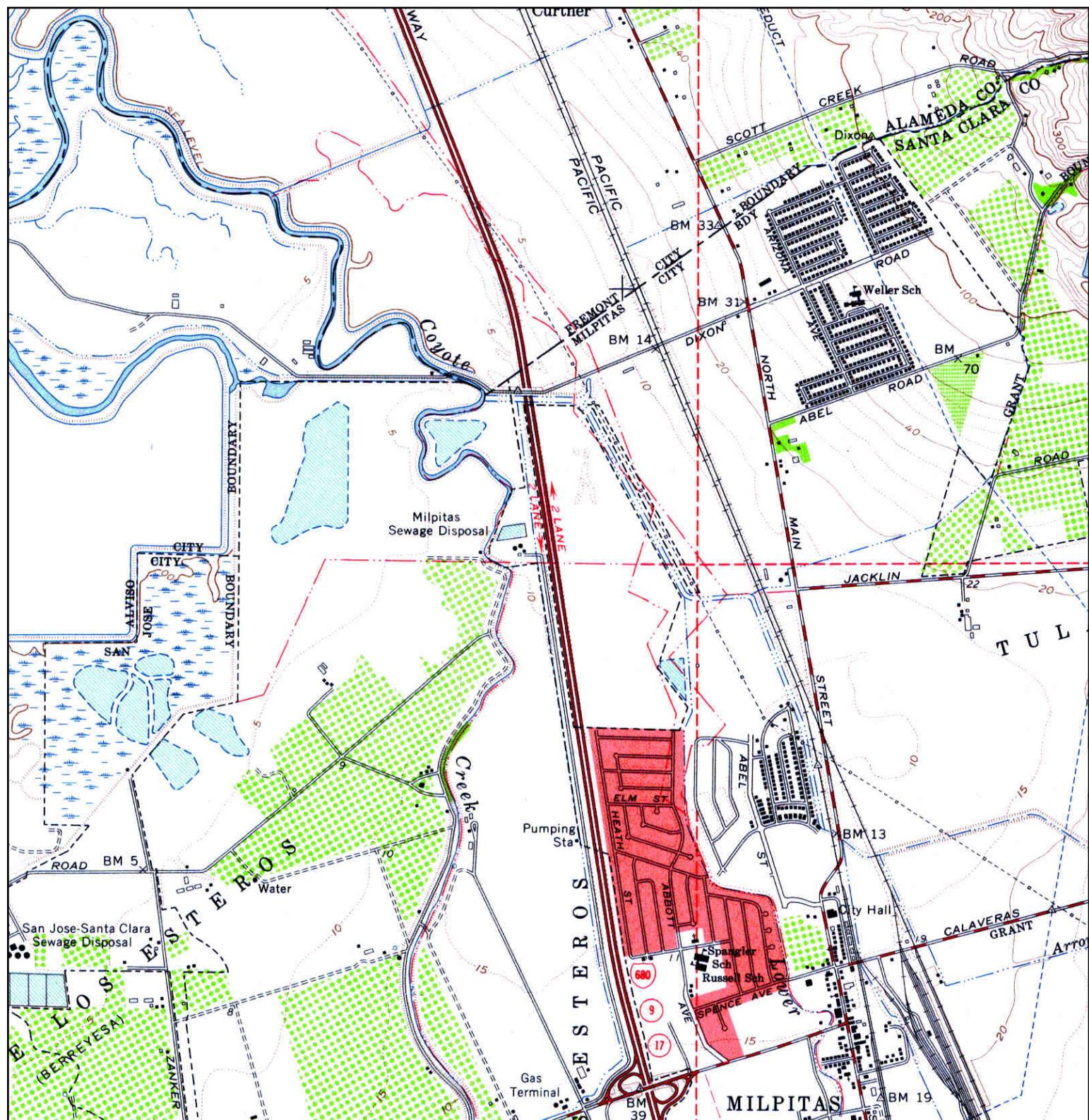
<p>N</p> 	<p><b>TARGET QUAD</b>  <b>NAME:</b> MILPITAS  <b>MAP YEAR:</b> 1953  <b>SERIES:</b> 7.5  <b>SCALE:</b> 1:24000</p>	<p><b>SITE NAME:</b> Property At  <b>ADDRESS:</b> 1301 California Circle  <b>MILPITAS, CA 95035</b>  <b>LAT/LONG:</b> 37.447 / -121.9201</p>	<p><b>CLIENT:</b> Romig Consulting Engineers  <b>CONTACT:</b> Chris Palmer  <b>INQUIRY#:</b> 4311870.4  <b>RESEARCH DATE:</b> 06/01/2015</p>
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## Historical Topographic Map



<b>N</b> 	<b>TARGET QUAD</b> NAME: SAN JOSE MAP YEAR: 1953  SERIES: 15 SCALE: 1:62500	SITE NAME: Property At ADDRESS: 1301 California Circle  Milpitas, CA 95035  LAT/LONG: 37.447 / -121.9201	CLIENT: Romig Consulting Engineers CONTACT: Chris Palmer INQUIRY#: 4311870.4 RESEARCH DATE: 06/01/2015

# Historical Topographic Map



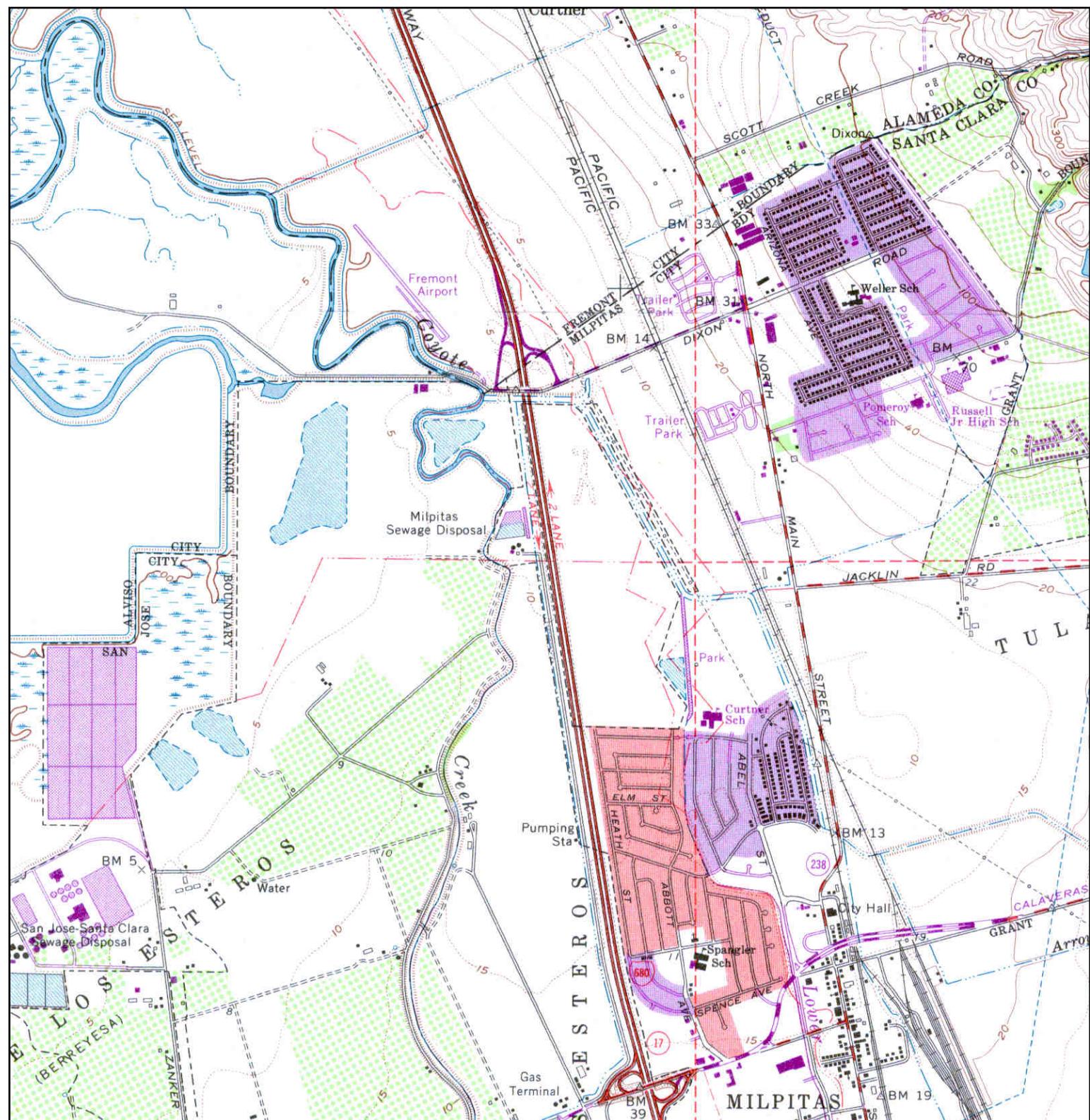
 <b>TARGET QUAD</b> NAME: MILPITAS MAP YEAR: 1961  SERIES: 7.5 SCALE: 1:24000	<b>SITE NAME:</b> Property At ADDRESS: 1301 California Circle Milpitas, CA 95035  LAT/LONG: 37.447 / -121.9201	<b>CLIENT:</b> Romig Consulting Engineers <b>CONTACT:</b> Chris Palmer <b>INQUIRY#:</b> 4311870.4 <b>RESEARCH DATE:</b> 06/01/2015
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# Historical Topographic Map



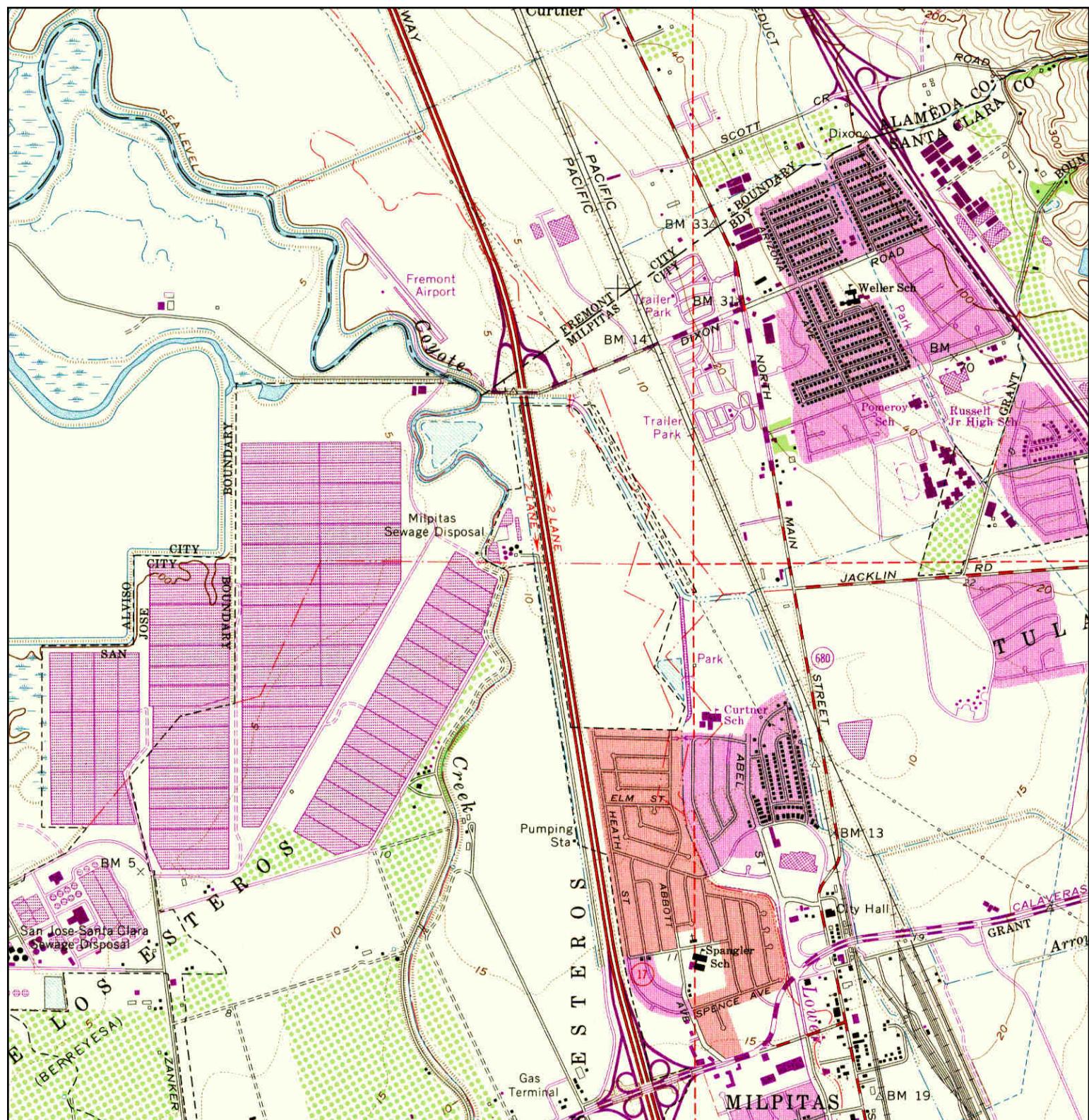
 <b>TARGET QUAD</b> NAME: SAN JOSE MAP YEAR: 1961  SERIES: 15 SCALE: 1:62500	<b>SITE NAME:</b> Property At <b>ADDRESS:</b> 1301 California Circle Milpitas, CA 95035 <b>LAT/LONG:</b> 37.447 / -121.9201	<b>CLIENT:</b> Romig Consulting Engineers <b>CONTACT:</b> Chris Palmer <b>INQUIRY#:</b> 4311870.4 <b>RESEARCH DATE:</b> 06/01/2015
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# Historical Topographic Map



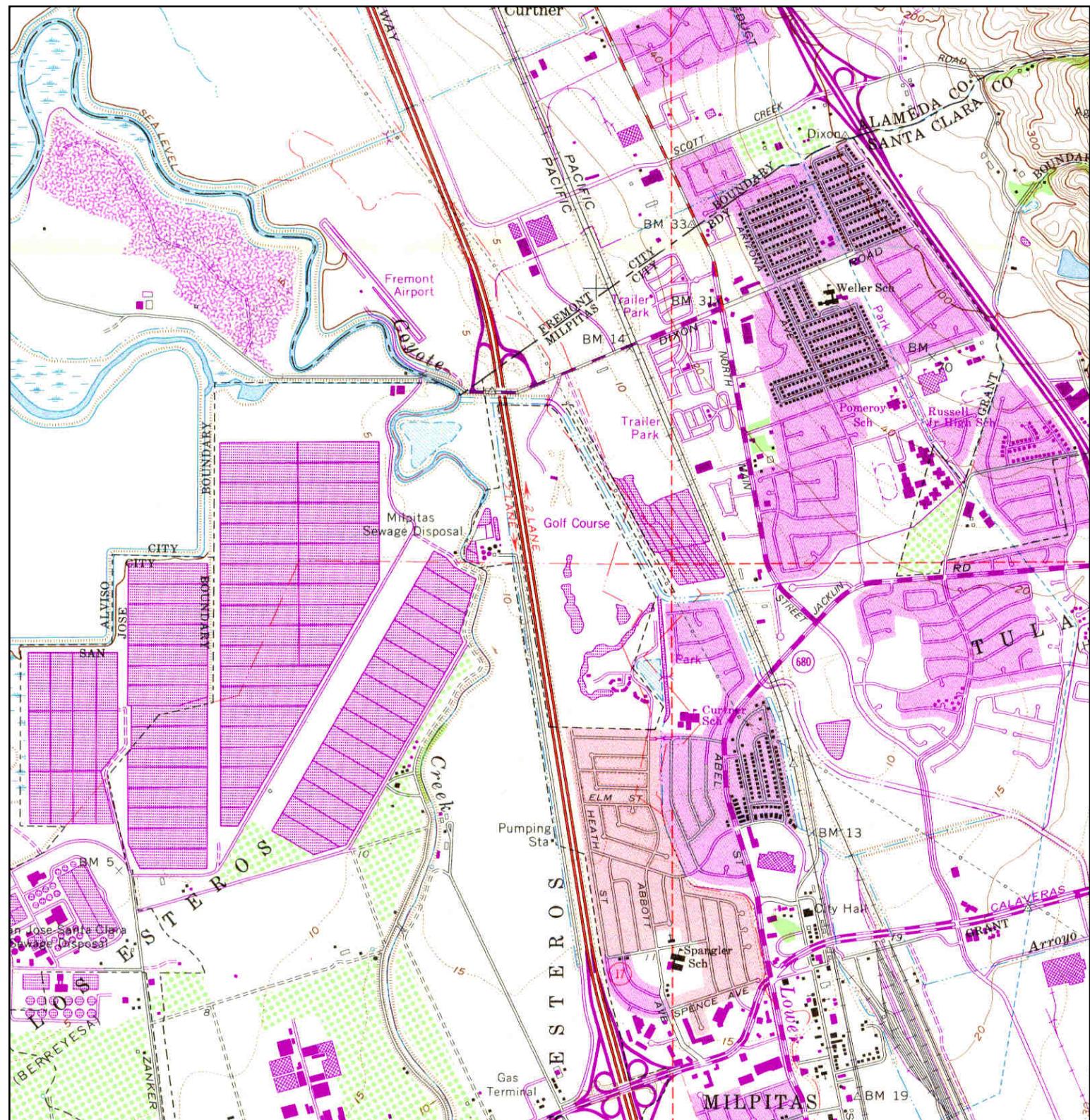
<p><b>N</b></p>	<p><b>TARGET QUAD</b>  <b>NAME:</b> MILPITAS  <b>MAP YEAR:</b> 1968  <b>PHOTOREVISED FROM :</b> 1961  <b>SERIES:</b> 7.5  <b>SCALE:</b> 1:24000</p>	<p><b>SITE NAME:</b> Property At  <b>ADDRESS:</b> 1301 California Circle  <b>MILPITAS, CA 95035</b>  <b>LAT/LONG:</b> 37.447 / -121.9201</p>	<p><b>CLIENT:</b> Romig Consulting Engineers  <b>CONTACT:</b> Chris Palmer  <b>INQUIRY#:</b> 4311870.4  <b>RESEARCH DATE:</b> 06/01/2015</p>
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# Historical Topographic Map



<p><b>N</b></p> <p><b>TARGET QUAD</b>  <b>NAME: MILPITAS</b>  <b>MAP YEAR: 1973</b>  <b>PHOTOREVISED FROM :1961</b>  <b>SERIES: 7.5</b>  <b>SCALE: 1:24000</b></p>	<p><b>SITE NAME: Property At</b>  <b>ADDRESS: 1301 California Circle</b>  <b>Milpitas, CA 95035</b>  <b>LAT/LONG: 37.447 / -121.9201</b></p>	<p><b>CLIENT: Romig Consulting Engineers</b>  <b>CONTACT: Chris Palmer</b>  <b>INQUIRY#: 4311870.4</b>  <b>RESEARCH DATE: 06/01/2015</b></p>
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# Historical Topographic Map



<p><b>N</b></p>	<p><b>TARGET QUAD</b>  <b>NAME:</b> MILPITAS  <b>MAP YEAR:</b> 1980  <b>PHOTOREVISED FROM :</b> 1961  <b>SERIES:</b> 7.5  <b>SCALE:</b> 1:24000</p>	<p><b>SITE NAME:</b> Property At  <b>ADDRESS:</b> 1301 California Circle  <b>Milpitas, CA 95035</b>  <b>LAT/LONG:</b> 37.447 / -121.9201</p>	<p><b>CLIENT:</b> Romig Consulting Engineers  <b>CONTACT:</b> Chris Palmer  <b>INQUIRY#:</b> 4311870.4  <b>RESEARCH DATE:</b> 06/01/2015</p>
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**Property At**

1301 California Circle  
Milpitas, CA 95035

Inquiry Number: 4311870.6  
June 01, 2015

## The EDR Property Tax Map Report

## EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
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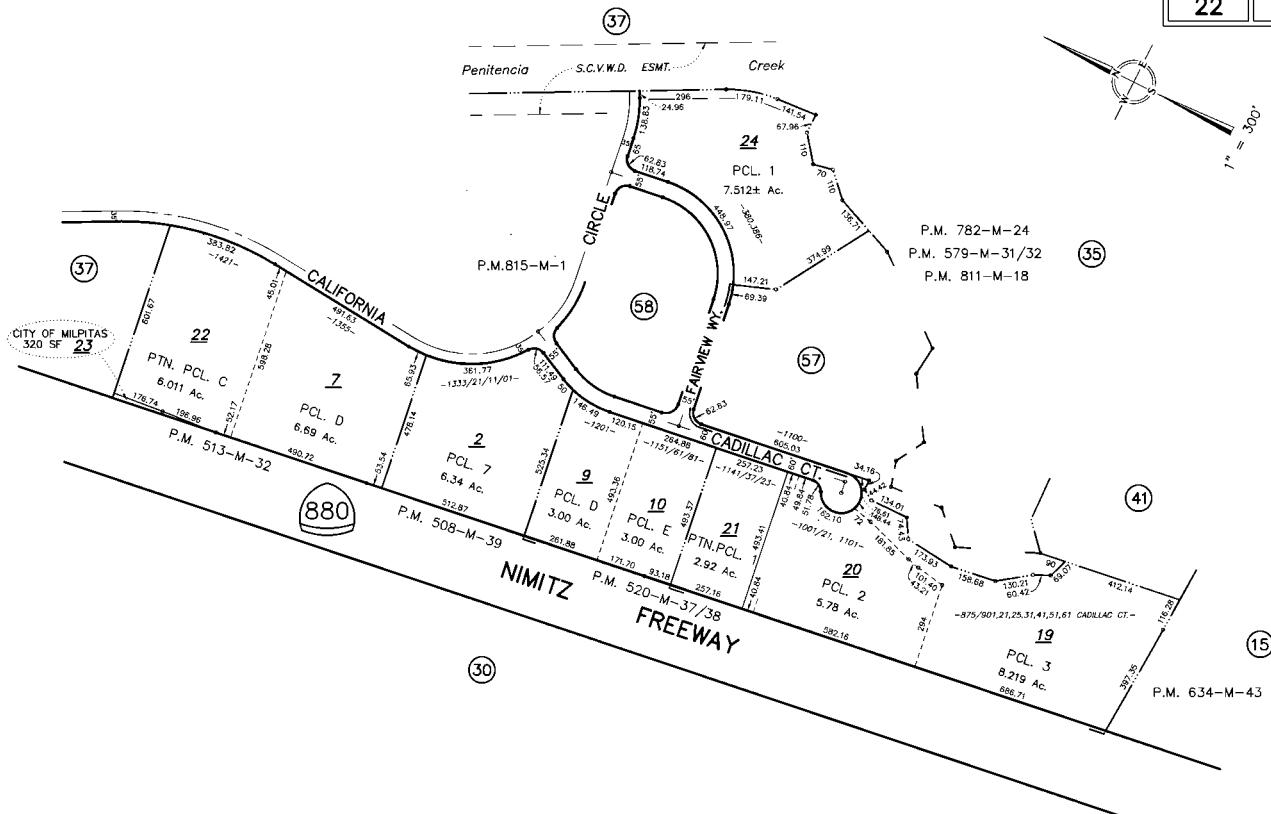
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OFFICE OF COUNTY ASSESSOR — SANTA CLARA COUNTY, CALIFORNIA

BOOK  
**22**



TRA DÉTAIL MAP 101  
LAWRENCE E. STONE - ASSESSOR  
Cadastral map for assessment purposes only  
Compiled under R. & T. Code, Sec. 32  
Effective Roll Year 2013-2014

**Attachment E: Environmental Noise Assessment**

## Environmental Noise Assessment

# Home 2 Suites Hilton Hotel

City of Milpitas, California

BAC Job # 2016-216

Prepared For:

Mr. Amrat Patel

3303 Deer Hollow Drive  
Danville, CA 94506

Prepared By:

**Bolland Acoustical Consultants, Inc.**



Paul Bolland, President

January 5, 2017



## Introduction

The Home 2 Suites Hilton (project) proposes to construct a 4-story hotel located at 1313 California Circle in Milpitas, California. The project area and site plan are shown in Figures 1 and 2, respectively.

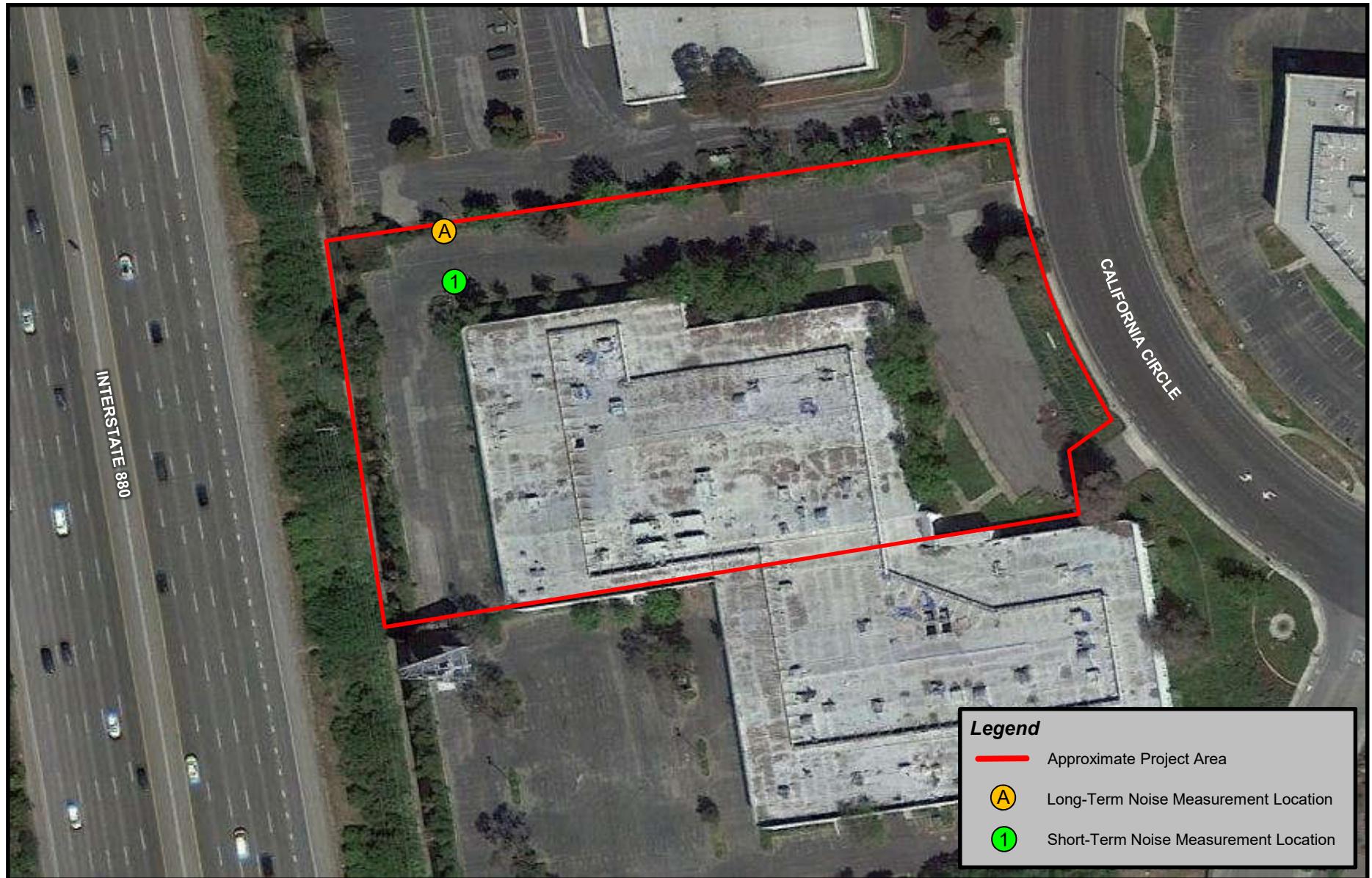
Due to the proximity of the project site to Interstate 880, Bolland Acoustical Consultants, Inc. (BAC) was retained by the project applicant to prepare this noise analysis. Specifically, the purpose of this analysis is to quantify noise levels associated with traffic on I-880 as it affects the project site, and to compare those levels against the applicable City of Milpitas standards for acceptable exterior and interior noise exposure at hotel uses.

## Noise Fundamentals and Terminology

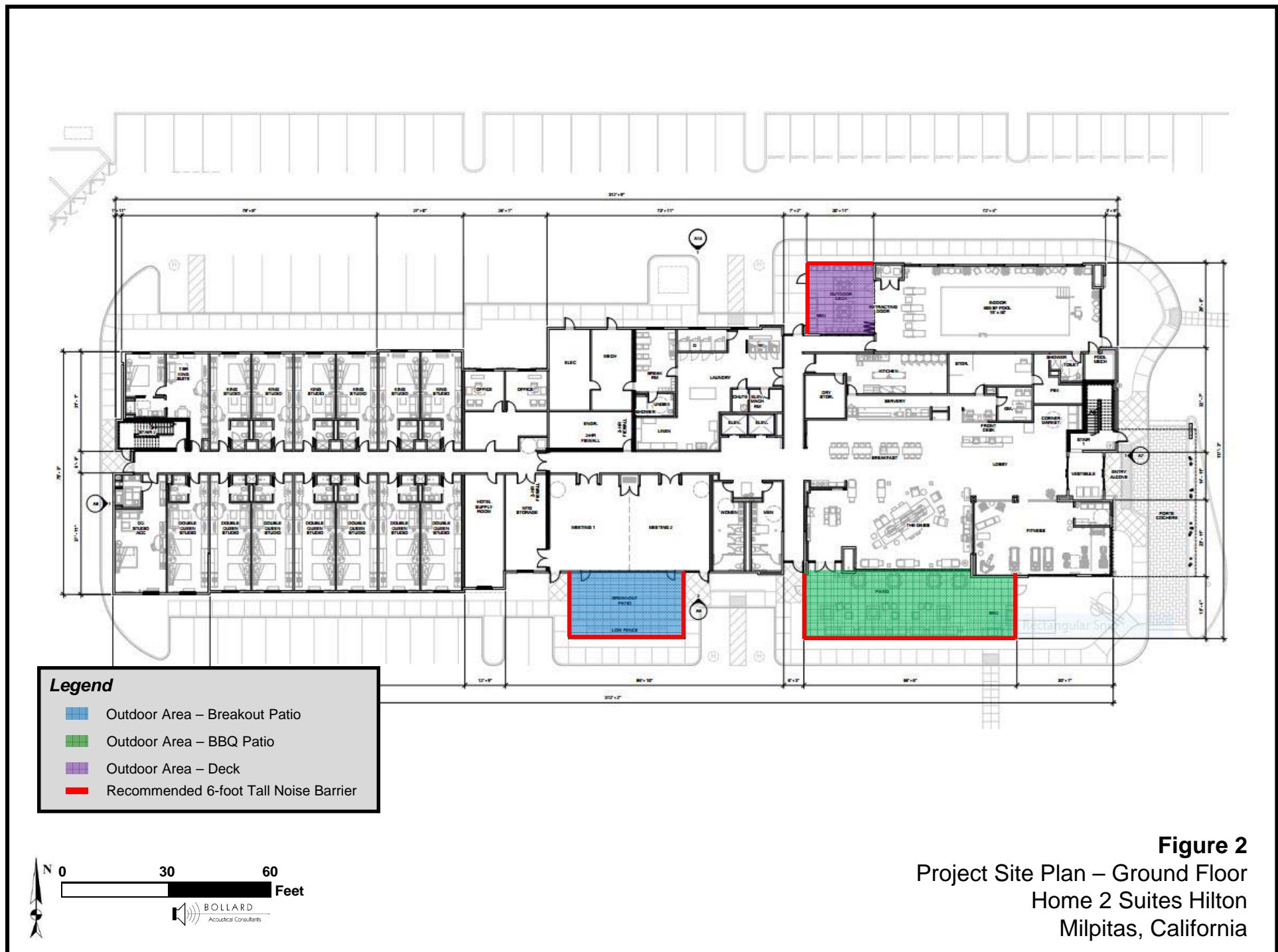
Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and thus are called sound. Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. Appendix A contains definitions of Acoustical Terminology. Figure 3 shows common noise levels associated with various sources.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in decibels.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ( $L_{eq}$ ) over a given time period (usually one hour). The  $L_{eq}$  is the foundation of the Day-Night Average Level noise descriptor,  $L_{dn}$ , and shows very good correlation with community response to noise.

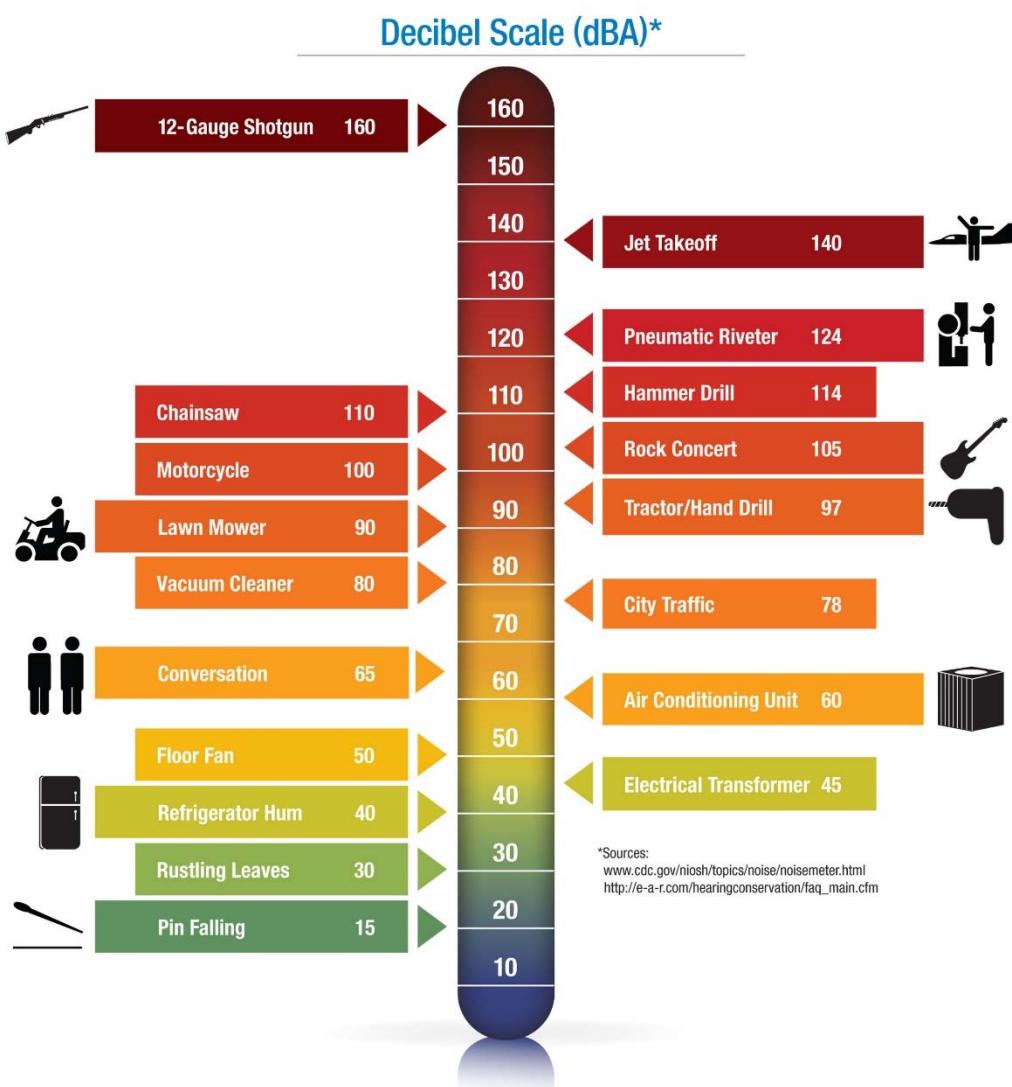


**Figure 1**  
Project Area and Vicinity Map  
Home 2 Suites Hilton  
Milpitas, California



The Day-Night Average Level ( $L_{dn}$ ) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because  $L_{dn}$  represents a 24-hour average, it tends to disguise short-term variations in the noise environment.  $L_{dn}$ -based noise standards are commonly used to assess noise impacts associated with traffic, railroad and aircraft noise sources.

**Figure 3**  
**Typical A-Weighted Sound Levels of Common Noise Sources**



## Criteria for Acceptable Noise Exposure

The City of Milpitas General Plan Noise Element contains the City's noise policies. Those policies that would be pertinent to this project are reproduced below:

### Implementing Policies

6-I-1 Use the guidelines in Table 1 (Noise and Land Use Compatibility) as review criteria for development projects.

**Table 1**  
**Noise and Land Use Compatibility – City of Milpitas Noise Element**

Land Use Category	Community Noise Exposure $L_{dn}$ or CNEL, dB						INTERPRETATION:
	55	60	65	70	75	80	
Residential - Low Density Single Family, Duplex, Mobile Homes							
Residential - Multi. Family							
Transient Lodging - Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

- 6-I-2** Require an acoustical analysis for projects located within a “conditionally acceptable” or “normally unacceptable” exterior noise exposure area. Require mitigation measures to reduce noise to acceptable levels.
- 6-I-3** Prohibit new construction where the exterior noise exposure is considered “clearly unacceptable” for the use proposed.
- 6-I-4** Where actual or projected rear yard and exterior common open space noise exposure exceeds the “normally acceptable” levels for new single-family and multi-family residential projects, use mitigation measures to reduce sound levels in those areas to acceptable levels.
- 6-I-4** All new residential development (single family and multifamily) and lodging facilities must have interior noise levels of 45 dB  $L_{dn}$  or less. Mechanical ventilation will be required where use of windows for ventilation will result in higher than 45 dB  $L_{dn}$  interior noise levels.

Pursuant to the City's noise policies cited above, this analysis applies an exterior noise level standard of 65 dB  $L_{dn}$  to the common outdoor use areas of the proposed Hotel, and an interior noise level limit of 45 dB  $L_{dn}$  to the interior hotel rooms of this project.

## **Existing Traffic Noise Environment**

The exterior noise environment at the project site is defined primarily by traffic on Interstate 880. To quantify existing noise levels at the project site, BAC conducted short-term (15-minute) and long-term (24-hour) noise level surveys on the project site on December 20, 2016. The measurement sites are shown on Figure 1. The purpose of the continuous noise level survey was to determine existing traffic noise exposure on the project site in terms of the day/night average level ( $L_{dn}$ ), and to determine the typical changes in noise environment which occur at the project site over a 24-hour period.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used to conduct the noise level survey. The meters were calibrated before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4). The results of the continuous noise level measurements, which are shown numerically in Appendix B and graphically in Appendix C, indicate that the existing Interstate 880 traffic noise exposure at a distance of approximately 230 feet from the highway centerline was 68 dB  $L_{dn}$ .

Because the microphone height for the continuous noise level measurements was 5 feet above ground, the continuous data is representative of first-floor noise exposure. Due to reduced ground absorption, upper-floor noise levels are typically higher than ground floor locations. To quantify the difference between ground-floor and upper-floor ambient noise conditions, BAC conducted simultaneous short-term (15-minute) noise level measurements at heights of 5 feet, 15 feet, and 25 feet above ground at the location indicated on Figure 1. Figure 4 shows the test configuration for the short-term noise measurements.

**Figure 4**  
**Short-Term Noise Measurement Configuration**  
**Home 2 Suites Hilton – Milpitas, California**



The results of the short-term ambient noise survey indicated that traffic noise exposure at the elevated floor locations was 3-5 dB higher than the measured ground-floor conditions during the same time period. As a result, a +3 dB offset would be warranted in the prediction of future traffic noise exposure at proposed 2<sup>nd</sup> floor locations, while a +5 dB offset would be warranted for the proposed 3<sup>rd</sup> and 4<sup>th</sup> floor locations.

## Evaluation of Future Traffic Noise Levels at Project Site

### Traffic Noise Prediction Methodology

The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict traffic noise levels at the project site. The model is based upon the

CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly  $L_{eq}$  values for free flowing traffic conditions, and is considered to be accurate within 1.5 dB in most situations.

The FHWA Model was used with traffic data obtained from the Caltrans 2015 Traffic Counts to predict existing Interstate 880 traffic noise levels at the project site. The complete FHWA Model inputs and results are provided in Appendix D. The FHWA Model estimated a noise level of 77 dB  $L_{dn}$  at 230 feet from the centerline of Interstate 880. The existing traffic noise level predicted by the FHWA Model is 9 dB higher than the measured ambient noise level (68 dB  $L_{dn}$ ) at Site A, which maintained a 230 foot setback from the Interstate 880 centerline.

The discrepancy in predicted versus measured traffic noise levels is believed to be primarily due to traffic congestion resulting in slower vehicle speeds during peak hours. The FHWA Model assumes all vehicles are traveling 65 mph during all hours of the day, while in reality Interstate 880 experiences slower vehicle speeds during the AM and PM peak hours. Other potential factors that may be contributing to the FHWA Model over-prediction include a depressed project site relative to Interstate 880 and an existing jersey barrier partially shielding southbound traffic. In order to provide future traffic noise level predictions representative of local conditions, a conservative offset of -5 dB was applied to the model.

### **Predicted Future Exterior Traffic Noise Levels**

As mentioned previously, the FHWA Model was used with traffic data obtained from the Caltrans 2015 Traffic Counts to predict future traffic noise exposure at the proposed project site (including the addition of the aforementioned -5 dB offset). Specifically, future Interstate 880 traffic volumes were conservatively estimated by increasing the existing traffic volume by a factor of 1.5 to account for regional growth in the next twenty years. The FHWA model was utilized to estimate the future traffic noise exposure at the proposed building façades and outdoor patio areas of the proposed project. Distances to the building facades and outdoor patio areas were scaled from the provided site plan, Figure 2. The results of this analysis are summarized in Table 2, with detailed inputs and results provided in Appendix D.

The future traffic noise exposure results presented in Table 2 take into consideration the shielding provided by the orientation of the proposed building facades and outdoor areas relative to Interstate 880. Specifically, because the facades and outdoor areas are proposed to be perpendicular to Interstate 880, those areas will be exposed to half of the traffic sound energy. Because these noise-sensitive areas will have a limited view of Interstate 880, resulting in approximately 50% less traffic sound energy, an offset of -3 dB was applied to the predicted future traffic noise levels at the proposed outdoor use areas of the hotel.

**Table 2**  
**Predicted Future Exterior Interstate 880 Traffic Noise Exposure<sup>1</sup>**  
**Home 2 Suites Hilton – Milpitas, California**

Noise-Sensitive Location <sup>2</sup>	Distance from Centerline of Roadway (feet) <sup>3</sup>	Adjusted FHWA Model Offset (dB) <sup>4</sup>	Shielding Offset (dB) <sup>5</sup>	Elevated Locations Offset (dB) <sup>6</sup>	Predicted Future Noise Level, L <sub>dn</sub> (dB)
Building Façade – 1 <sup>st</sup> Floor	230	-5	-3	0	71
Building Façade – 2 <sup>nd</sup> Floor	230	-5	-3	+3	74
Building Façade – 3 <sup>rd</sup> & 4 <sup>th</sup> Floors	230	-5	-3	+5	76
Outdoor Area – Breakout Patio	400	-5	-3	0	68
Outdoor Area – BBQ Patio	430	-5	-3	0	67
Outdoor Area – Deck	410	-5	-3	0	67

Notes:

<sup>1</sup> A complete listing of FHWA Model inputs and results are provided in Appendix D.

<sup>2</sup> See Figure 2 for noise-sensitive locations.

<sup>3</sup> Distances measured from the centerline of Interstate 880 to nearest building façades and outdoor areas.

<sup>4</sup> A -5 dB offset was applied to FHWA Model predicted future traffic noise levels based on measured 24-hour noise measurement data.

<sup>5</sup> Predicted noise levels take into consideration the shielding provided by the orientation of the proposed building façades and outdoor areas relative to Interstate 880. Specifically, the location of the proposed facades and outdoor areas will be partially shielded from view of Interstate 880 by the proposed building itself. It is estimated that these noise-sensitive areas will be exposed to approximately 50% less of the predicted traffic sound energy, which equates to approximately -3 dB.

<sup>6</sup> Based on results of on-site noise measurements at elevated positions, additional offsets of +3 dB were applied to 2<sup>nd</sup> floor areas and +5 dB were applied to 3<sup>rd</sup> & 4<sup>th</sup> floor areas.

Source: Bolland Acoustical Consultants, Inc. 2016

## Predicted Future Exterior Traffic Noise Levels at Outdoor Patio Areas

The City of Milpitas exterior noise level standard applied to the outdoor areas of transient lodging is 65 dB  $L_{dn}$ . As indicated in Table 2, future traffic noise levels at the outdoor areas of the project site are predicted to be 67-68 dB  $L_{dn}$ . The predicted future traffic noise levels of 67-68 dB  $L_{dn}$  at the proposed outdoor areas on the project site would exceed the City of Milpitas 65 dB  $L_{dn}$  exterior noise level standard. As a result, additional consideration of exterior traffic noise mitigation measures would be warranted for this project.

To mitigate these identified exceedances to a state of compliance with the City's exterior noise level standard, the effectiveness of constructing a solid noise barrier enclosing the outdoor patio areas was evaluated. This evaluation concluded that a 6-foot tall barrier constructed along the perimeter of the outdoor areas, as indicated in Figure 2, would reduce future traffic noise exposure by at least 5 dB. The resulting future traffic noise levels of 62-63 dB  $L_{dn}$  would satisfy the City of Milpitas exterior noise level standard of 65 dB  $L_{dn}$ .

## Predicted Future Interior Traffic Noise Levels within Nearest Hotel Rooms

According to Table 2, predicted future first-floor façade noise exposure of the hotel rooms nearest to Interstate 880 would be approximately 71 dB  $L_{dn}$ . Due to reduced ground absorption of traffic noise at elevated locations, traffic noise levels are expected to be approximately 3-5 dB higher at the upper-floor facades (74-76 dB  $L_{dn}$ ). As a result, building facade noise reductions of 29-31 dB would be required to achieve an interior noise level of 45 dB  $L_{dn}$  within upper-floor rooms, and a reduction of 26 dB would be required for first-floor rooms.

Section 2514.05 of the Home 2 Suites Brand Standards requires that the exterior-to-interior façade of a suite maintain a Sound Transmission Coefficient (STC) rating of 50. Standard building construction (stucco siding, exterior wall insulation, composition plywood roof) without consideration of a window as part of the assembly would satisfy the STC rating of 50. In order for the combined STC rating of the exterior-to-interior wall and window to achieve a composite STC-50, the STC rating of the windows would have to be greater than STC-35. The interior traffic noise summary provided in Table 3 assumes that the hotel suite windows are rated a minimum of STC-35.

**Table 3**  
**Predicted Future Interior Interstate 880 Traffic Noise Exposure**  
**Home 2 Suites Hilton – Milpitas, California**

Noise-Sensitive Location	Distance from Centerline of Roadway (feet)	Predicted Exterior Noise Level, $L_{dn}$ (dB)	Offset (dB) <sup>1</sup>	Predicted Interior Noise Level, $L_{dn}$ (dB)
Building Façade – 1 <sup>st</sup> Floor	230	71	-35	36
Building Façade – 2 <sup>nd</sup> Floor	230	74	-35	39
Building Façade – 3 <sup>rd</sup> & 4 <sup>th</sup> Floors	230	76	-35	41
Notes:				
1 Offset assumes proposed windows are rated at STC-35.				
Source: Bollard Acoustical Consultants, Inc. (2016).				

As indicated above in Table 3, predicted future interior traffic noise levels of 36-41 dB  $L_{dn}$  within the hotel suites would satisfy the City of Milpitas 45 dB  $L_{dn}$  interior noise level standard. In addition to the assumed window ratings of STC-35, mechanical ventilation (air conditioning) should be provided for all hotel rooms in this development to allow the occupants to close doors and windows as desired to achieve compliance with the applicable interior noise level criteria.

## Conclusions and Recommendations

The proposed Home 2 Suites Hilton project site in Milpitas will be exposed to future Interstate 880 traffic noise exposure that exceeds the City of Milpitas exterior and interior noise level criteria for transient lodging land uses. In order to achieve compliance with the City's noise level criteria, the following specific noise mitigation measures should be included in the project design:

### *Exterior Traffic Noise Mitigation Measures*

- 1) Solid noise barriers measuring 6 feet in height, would be required to reduce future Interstate 880 traffic noise levels to less than 65 dB  $L_{dn}$  in the proposed outdoor patio areas. Figure 2 shows the recommended noise barrier locations.

Suitable materials for the traffic noise barrier include masonry and precast concrete panels. Other materials may be acceptable but should be reviewed by an acoustical consultant prior to use.

*Interior Traffic Noise Mitigation Measures*

1. All hotel room windows should be a minimum STC rating of 35.
2. Mechanical ventilation (air conditioning) should be provided for all hotel rooms in this development to allow the occupants to close doors and windows as desired to achieve compliance with the applicable interior noise level criteria.

These conclusions are based on the traffic data and assumptions cited in Appendix D, on the project site plan shown on Figure 2, and on noise reduction data for standard residential dwellings and for typical STC rated window data. Deviations from the Appendix D data, or the project site plan shown on Figure 2, could cause future traffic noise levels to differ from those predicted in this analysis. In addition, Bollard Acoustical Consultants, Inc. is not responsible for degradation in acoustic performance of the building construction due to poor construction practices, failure to comply with applicable building code requirements, or for failure to adhere to the minimum building practices cited in this report.

This concludes BAC's traffic noise assessment for the proposed Home 2 Suites Hilton in Milpitas, California. Please contact BAC at (916) 663-0500 or [paulb@bacnoise.com](mailto:paulb@bacnoise.com) with any questions regarding this assessment.

## Appendix A

### Acoustical Terminology

<b>Acoustics</b>	The science of sound.
<b>Ambient Noise</b>	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
<b>Attenuation</b>	The reduction of an acoustic signal.
<b>A-Weighting</b>	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
<b>Decibel or dB</b>	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
<b>CNEL</b>	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
<b>Frequency</b>	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
<b>Ldn</b>	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
<b>Leq</b>	Equivalent or energy-averaged sound level.
<b>Lmax</b>	The highest root-mean-square (RMS) sound level measured over a given period of time.
<b>Loudness</b>	A subjective term for the sensation of the magnitude of sound.
<b>Masking</b>	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
<b>Noise</b>	Unwanted sound.
<b>Peak Noise</b>	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.
<b>RT<sub>60</sub></b>	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
<b>Sabin</b>	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
<b>SEL</b>	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
<b>Threshold of Hearing</b>	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
<b>Threshold of Pain</b>	Approximately 120 dB above the threshold of hearing.

**Appendix B**  
**Home 2 Suites Hilton Milpitas**  
**Ambient Noise Monitoring Results - Site A**  
**Tuesday, December 20, 2016**

Hour	Leq	Lmax	L50	L90
0:00	58	69	57	53
1:00	57	70	56	52
2:00	57	70	56	51
3:00	58	70	57	53
4:00	61	72	60	56
5:00	64	73	64	61
6:00	64	73	63	61
7:00	64	73	64	62
8:00	63	71	63	61
9:00	63	86	62	60
10:00	63	79	62	60
11:00	64	77	63	61
12:00	65	81	63	61
13:00	65	79	64	62
14:00	64	78	63	61
15:00	63	73	63	61
16:00	61	79	60	59
17:00	59	68	59	56
18:00	59	69	58	57
19:00	62	73	61	58
20:00	62	73	62	60
21:00	61	72	60	58
22:00	62	74	61	59
23:00	60	70	59	56

Statistical Summary						
Leq (Average)	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	59	63	64	57	61
Lmax (Maximum)	86	68	75	74	69	71
L50 (Median)	64	58	62	64	56	59
L90 (Background)	62	56	60	61	51	56

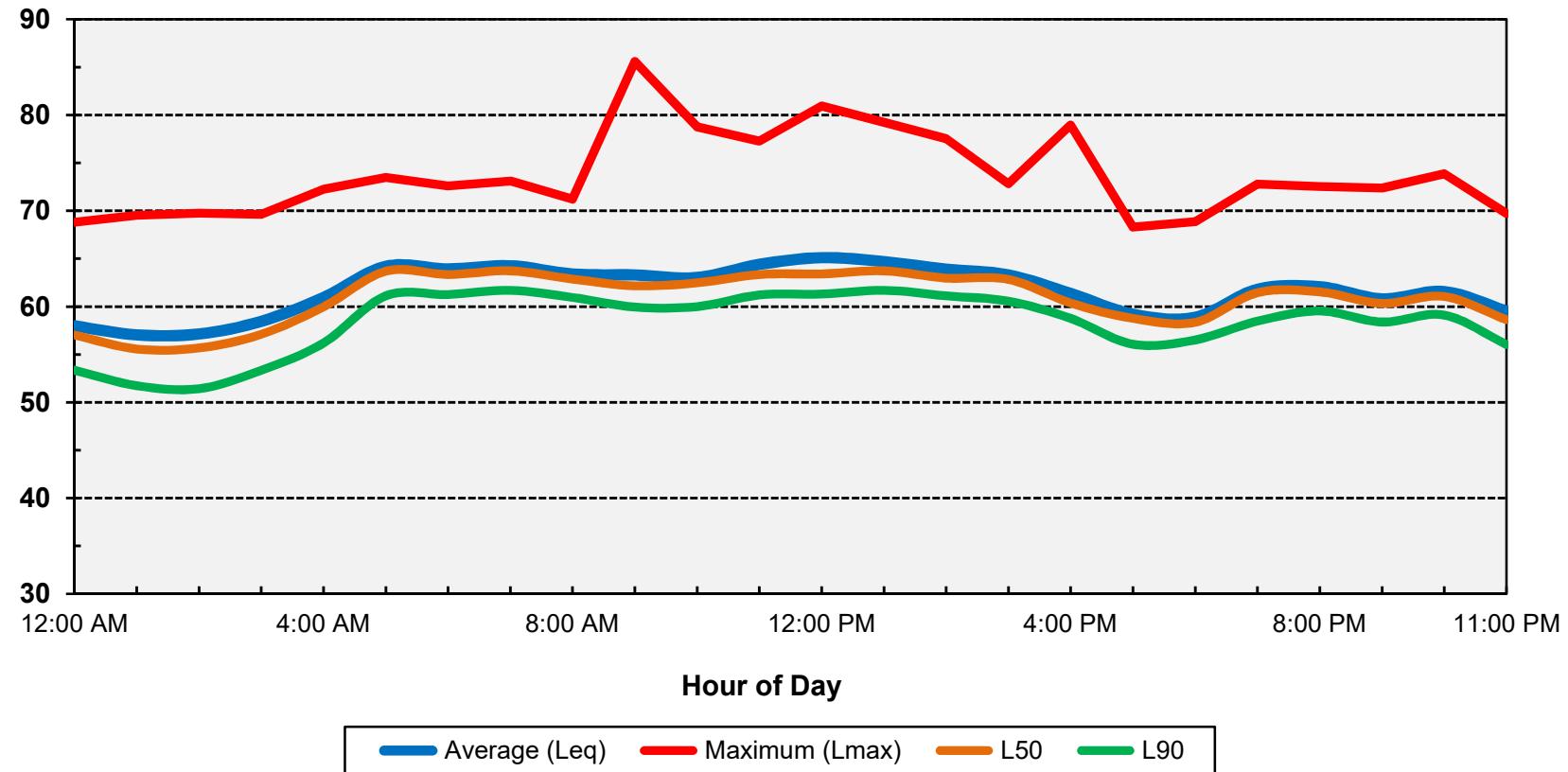
  

Computed Ldn, dB	68
% Daytime Energy	73%
% Nighttime Energy	27%



**Appendix C**  
**Home 2 Suites Hilton Milpitas**  
**Ambient Noise Monitoring Results - Site A**  
**Tuesday, December 20, 2016**

**Sound Level, dBA**



**Ldn: 68 dB**

**Appendix D-1****FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)**  
**Noise Prediction Worksheet****Project Information:**

Job Number: 2016-216  
Project Name: Home 2 Suites Hilton  
Roadway Name: Interstate 880

**Traffic Data:**

Year: Existing  
Average Daily Traffic Volume: 217,000  
Percent Daytime Traffic: 73  
Percent Nighttime Traffic: 27  
Percent Medium Trucks (2 axle): 2.5  
Percent Heavy Trucks (3+ axle): 3  
Assumed Vehicle Speed (mph): 65  
Intervening Ground Type (hard/soft): **Soft**

**Traffic Noise Levels:**

<b>Location:</b>	<b>Description</b>	<b>Distance</b>	<b>Offset (dB)</b>	<b><math>L_{dn}</math>, dB</b>				<b>Total</b>
				<b>Medium Trucks</b>	<b>Heavy Trucks</b>	<b>Autos</b>		
1	Building Façade - 1st Floor	230	0	76	66	70		77

**Traffic Noise Contours:**

<b><math>L_{dn}</math> Contour, dB</b>	<b>Distance from Centerline, (ft)</b>
75	316
70	680
65	1465
60	3155

**Notes:** The FHWA Model estimated a noise level of 77 dB Ldn, 230 feet from the centerline of I-880. Measured traffic noise levels, 230 feet from the centerline of I-880, were 68 dB Ldn. The FHWA Model is overpredicting traffic noise levels by 9 dB. This discrepancy in noise levels is believed to be due to slower vehicle speeds related to traffic flow and congestion in the area. In order to provide future traffic noise level predictions representative of local conditions, a conservative offset of -5 dB was applied to the model.



**Appendix D-2****FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)****Noise Prediction Worksheet****Project Information:**

Job Number: 2016-216  
 Project Name: Home 2 Suites Hilton  
 Roadway Name: Interstate 880

**Traffic Data:**

Year: Future  
 Average Daily Traffic Volume: 325,500  
 Percent Daytime Traffic: 73  
 Percent Nighttime Traffic: 27  
 Percent Medium Trucks (2 axle): 2.5  
 Percent Heavy Trucks (3+ axle): 3  
 Assumed Vehicle Speed (mph): 65  
 Intervening Ground Type (hard/soft): **Soft**

**Traffic Noise Levels:**

Location:	Description	Distance	Offset (dB)	L <sub>dn</sub> , dB			Total
				Autos	Medium Trucks	Heavy Trucks	
1	Building Façade - 1st Floor	230	-8	69	60	64	71
2	Building Façade - 2nd Floor	230	-5	72	63	67	74
3	Building Façade - 3rd & 4th Floors	230	-3	74	65	69	76
5	Outdoor Area - Breakout Patio	360	-8	66	57	61	68
6	Outdoor Area - BBQ Patio	430	-8	65	56	60	67
7	Outdoor Area - Deck	410	-8	66	56	60	67

**Traffic Noise Contours (with no offset):**

L <sub>dn</sub> Contour, dB	Distance from Centerline, (ft)
75	413
70	891
65	1919
60	4135

**Notes:**

1. A conservative -5 dB offset was applied due to the predicted traffic noise levels to account for the difference in measured versus modeled existing traffic noise levels. (See Appendix D-1)
2. Based on results of on-site noise measurements at elevated positions, additional offsets of +3 dB were applied to 2nd floor areas and +5 dB were applied to 3rd and 4th floor areas.
3. Total includes a -3 dB offset to account for the shielding provided the proposed building relative to Interstate 880. It is estimated that the proposed building facades and outdoor areas will be exposed to approximately 50% less traffic sound energy, which equates to approximately -3 dB.
4. Future ADT volumes for Interstate 880 were calculated utilizing published CalTrans ADT volumes (2015), and were conservatively increased one and half times (1.5).

## **Attachment F: Traffic Analysis**



October 02, 2017

Amrat (Alan) Patel  
Amdon Investments, LLC  
16500 Foothill Boulevard  
San Leandro, CA 94578  
Phone: (925) 606-6116  
Email: amdoninc@gmail.com

**Subject: Traffic Analysis Technical Memorandum for proposed Home2 Suites to be located at 1301 California Circle (APN 022-38-002) in the City of Milpitas**

Dear Mr. Patel:

This technical memorandum summarizes traffic analysis for the proposed Home2 Suites proposed to be located at 1301 California Circle (APN 022-38-002) in the City of Milpitas. The proposed project proposes to develop Home2 Suites with 150 guestrooms on an approximately 142,732 square feet lot. As per City of Milpitas General Plan, the proposed site is zoned as an Industrial Park and is located within the MP Industrial zoning district. The proposed site is located within an overall business park setting. The City of Milpitas has recently approved construction of two hotels located at 1201 Cadillac Court and 1100 Cadillac Court in the immediate vicinity of the proposed project.

**Trip Generation**

Trip generation for the proposed project was determined based on ITE Trip Generation Manual, 9<sup>th</sup> Edition published by Institute of Transportation Engineers. The proposed project is projected to generate approximately 1,226 daily trips with 80 trips occurring during the a.m. peak hour and 90 trips occurring during the p.m. peak hour.

Land Use	Size	Daily				A.M. Peak Hour				P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total	
Hotel	150	Rooms	8.17	1,226	0.53	59:41	47	33	80	0.60	51:49	46	44	90

Source: ITE Trip Generation Manual, 9<sup>th</sup> Edition

**Impact Analysis**

According to the City of Milpitas General Plan, the Level-of-Service (LOS) basic standard is LOS E. LOS E implies that there are significant approach delays and average speeds of 1/3 the free-flow speed or lower.

Based on the traffic impact analysis conducted and approved for the project located at 1210 California Circle (*1210 California Circle Residential Development – Draft Traffic Impact Analysis, prepared by Hexagon Transportation Consultants*) dated July 22, 2014 the intersections of: California Circle/I 880 Northbound Ramps; California Circle/Dixon Landing Road; I 880



Technical Memorandum for proposed Home2 Suites to be located at 1301  
California Circle (APN 022-38-002) in the City of Milpitas

October 2, 2017

Page 2 of 2

Southbound Ramps/Dixon Landing Road are projected to operate at acceptable LOS thresholds under existing and background conditions.

Based on the number of additional trips projected to be generated from the proposed project, existing and future LOS at the intersections within the immediate vicinity of the project, it is projected that the proposed project would not have any significant impacts on the transportation infrastructure in the immediate vicinity.

### **Parking**

Based on the Parking Generation, 4<sup>th</sup> Edition, published by Institute of Transportation Engineers the maximum parking demand for the proposed project is estimated to be approximately 134 parking spaces. The projected demand is worst case scenario as it assumes 100% occupancy at the proposed hotel. The proposed project proposes to provide approximately 195 parking spaces. The proposed parking spaces exceeds the projected demand by approximately 45%.

### **Site Circulation**

The proposed site plan (Attached) proposes to provide access to the proposed project via two access driveways located on California Circle. TJKM evaluated the operations and circulation based on the proposed site plan. Based on the evaluation the proposed site plan for operations and circulation is adequate. TJKM recommends that the two access driveways be designed to provide sufficient sight distance for traffic entering and exiting the proposed project. The proposed project is projected not to have any significant impact on the pedestrian and bicycle infrastructure in the immediate vicinity of the project.

### **Conclusion**

The proposed project is consistent with the land uses permitted as per the City of Milpitas General Plan and is projected to add approximately 1,226 daily trips with 80 trips occurring during the a.m. peak hour and 90 trips occurring during the p.m. peak hour. Based on the analysis conducted in the immediate vicinity of the project, addition of 80 trips during the a.m. peak hour and 90 trips occurring during the p.m. peak hour from the proposed project is projected not to have any significant impacts on the LOS in the immediate vicinity of the project.

The proposed project proposes to provide access to the project via two access driveways on California Circle. It is recommended that the proposed driveways be designed to provide sufficient sight distance for traffic entering and exiting the proposed project.

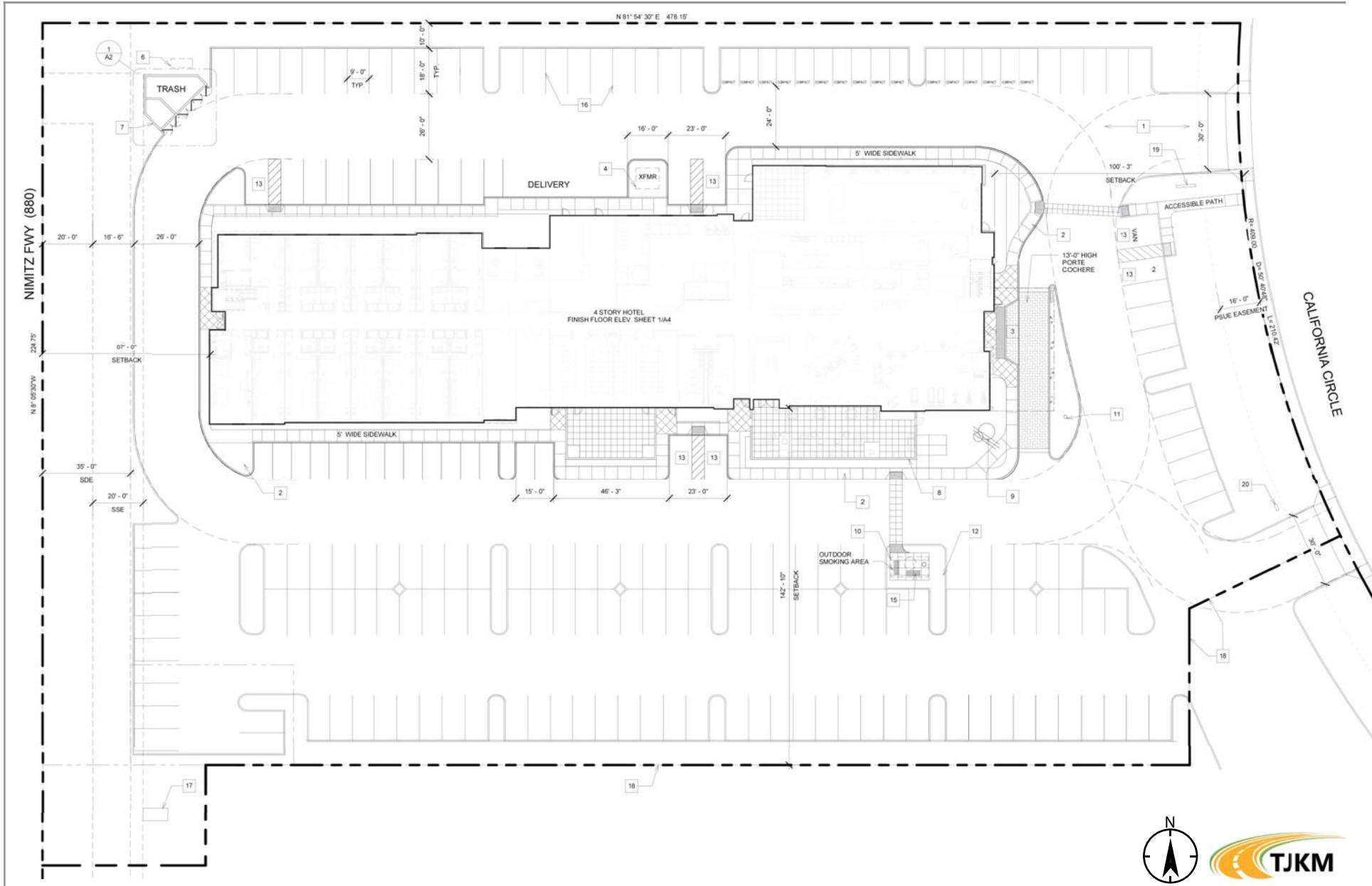
Please feel free to contact me if you have any questions at 925-264-5002 or [namin@tjkm.com](mailto:namin@tjkm.com)

Sincerely,

A handwritten signature in black ink, appearing to read "Nayan Amin".

Nayan Amin, T.E.

## Site Plan



Source: RYS Architects

