APPENDIX G

GEOTECHNICAL FEASIBILITY INVESTIGATION

PREPARED BY
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Geotechnical Feasibility Investigation

The Crescent Mixed-Use Development
1250 Lakeside Drive
Sunnyvale, California

Report No. 2131-1 has been prepared for:

The Steinberg Group Architects
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March 18, 2005

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GEOTECHNICAL FEASIBILITY INVESTIGATION
THE CRESCENT MIXED-USE DEVELOPMENT
1250 LAKESIDE DRIVE
SUNNYVALE, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of our geotechnical feasibility investigation for the proposed mixed-use development to be located northwest of the Lakeside Drive and Oakmead Parkway intersection at 1250 Lakeside Drive in Sunnyvale, California. The location of the site is shown on the Vicinity Map, Figure 1.

The purpose of our investigation was to review our files and published data regarding the subsurface conditions near the vicinity of the site and to develop an opinion regarding the geotechnical conditions that might impact the proposed development. In addition, this study provides preliminary geotechnical recommendations for your forward planning, cost estimates, and preliminary design of the project.

We understand that this report will be incorporated into the EIR that David J. Powers is preparing for the City of Sunnyvale.

1.1 Project Description

As presently planned, the project will consist of demolishing the existing hotel buildings and redeveloping the site with a new two- to seven-story hotel, and four six- to seven-story condominium buildings, overlying one level of podium parking. The hotel will be a combination of steel–and-concrete-framed construction. The condominium structures are planned as steel-frame construction above the concrete podium. The podium parking will continue between the residential buildings to include landscaped common space on top of the podium. A detached three-story, four level concrete-frame parking garage is also planned. All structures will be constructed at current site grades; there is no planned below grade construction. Associated surface pavements, landscaping, and underground utilities are also planned. The site is bounded by Lakeside Drive to the north and west, commercial buildings to the south, and existing residential developments to the east.

1.2 Project Background

As you may know, Erler & Kalinowski, Inc. (EKI), the environmental engineer for the project, has written a memorandum summarizing their findings at the project site, dated September 13, 2004. Their memorandum states that the project site is located within an area zoned by the California Regional Water Quality Control Board as having trichloroethene (TCE) in the ground water due to a chemical release from National Semiconductor Corporation (NSC) and Advanced Microdevices (AMD) up-gradient from the project site.

Multiple ground water aquifers exist within the site vicinity. According the memorandum prepared by EKI, the upper two aquifers, which were encountered at a

depth of approximately 7 to 40 feet below the ground surface, are impacted by the chemicals of concern at the project site. Foundation construction that extends into these aquifers, specifically between 20 to 40 feet below the ground surface, will need to be evaluated to reduce the potential for cross contamination of the aquifers.

1.3 Scope of Services

Our scope of services was presented in our agreement with you dated February 1, 2005. To accomplish this feasibility investigation, we provided the following services:

- Review our files regarding nearby subsurface investigations and published references.
- Engineering analysis to evaluate potential geotechnical and geologic hazards.
- Preparation of this report to summarize our findings and to present our preliminary conclusions and recommendations for the project.

2.0 SUBSURFACE CONDITIONS

We reviewed subsurface information in our files for an adjacent site to the west of the project site. Using this subsurface data, it appears that the site is likely underlain by low to moderately expansive clays blanketing the site with interbedded layers of loose to very dense sands and stiff to very stiff, moderately compressible clays to depth of approximately 100 feet, the maximum depth previously explored. Very dense sand layers on the order of 4 to 8 feet thick exist at a depths of approximately 30 feet and 60 feet below the ground surface at the adjacent site. These dense sand layers may extend beneath our site as well.

According to Plate 1.2 of the Seismic Hazard Zone Report 060, prepared by the California Geological Survey (CGS, 2004), historic high ground water in the site vicinity is considered to be on the order of 8 feet below the ground surface. Data presented in the memorandum prepared by EKI indicate that the ground water level near the site vicinity ranges between 6 to 12 feet. Using the subsurface information of the adjacent site, ground water was encountered at depths ranging from approximately 7½ to 12 feet below the ground surface. In addition, we understand that a nearby project site has a permanent dewatering system that draws down the groundwater table at their site; the zone of influence will likely affect the northwest portion of our site. Fluctuations in the level of the ground water may occur due to variations in rainfall, underground drainage patterns, and other factors not evident at the time the ground water level measurements were made.

3.0 GEOLOGIC HAZARDS

A brief qualitative evaluation of geologic hazards was made during this investigation. Our comments concerning these hazards are presented below.

3.1 Fault Rupture Hazard

A Regional Fault Map illustrating known active faults relative to the site is presented in Figure 3. The site is not located within a currently designated Alquist-Priolo

Earthquake Fault Zone (known formerly as a Special Studies Zone), nor is it located within a Fault Rupture Hazard Zone as designated by Santa Clara County. Since no known surface expression of active faults is believed to cross the site, fault rupture through the site is not anticipated.

3.2 Ground Shaking

Strong ground shaking can be expected at the site during moderate to severe earthquakes in the general region. This is common to all developments in the San Francisco Bay Area. The "Seismicity" section that follows summarizes potential levels of ground shaking at the site.

3.3 Liquefaction

The site is located within an area zoned by the State of California as having potential for seismically induced liquefaction hazards (CGS, 2004 – Milpitas Quadrangle) and it is located in a Santa Clara County liquefaction hazard zone. During cyclic ground shaking, such as during earthquakes, cyclically induced stresses may cause increased pore water pressures within the soil matrix, resulting in liquefaction. Liquefied soil may lose shear strength that may lead to large shear deformations and/or flow failure under moderate to high shear stresses, such as beneath foundations or sloping ground (Youd, et al., 2001). Liquefied soil can also settle (compact) as pore pressures dissipate following an earthquake. Limited field data is available on this subject; however, in some cases, settlement on the order of 2 to 3 percent of the thickness of the liquefied zone has been measured.

Soils most susceptible to liquefaction are loose to moderately dense, saturated non-cohesive soils with poor drainage, such as sands and silts with interbedded or capping layers of relatively low permeability soil.

Based on a review of the boring logs preformed by others at the adjacent site to the northwest, there appears to be a potential for some sand layers to undergo post-liquefaction settlement. The sampling methods used to determine Standard Penetration Test blow-counts (N-values), however, were not compatible with current analysis methods to evaluate the settlement magnitudes. The shallow sands encountered at the site were capped with a sufficiently thick non-liquefiable layer, in our opinion, to prevent ground rupture. A detailed liquefaction analysis should be performed during the design-level investigation, based on site-specific subsurface exploration and laboratory testing.

3.4 Differential Seismic Compaction

If near-surface soils vary in composition both vertically and laterally, strong earthquake shaking can cause non-uniform compaction of soil strata, resulting in movement of the near-surface soils. The subsurface soils encountered adjacent to the site are generally stiff to very stiff clays and loose to very dense sands. Because the ground water elevations will vary across the site due to the draw-down at a nearby site, settlements related to seismic shaking of unsaturated sands may also vary across the site. A detailed review of the potential for differential seismic compaction should be performed during the design-level investigation.

3.5 Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. A manmade lake, approximately 3 feet deep or less, exists along the southern property boundary to separate the office park from the existing hotel. The manmade lake is likely lined with concrete. Since the shallow manmade lake does not influence the nearby ground water levels, we judge the probability of lateral spreading occurring at the site during a seismic event to be low.

4.0 SEISMICITY

4.1 Regional Active Faults

The San Francisco Bay Area is one of the most seismically active regions in the United States. The significant earthquakes that occur in the Bay Area are generally associated with crustal movement along well-defined, active fault zones of the San Andreas Fault system, which regionally trend in a northwesterly direction. The San Andreas Fault, which generated the great San Francisco earthquake of 1906, passes about 10 miles southwest of the site. Other active faults in the site region are the potentially active Monte Vista – Shannon Fault, located about 7 miles southwest of the site, the Hayward Southeast Extension, located about 7½ miles northeast of the site, the Hayward Fault, located about 10 miles northeast of the site, and the Calaveras Fault, located about 11 miles northeast of the site.

4.2 Maximum Estimated Ground Shaking

The Probabilistic Seismic Hazard Analysis (PSHA) performed by the CGS (CGS, 2004 – Milpitas Quadrangle), estimates a pseudo-peak horizontal acceleration of 0.51g with a 10 percent chance of exceedance in 50 years at the site. Pseudo-peak ground accelerations have been normalized to a 7.5Mw seismic event, weighted to account for regional seismic activity and fault distances.

4.3 Future Earthquake Probabilities

Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when or where an earthquake will occur. The U.S. Geological Survey's Working Group on California Earthquake Probabilities (2003), referred to as WG02, determined there is a 62 percent chance of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay region between 2002 and 2031. This result is an important outcome of WG02's work, because any major earthquake can cause damage throughout the region.

This potential was demonstrated when the 1989 Loma Prieta earthquake caused severe damage in Oakland and San Francisco, more than 50 miles from the fault rupture. Although earthquakes can cause damage at a considerable distance, shaking will be very intense near the fault rupture. Therefore, earthquakes located in urbanized areas of the region have the potential to cause much more damage than the 1989 Loma Prieta earthquake.

5.0 CONCLUSIONS AND DEVELOPMENT CONSIDERATIONS

5.1 General

From a geotechnical engineering viewpoint, in our opinion, the site is suitable for the proposed redevelopment. The preliminary recommendations that follow are intended to allow conceptual planning and preliminary design. We recommend that a design-level geotechnical investigation be performed once conceptual grading plans and building locations have been finalized. Results from our design-level investigation would be used to confirm our preliminary findings and develop detailed recommendations for final design.

The geotechnical concerns at the site are as follows:

1) We anticipate that static differential settlements from shallow foundations will be a concern for all structures due to the anticipated range of structural loads and likely presence of moderately compressible, saturated clays. The majority of the total settlements will occur as the saturated clays consolidate over a period of several years. The potential for differential movement may be increased due to the permanent dewatering at the adjacent site. If the magnitude of the differential settlements, including seismic differential movement, are not tolerable from a structural viewpoint, deep foundations may need to be used. The design-level investigation will evaluate the compressibility of the clays under the different loading conditions. A further discussion of likely foundations types and issues is presented in the "Foundation" section below.

2) As the site is within a state liquefaction hazard zone and sand layers were encountered at the adjacent site that appear to have the potential for liquefaction, it is likely that liquefiable sand layers are present beneath the project site. Foundations will need to be designed to accommodate both static and seismic total and differential settlements.

3) The site is likely to be blanketed by moderately expansive clayey soil. If moderately expansive clays are encountered during the design level investigation, we will recommend that slabs-on-grade and foundations be designed to reduce the potential for damage to the future structures. This would likely include extending foundations below the zone of seasonal moisture fluctuation and supporting slabs-on-grade on a layer of non-expansive fill.

5.2 Design-Level Geotechnical Investigation

Our geotechnical feasibility investigation was based on limited information regarding site development. In addition, because subsurface conditions may vary considerably from those encountered at a nearby site 16 years ago, and to confirm that our report recommendations have been properly implemented, we recommend that we be retained to 1) perform a design-level geotechnical investigation once site development plans are completed, 2) review the final construction plans and specifications, and 3) observe the earthwork and foundation installation.

A design-level report will include subsurface exploration at the site, evaluation of appropriate foundation systems for the proposed structures and, since this site is

located within a liquefaction hazard zone, exploration will be preformed to address the liquefaction potential at the site.

5.3 Earthwork

No unusual earthwork requirements are anticipated. Backfilling of holes or pits resulting from demolition and removal of existing buried utilities should be carried out under our observation, and all of the backfill should be properly compacted and tested during placement. Shallow ground water may be encountered during installation of underground utilities. The need for appropriate shoring and dewatering methods should be anticipated.

5.4 Building Foundations

Based on our experience with similar structures and similar soil and ground water conditions, we anticipate that the hotel, residential podium, and parking garage structures will be supported on either a combination of grid and mat foundations or on deep foundations. The foundation type will be based on the magnitude of the total and differential, static and seismic settlements, and the ability of the structures and architectural finishes to tolerate the movement. The design-level investigation will explore the subsurface materials at the proposed building locations on site and perform seismic and static settlement analyses to evaluate appropriate foundation systems for the proposed buildings.

5.4.1 Footings

Since the surface soils may have a moderate expansion potential and the proposed buildings are two- to seven-stories, conventional shallow footings would likely extend at least 24 to 30 inches below the lowest adjacent finished grade, considered as the bottom of interior slab-on-grade or the finished exterior grade, excluding landscape top soil, whichever is lower.

On a preliminary basis, we anticipate that footings would be capable of supporting maximum allowable bearing pressures on the order of 2,000 pounds per square foot (psf) for dead load, 3,000 psf for combined dead and live loads, and 4,000 psf for all loads including wind or seismic. The allowable bearing pressures will likely be relatively low to reduce the magnitude of static differential settlements.

During the design-level investigation, detailed settlement analyses should be preformed to determine the estimated static and seismic settlements at the building locations. Due to the anticipated range of structural loads, the differential settlements may not be tolerable from a structural or architectural finish viewpoint for spread or grid footings to be feasible. Of the three structures, the parking structure is the most likely structure to be adequately supported on spread footings.

5.4.2 Reinforced Mats

The seven-story residential buildings, hotel, and parking structure may potentially be supported on conventional reinforced mat foundations, if the differential settlement estimates are tolerable. We anticipate that mat foundations would be capable of supporting an average allowable bearing pressure on the order of 1,000 pounds per

square foot (psf) for dead plus live loads with maximum localized bearing pressures of up to 2,500 psf at column or wall loads.

5.4.3 Driven Pre-cast Concrete Piles

If the shallow foundation settlements estimated during the design-level investigation are not tolerable from a structural or architectural finish viewpoint, the structures may be supported on driven piles. While driven pre-cast, pre-stressed concrete piles are the most common pile choice in the area, we anticipate that pre-drilling to depths of about 35 to 45 feet will be required due to the anticipated relatively thick sand layers that will be difficult to drive through. As the sand layers encountered at the adjacent site are not thick enough to support end bearing loads, friction piles will be the appropriate type. Pre-drilling will generate significant spoils for off-haul as well as extra drilling time, and a potential for cross-contamination of the aquifers. Driven piles will also generate noise and vibrations during the installation process.

5.4.4 Displacement Augercast Piles

While less common in the Bay area, augercast piles have been successfully used for a project in downtown San Jose in similar soil conditions. Augercast piles are cast-in-place concrete piles that are drilled using a hollow-stem auger and pumping sand-cement grout through the bottom of the auger as the auger is retracted. Two types of augercast piles are available: APG piles, which like piers, remove the soil column and replace it with grout; and the APGD piles, which displace the soil prior to grout placement. We anticipate that displacement piles may be feasible so the drilling spoils generated would be minor. Augercast piles are a low noise and vibration installation compared to driven piles, and would not require pre-drilling through the thick sand layers. Various types of steel reinforcing including rebar cages or H-piles may be installed into the still wet grout after drilling.

5.4.5 Slab-on-Grade Floors

Moderately expansive soils are likely to be encountered during our design-level investigation. To reduce the potential for damage to the planned structures due to the presence of moderately expansive surficial soils, we recommend slabs-on-grade used in conjunction with footings or piles have sufficient reinforcement and be supported on a layer of non-expansive fill on the order of 12 inches thick. Non-expansive fill may consist of imported soil with a Plasticity Index (PI) of 15 or less, or the on-site soils may be chemically treated with lime to reduce the expansion potential. A slab moisture protection system consisting of a vapor retarder meeting at least ASTM E 1745 Class C requirements and 4 inches of crushed rock may be placed above the non-expansive fill.

5.5 Surface Improvements

Since the surficial site soils may have a moderate expansion potential, surface improvements such as garage slabs, concrete slabs, sidewalks and flatwork will likely need to be underlain by a non-expansive fill layer on the order of 6 inches or greater.

Based on our engineering experience and judgment, on-site soils are expected to have low supporting capacity when used as pavement subgrade. It should be anticipated that pavement section thicknesses will be based on an estimated design R-value of 10

or less, which will require a slightly thicker pavement section than sites with better subgrade soils.

Using estimated traffic indices for various pavement-loading requirements, we developed the following recommended pavement sections based on an assumed R-value of 10 and Procedure 608 of the Caltrans Highway Design Manual, presented in Table 4.

Table 4. Recommended Asphalt Concrete Pavement Design Alternatives Pavement Components Assumed Design R–Value = 10

Design Traffic Index	Asphalt Concrete (Inches)	Aggregate Baserock* (Inches)	Total Thickness (Inches)
4.0	2.5	7.0	9.5
4.5	2.5	8.5	11.0
5.0	3.0	9.0	12.0
5.5	3.0	11.0	14.0
6.0	3.5	11.5	15.0
6.5	4.0	13.0	17.0

*Caltrans Class 2 aggregate base; minimum R-value equal to 78.

6.0 LIMITATIONS

This report has been prepared for the sole use of Millennium Hotels & Resorts, specifically for conceptual planning of the proposed residential development to be located at Lakeside Drive in Cupertino, California. The opinions presented in this report have been formulated in accordance with generally accepted geotechnical engineering practices that exist in the San Francisco Bay Area at the time this report was prepared. No other warranty, expressed or implied, is made or should be inferred. We are not responsible for the data presented by others.

The opinions, preliminary conclusions and development considerations contained in this report are based upon the information obtained from previous explorations at widely separated locations at an adjacent site, site reconnaissance, review of data made available to us, and upon local experience and engineering judgment. The preliminary conclusions and considerations presented in this report are based on the assumption that soil and geologic conditions at or between explorations do not deviate substantially from those encountered. In addition, geotechnical issues may arise that are not apparent at this time. The geotechnical engineer should be retained to perform a design-level geotechnical investigation of the site.

The opinions presented in this report are valid as of the present date for the property evaluated. Changes in the condition of a property can occur with the passage of time, whether due to natural processes or the works of man, on this or adjacent properties. In addition, changes in applicable standards of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the opinions presented in this report may be invalidated, wholly or partially, by changes outside of our control. Therefore, this report is subject to review and should not be relied upon after a period

of three years, nor should it be used, or is it applicable, for any property other than that evaluated.

7.0 REFERENCES

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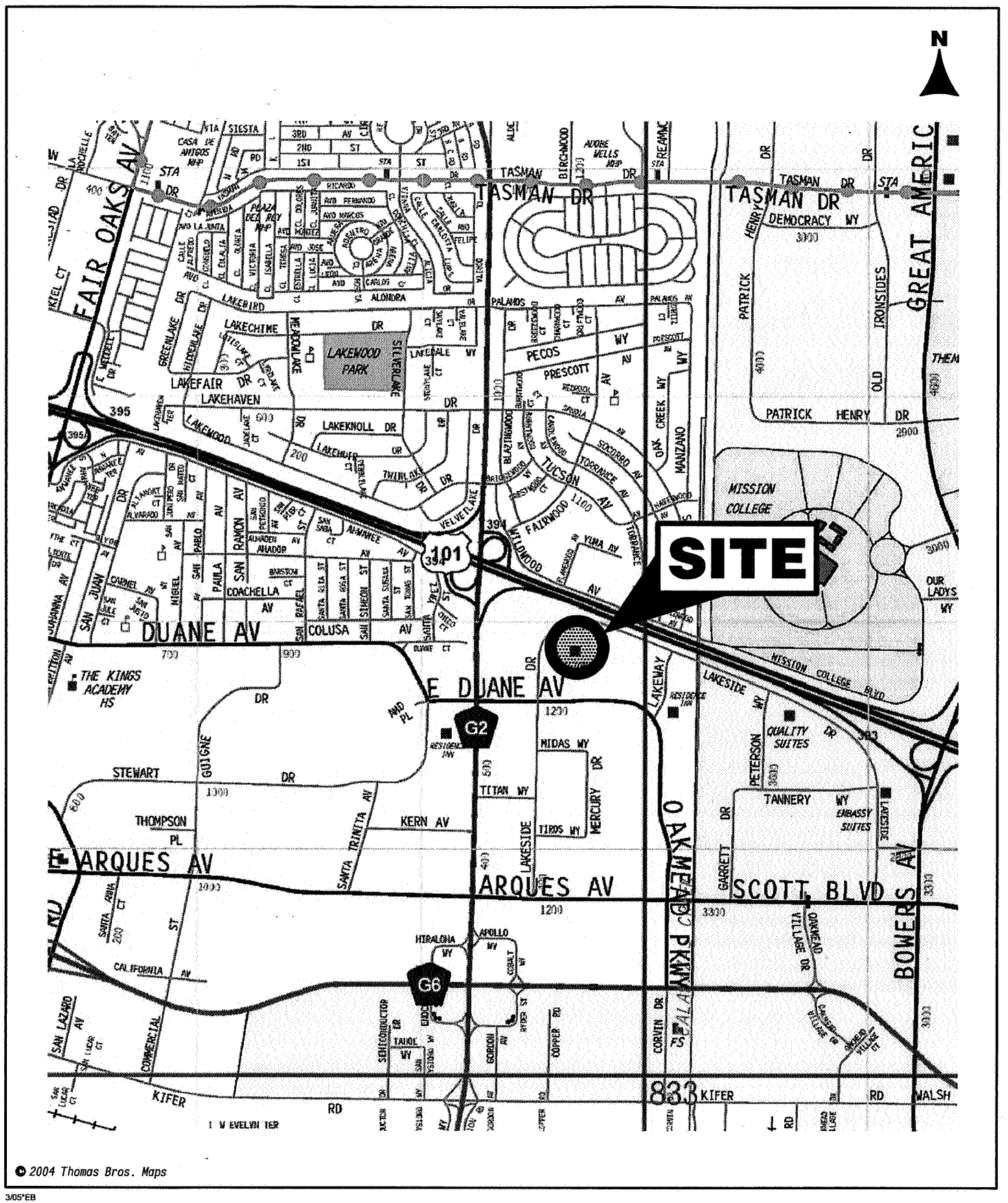

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VICINITY MAP

THE CRESCENT MIXED-USE DEVELOPMENT
Sunnyvale, California

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 1
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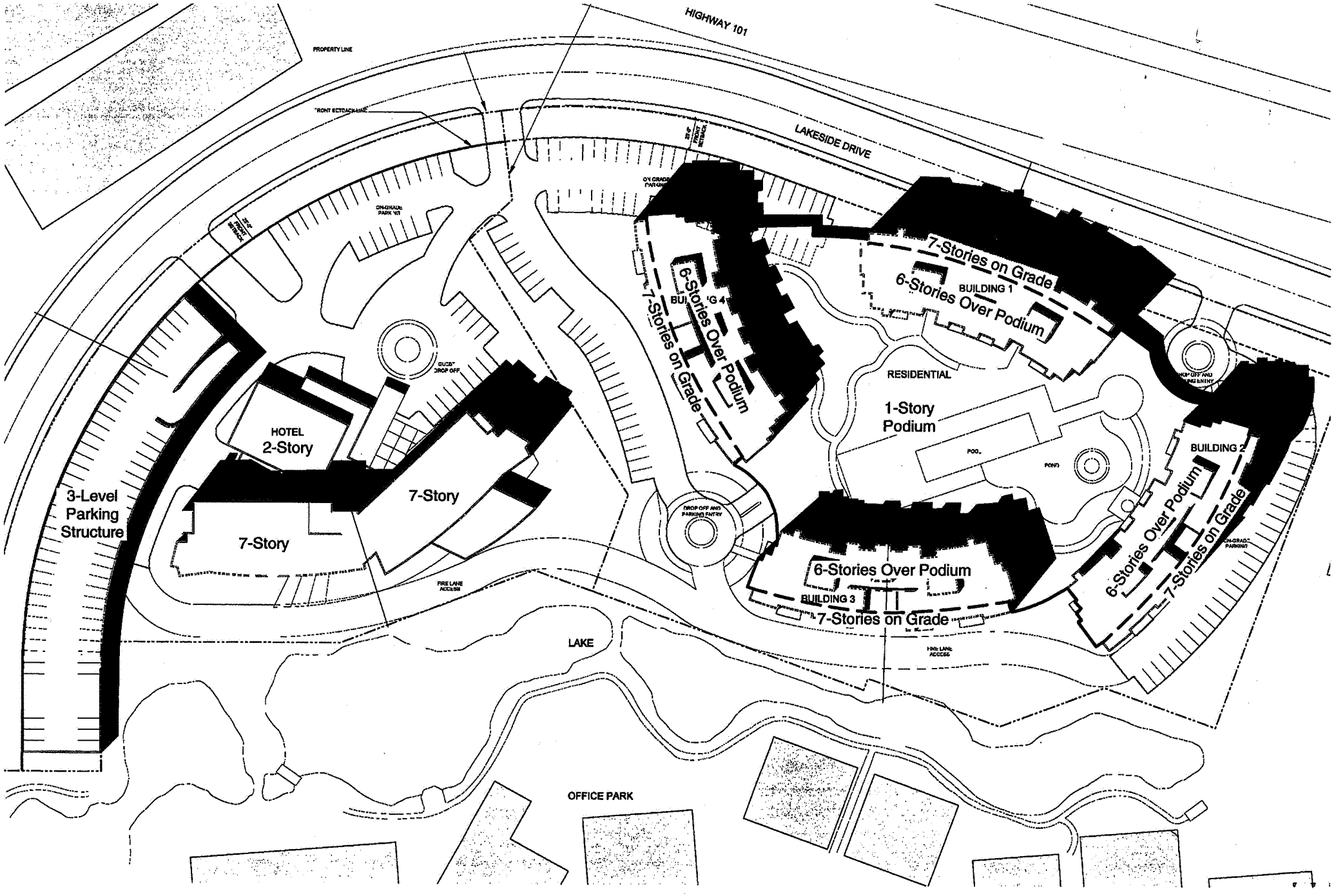
HIGHWAY 101
PROPERTY LINE
LAKESIDE DRIVE
ON-GRADE PARKING
7-Stories on Grade
6-Stories Over Podium
BUILDING 1
RESIDENTIAL
1-Story Podium
POND
BUILDING 2
6-Stories Over Podium
7-Stories on Grade
6-Stories Over Podium
7-Stories on Grade
BUILDING 3
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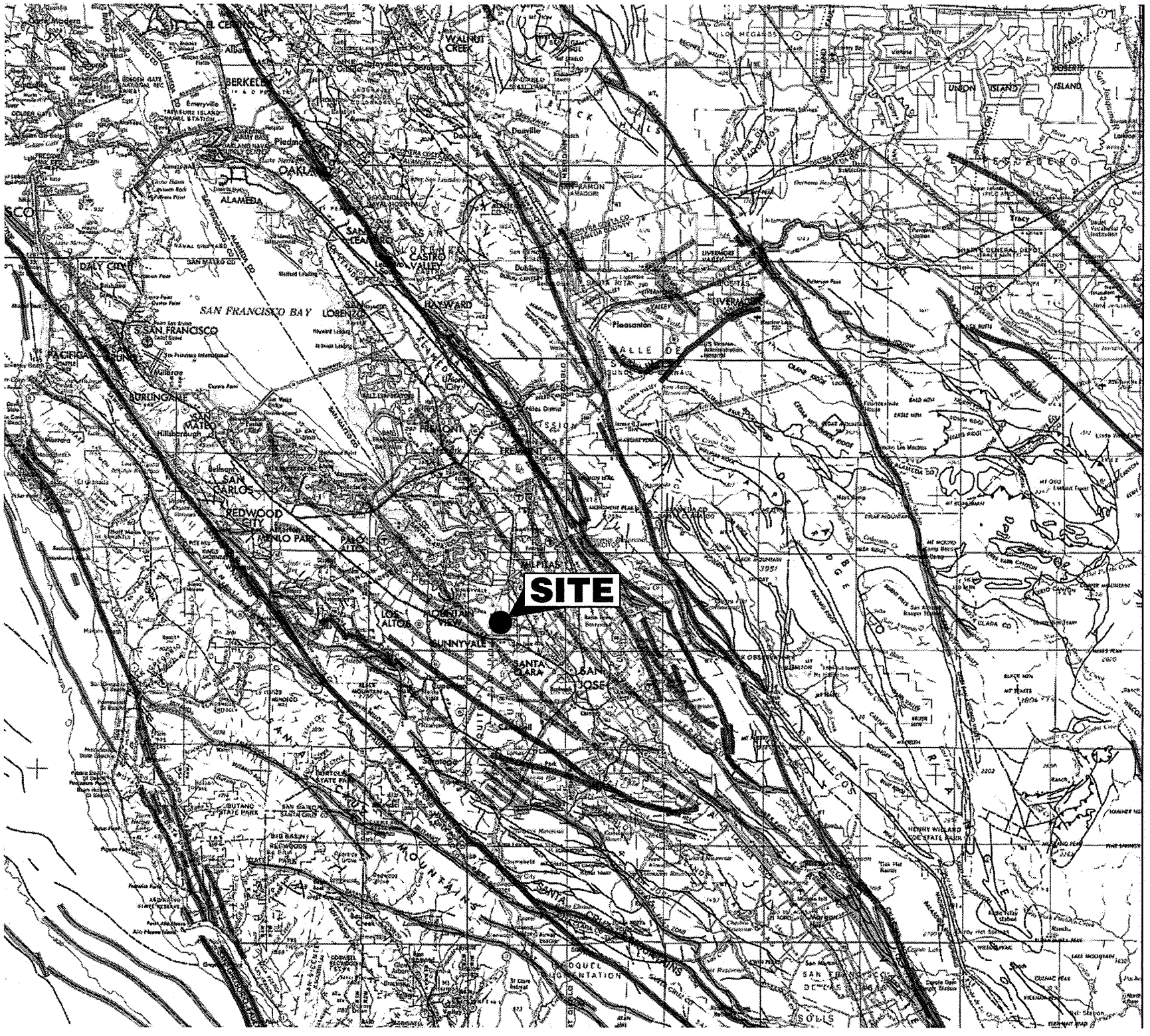
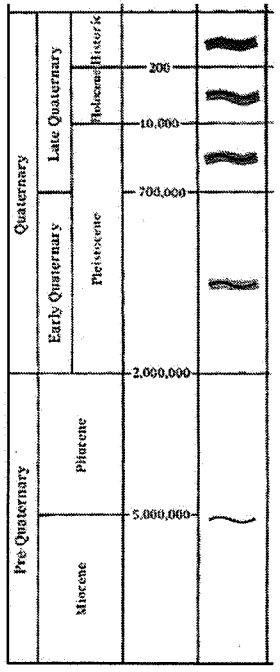
HOTEL
2-Story
7-Story
7-Story
3-Level Parking Structure
FIRE LANE ACCESS
LAKE
OFFICE PARK





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DRAFT

11 May 2005

MEMORANDUM

To: Ms. Susan Schmidt (Millennium)

From: Michelle K. King, Ph.D. (Erler & Kalinowski, Inc.)
Melissa B. Mills (Erler & Kalinowski, Inc.)

Subject: Soil and Soil Gas Investigation Findings
1250 Lakeside Drive, Sunnyvale, California
(EKI A40033.01)

This memorandum serves as a summary of the findings from soil and soil gas investigations performed by Erler & Kalinwoski, Inc. ("EKI") at 1250 Lakeside Drive ("the Site").

Initial Soil and Soil Gas Investigation

Soil and soil gas sampling was conducted at the Site on 10 March 2005. Samples were collected from six locations across the Site. The soil investigation consisted of two sample depths, 0.5 to 1 foot below ground surface ("ft bgs") and 2.5 to 3 ft bgs. The samples from 0.5 to 1 ft bgs were analyzed for pesticides, herbicides, lead, and arsenic, and the deeper samples were placed on hold at the laboratory. Based on the findings of the initial soil investigation, EKI performed additional soil sampling for pesticides on 20 April 2005. For the April sampling event, samples were obtained from 15 locations and five composite samples were created from these locations. The composite samples were analyzed for pesticides and the individual samples were placed on hold. The results of these investigations were as follows:

1. Soil Gas: Several compounds were detected in the shallow soil gas samples, including petroleum-related compounds toluene and xylenes, Freon 113, chloroform, and chlorobenzene (see Table 1). Trichloroethene ("TCE"), the primary compound of concern at the National Semiconductor ("NSC") plume, was not detected. The source of the detected chemicals is not known. All of the concentrations detected were significantly below the Regional Water Quality Control Board, San Francisco Bay Region ("RWQCB") Environmental Screening Levels ("ESLs") and the California Environmental Protection Agency ("Cal-EPA") California Human Health Screening for soil gas at residential sites.

2. Herbicides in Shallow Soil: No herbicides were detected in any of the soil samples.

3. Pesticides in Shallow Soil: DDT and its breakdown products (DDE and DDD) and chlordane were detected in shallow soil (See Table 2). In the March 2005 sampling event, only

one soil sample, SB-2, contained chlordane at a concentration that exceeded the residential ESLs for soil (1.27 mg/kg vs. 0.44 mg/kg). All other pesticide concentrations, including DDT and its breakdown products were below residential ESLs for soil and hazardous waste criteria. No pesticides were detected in the laboratory analysis of the deeper soil sample from the location of elevated chlordane concentration. Chlordane was commonly used for termites, cockroaches, and other such bugs, so chlordane concentrations could be attributed to hotel use or historical agricultural uses. Results of the April 2004 follow-up investigation of chlordane in soil are summarized below.

Chlordane concentrations in the composite soil sample from the area surrounding SB-2 were 0.0838 mg/kg, which is below the residential soil ESL for chlordane (0.44 mg/kg). Composite sample SBC-16, 17, 18 contained chlordane at 0.887 mg/kg, which exceeds the residential soil ESL for chlordane. This composite sample included three samples collected from the planters along the south side of the auxiliary hotel buildings.

Based on these findings, the individual samples that comprised sample SBC-16, 17, 18 were analyzed for pesticides. Chlordane, DDD, and DDE were detected in samples SB-16 and SB-17, but the concentrations were below residential soil ESLs. Sample SB-18 contained chlordane at 2.55 mg/kg, which exceeds the residential soil ESL.

4. Lead and arsenic in Shallow Soil: Arsenic was present at background concentrations in all soil samples. Lead was generally present at background levels, except at one location. The concentration of lead (71.9 mg/kg) potentially exceeds hazardous waste criteria, but is less than residential soil ESLs.

Conclusions

TCE, which may be present in groundwater at the Site due to the neighboring NSC plume, was not detected in shallow soil gas. Other VOCs that were detected in soil gas are present below residential soil gas ESLs, suggesting there should be no significant adverse health risks due to chemicals volatilizing from groundwater. Herbicides were not detected in soil samples from the Site, and of the pesticides detected at the Site, only chlordane was found at two locations above residential soil ESLs. Chlordane detections on the Site are likely the result of legal applications in the past. EKI recommends presenting these sampling results to a regulatory agency, likely the Santa Clara County Department of Environmental Health, to assess whether hot-spot remediation is required. Remediation, if any, would be performed under the oversight of a regulatory agency.

cc: Kim Green, The Steinberg Group
Lyle Boll, Millennium Hotels & Resorts

TABLE 1
SUMMARY OF SOIL GAS RESULTS FOR VOLATILE ORGANIC COMPOUNDS
1250 Lakeside Drive, Sunnyvale, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft. bgs)	Analytical Results (µg/m3)						
				Benzene	Chlorobenzene	Chloroform	Toluene	Trichloroethene	Trichlorotrifluoroethane	Xylenes, m & p
SG-1	SG-1-031005	3/10/2005	5	<3.19	<4.6	<4.88	7	<5.37	285	<4.34
SG-1	SG-7-031005	3/10/2005	5	<3.19	<4.6	<4.88	5	<5.37	304	<4.34
SG-2	SG-2-031005	3/10/2005	5	<3.19	<4.6	20	5	<5.37	10	8
SG-3	SG-3-031005	3/10/2005	5	5	<4.6	<4.88	12	<5.37	<7.66	6
SG-4	SG-4-031005	3/10/2005	5	<3.19	<4.6	<4.88	10	<5.37	<7.66	5
SG-5	SG-5-031005	3/10/2005	5	4	20	<4.88	10	<5.37	<7.66	6
SG-6	SG-6-031005	3/10/2005	5	<3.19	<4.6	<4.88	5	<5.37	328	<4.34
CHHSL for Residential Soil Gas				**36.2**	**na**	**na**	**135,000**	**528**	**na**	**315,000**
ESLs for Residential Shallow Soil Gas				**85**	**12,000**	**450**	**63,000**	**1,200**	**na**	**150,000**

Abbreviations:

<0.50 - Compound not detected at or above indicated laboratory detection limit
µg/m3 - micrograms per cubic meter
CHHSL - California Human Health Screening Level (California EPA, dated January 2005, Table 2–California Human Health Screening Levels for Indoor Air and Soil Gas)
ESL - Environmental Screening Level (California Regional Water Quality Control Board, Region 2, Interim Final, dated February 2005, Table E-3–Indoor Air Screening Levels)
ft. bgs - feet below ground surface
na - Not Available
PRG - US EPA Region IX Preliminary Remediation Goals for Ambient Air, October 2004

Notes:

(a) The Modified PRG for Soil Gas was calculated by dividing the Ambient Air PRG by an attenuation factor of 0.0009 for future residential slab-on-grade sites, consistent with the Department of Toxic Substances Control Vapor Intrusion guidance, entitled Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, Interim Final and dated 7 February 2005.

TABLE 2
SUMMARY OF SOIL RESULTS FOR PESTICIDES, HERBICIDES, LEAD AND ARSENIC
1250 Lakeside Drive, Sunnyvale, California

Sample Location	Sample Date	Sample Depth (ft. bgs)	Pesticides Analytical Results (mg/kg)				Herbicides (mg/kg)	Metals (mg/kg)	
			Chlordane, Total	DDD	DDE	DDT	Herbicides	Arsenic	Lead
SB-1	3/10/2005	0.5 - 1	0.15	<0.01	0.02	<0.01	--	<2.5	9.9
SB-2	3/10/2005	0.5 - 1	**1.27**	0.03	0.14	0.02	--	**2.5**	8.4
SB-3	3/10/2005	0.5 - 1	<0.05	<0.01	0.02	<0.01	--	**2.6**	11
SB-3	3/10/2005	2.5 - 3	<0.05	<0.01	<0.01	<0.01	--	--	--
SB-4	3/10/2005	0.5 - 1	<0.05	<0.01	0.06	<0.01	--	<2.5	8.4
SB-5	3/10/2005	0.5 - 1	<0.05	0.02	0.11	<0.01	--	<2.5	8.6
SB-6	3/10/2005	0.5 - 1	<0.05	0.02	0.06	<0.01	--	**3.4**	71.9
SBC-7,8,9-042005	4/20/2005	0 - 0.5	0.08	0.01	0.05	<0.01	--	--	--
SBC-10,11,12-042005	4/20/2005	0 - 0.5	<0.05	<0.01	0.02	<0.01	--	--	--
SBC-13,14,15-042005	4/20/2005	0 - 0.5	0.20	0.02	0.17	<0.01	--	--	--
SBC-16,17,18-042005	4/20/2005	0 - 0.5	**0.89**	0.05	0.21	<0.01	--	--	--
SBC-19,20,21-042005	4/20/2005	0 - 0.5	0.11	0.02	0.09	<0.01	--	--	--
SB-16	4/20/2005	0 - 0.5	0.19	0.03	0.16	<0.01	--	--	--
SB-17	4/20/2005	0 - 0.5	0.15	0.03	0.20	<0.01	--	--	--
SB-18	4/20/2005	0 - 0.5	**2.55**	0.07	0.17	<0.01	--	--	--
CHHSL for Residential Soil			**0.43**	**2.3**	**1.6**	**1.6**	**na**	**0.07**	**150**
ESLs for Residential Soil			**0.44**	**2.3**	**1.6**	**1.6**	**na**	**5.5**	**150**
PRGs for Residential Soil			**1.6**	**2.4**	**1.7**	**1.7**	**na**	**0.39**	**400**
Cal Modified PRGs for Residential Soil			**na**	**na**	**na**	**na**	**na**	**0.06**	**150**