Appendix D: Geotechnical Site Investigation

GEOTECHNICAL SITE INVESTIGATION

Lot 8, Gypsy Hill Road
Pacifica, California

Y & A J07 - 1380

By

Jae H. Yang - Project Engineer

J. Yang and Associates
GEOTECHNICAL / ENVIRONMENTAL
CONSULTING ENGINEERS

2758 CANYON CREEK DR. • SAN RAMON, CA 94583
(925) 831-8678 • FAX (925) 831-3645

Project No. J07-1380
April 5, 2007

Mr. David Wilcox

Subject: Proposed New Residence at
Lot 8, Gypsy Hill Road
Pacifica, California
Geotechnical Site Investigation

Dear Mr. Wilcox:

In accordance with your authorization, J. Yang and Associates has investigated the geotechnical site conditions at the subject site for the proposed housing development in Pacifica, California.

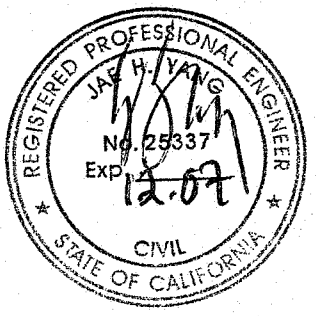
The accompanying report presents our conclusions and recommendations based on our investigation. Our evaluations indicate that the site is physically suitable for the proposed construction provided the recommendations of this report are carefully followed and are incorporated into the plans and specifications.

Should you have any questions or require additional information, please contact our office (925)831-8678 at your convenience.

Very truly yours,

J. Yang and Associates

Jae H. Yang, P.E.
Project Geo. Engineer



Project No. J07-1380

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I. INTRODUCTION

A. Location and Description of Site

This report presents the results of a geotechnical site investigation at Lot 8, Gypsy Hill Rd, Pacifica, California (see Plate 1-Location Map). The site was investigated on March 19, 2007. The site is located at south end of Gypsy Hill Rd. The ground slopes down in the southerly direction from the site. The approximately 1-acre site is currently undeveloped slope lot. Most of the site is covered with the trees, bushes and grass land.

Development plans call for construction of a new single family dwelling house.

B. Purpose and Scope of Work

The purpose of the site investigation was to determine surface and subsurface soil conditions at the subject site. Based on the results of the investigation, criteria were established for the grading of the site, the design of foundations for the proposed structures, and the construction of other related facilities on the property. Our investigation included the following:

1. Field reconnaissance by the Soil Engineer
2. Drilling and sampling of the subsurface soil.
3. Laboratory Testing.
4. Analysis of the data and formulation of conclusion and recommendations.
5. Preparation of this report.

II. FIELD EXPLORATION AND LABORATORY TESTING

Subsurface conditions were explored on March 19, 2007 by drilling three boring. The boring locations were chosen to provide subsurface information at the major structure areas.

The boring locations are shown on PLATE 3. The boring were drilled with Mobil B24 5" and Minuteman solid stem Flyight Auger. Our soil engineer logged the boring and obtained bulk and relatively undisturbed drive samples for visual classification and subsequent laboratory testing. Drive samples were obtained with the split barrel sampler (2-inch I.D.) equipped with brass liner tubes.

The samplers were driven with a 140-pound hammer falling 30 inches. Standard penetration test N-values obtained with the SPT sampler and the S&H split-barrel sampler results are shown on the boring logs in PLATE 4.

The soils encountered were described in accordance with the Unified Soils Classification System outlined in PLATE A1.

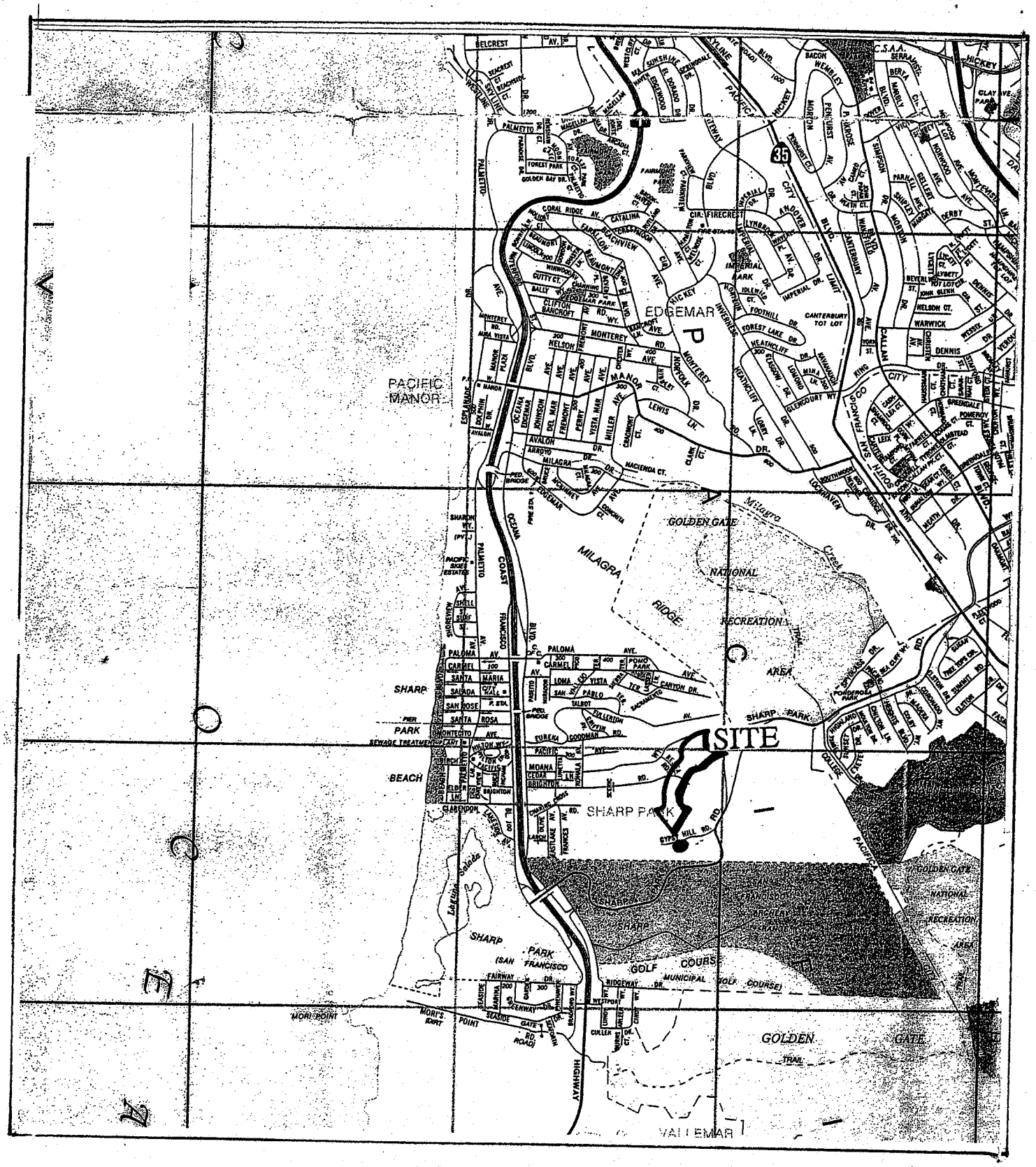


PLATE 1

LOCATION MAP

III. GEOTECHNICAL EVALUATION AND DISCUSSION

A. Assessment of Seismic Hazards

This site could be affected by an earthquake with its epicenter of the active faults in the Bay Area. At present, it is not possible to predict when or where movement will occur on these faults. It must be assumed, however, that movement along one or more of these faults will result in a moderate earthquake during the lifetime of any improvements at this site.

Three active fault systems are known to exist within the vicinity of the site. The approximate location of these faults are as shown on Figure 1.

In the event of an earthquake, the seismic risk will depend on the distance of the structure from the epicenter and source fault, the character and magnitude of the earthquake, the groundwater and soil conditions underlying the structure and its immediate vicinity, and the nature of the construction.

The potential seismic hazards in the tests area are the effects of ground shaking resulting from earthquakes on nearby faults.

Regional subsidence or uplift caused by a differential vertical movement along a fault takes place over large areas. In the event of such a movement on the San Andreas-Peninsula Fault, the site would probably respond as a unit; resulting damage from this phenomenon is unlikely.

The potential structural damage due to ground shaking is caused by the transmission of earthquake vibrations from the ground into a structure. The variables which determine the extent of damage are: the characteristics of the underlying earth materials, the design of the structure, the quality of materials and workmanship used in construction, the location and magnitude of the earthquake, and the duration and intensity

of shaking. The most destructive effects of an earthquake are usually seen where the ground is unstable and the structures are poorly designed and constructed.

Preliminary estimates of ground response characteristics at this site indicate that high accelerations can be expected during a moderate to major earthquake on the San Andreas Fault or a major earthquake on the San Gregorio fault. Any of these events could cause strong ground haking at this site. The duration of shaking and the frequency components of the vibrational waves will depend upon the magnitude and location of the earthquake.

Structures should be designed to accommodate earthquake vibrations. If quality design and construction criteria are met, as set forth in the latest edition of the Uniform Building Code, the potential for structural damage to wood-frame residential buildings can be substantially reduced.

B. Site Geologic and Slope Stability

The natural slopes on and near the site are relatively moderate to steep slope and show generally good slope stability. In accordance with Geotechnical Hazards Synthesis Map(12/76) of the San Mateo County, geologic materials units area 11. Undivided Franciscan Sandstone. The Franciscan sandstoneconsists of sandstone, and lithic rockwith interbedded siltstone and shale and local conglomerate.

The top soils at the site are cohesionless and are relatively weak resistant to erosion. The materials could erode if slopes are left unplanted and subjected to fast flowing runoff. Recommendations are presented in this report to mitigate problems associated with erosion.

C. SUBSURFACE SOIL CONDITIONS

Based upon examination of the exploratory boring (see PLATE 4: Boring Logs), materials encountered in the three borings at locations shown on PLATE 3. The subsurface soils consist generally of well consolidated brown silty sand, siltstone bedrock layer. These materials generally grade from dense in relative density near the ground surface to greater depths.

Groundwater was not encountered at the time of our investigation at average depth of 5 feet.

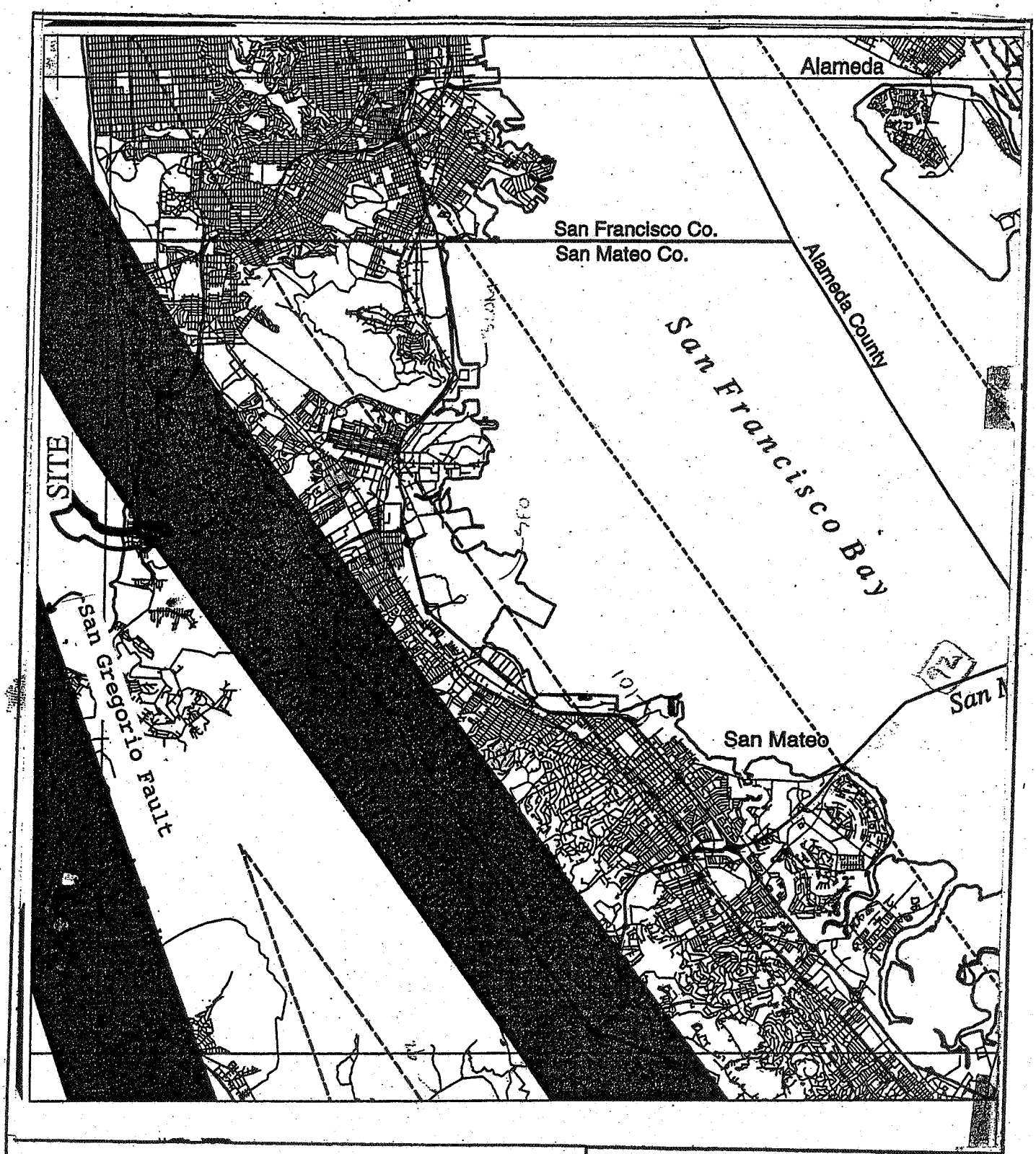
Detailed descriptions of materials encountered in each of the test borings are presented on the logs in Plate 4. Changes in the condition of the property may occur with the passage of time due to natural processes and on the subject site of adjacent properties. Thus, the drilled boring logs and related information depict subsurface conditions only at the locations indicated and on the particular date designated on the logs. Soil conditions at other locations may differ from conditions at these locations.

IV. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on the investigation and evaluations described in this report. The recommendations and specifications presented herein should be incorporated into the project plans and documents during design and construction. Supplemental recommendations and/or modifications may be made at a later date, as more detailed development plans become available.

A. General Conclusions

1. The site is considered suitable from a geotechnical aspect for the proposed a family dwelling house.



SOURCES

MAPS KNOWN ACTIVE FAULT
NEAR SOURCE ZONES
1997 Uniform Building Code

N

J. YANG AND ASSOCIATES

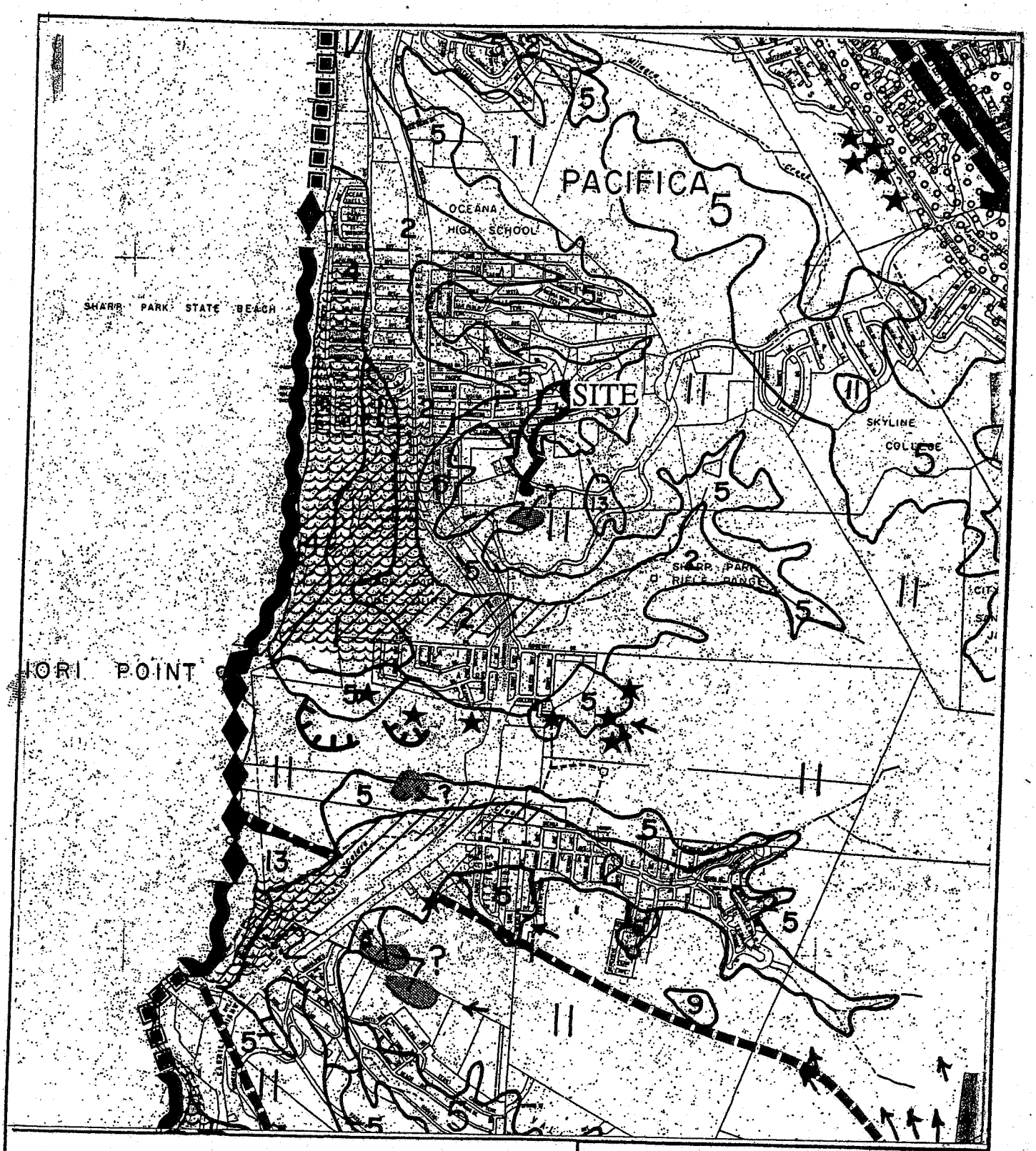
SCALE:

FIGURE: 1

DATE: 4-5-07

Lot 8, Gypsy Hill Road
Pacifica, California.

JOB NUMBER: J07-1380



SOURCES

GEOTECHNICAL HAZARD SYNTHESIS MAP
SAN MATEO COUNTY (12/76).

Hazard Area Zone: 11

N

J. YANG AND ASSOCIATES

SCALE:	FIGURE: 2
DATE: 4-5-07	

Lot 8, Gypsy Hill Road
Pacifical, California

JOB NUMBER: J07-1380

2. There were no soil or geologic conditions encountered during the investigation of the site which would preclude the planned construction.

3. The site, as is all the San Francisco region, is seismicall active. Ground shaking is expected to have the following characteristics at the site and parameters are recommended:

    a. Seismic Zone factor (Z); 0.4
    b. Soil Profile Type: Sc
    c. Seismic Coefficient(Ca): 0.4Na
    d. Seismic Coefficient(Cv): 0.56
    e. Fault Near-Source factor: (Na)=1.5, (Nv)=2.0
    f. Seismic source type: A

4. The recommendations in this report are based on the assumption that grading will excavate step level and appropriate building pads. When final development plans and detailed grading plans are available, the conclusions and recommendations of this report should be reviewed and modified if necessary, to suit those plans.

Site Preparation and Grading

5. All grading operations associated with the planned development should be carried out as described in the following paragraphs.

6. Remove all the topsoils as shown on boring logs from the building pads, old foundation concrete, debris and contaminated soils, root systems and loose or soft soil in the areas of the planned development. Buried structures such as pipelines, or other underground facilities should be removed from areas of planned development. Any of the soft soil deposits should be removed and replaced with compacted fill. A final determination of the treatment of soft surface soil should be made the soil engineer at the time of grading.

7. All compaction requirements are based on maximum dry densities and optimum moisture determined by ASTM Test Procedure D1557-90.

8. The topsoil should be removed from the planned building pads or replaced with non expansive soil. After stripping, areas to receive non expansive fill should be stripped to firm natural ground, scarified, moisture-conditioned to 3 to 5% above optimum moisture content, and compacted to at least 90% relative compaction. If soils are too wet, considerable drying time and discing may be required to reduce their moisture content to near optimum. Where cut natural ground is exposed beneath slabs-on-grade, the soil should be scarified to a depth of 4 inches from finished rough grade, moisture conditioned as above, and compacted at least 90% relative compaction.

9. Existing natural top soils may be used as compacted fill in building and street areas, provided it is free of organic or other deleterious material. All fill should be compacted to at least 90% relative compaction at moisture contents 3 to 5% above optimum. The upper 24 inches pavement right-of-way should be compacted to at least 95% relative compaction.

10. Import fill, if required, should be approved by the Soil Engineer, and should have soil properties equivalent to or better than the natural soil. Import fill should not contain rocks larger than 4 inches in diameter.

Surface and Subsurface Drainage

11. All grading at the site should be done in such a manner as to prevent ponding of water during or after construction. Areas adjacent to tops of slopes should be graded to direct runoff away from the slope and into established drainage patterns. In general, the soils at the site are cohesionless and are prone to erosion. Erodible surface materials may be exposed locally, however. Efforts should be made, therefore, to establish slope vegetation before the next rainy season after grading.

12. Valleys or swales behind the open retaining walls, which will be filled, should be provided with subdrains to collect and discharge the subsurface seepage flow. Typically, subdrains will be perforated plastic pipe surrounded by select import filter gravel wrapped with filter fabric. The subdrains should be connected at their low points to a storm drainage system or to other approved discharge points. Subdrain outlets should be protected from erosion and siltation and be noted on "as-built" plans by the project Civil Engineer for future reference.

Foundations

13. The proposed building stuctures should be founded on the firm native soil. Recommendations for pier and grade beams are presented in this report.

14. The following general foundation type may be used at this site. Final selection of appropriate foundation systems will depend on the building structural engineer's preference within this geotechnical report.

Drilled Cast-In-Place Concrete Piers and Grade Beams

The diameter of the piers should be a minimum of 16 inches and a minimum depth of 13 feet from the bottom of the grade beam. The actual depths of piers will be determined at the time of drilling by a soil engineer. The piers for these foundation systems should be transfer structural loads to the subsurface soils. The drilled piers will derive their load carrying capacity from peripheral skin friction between the pier shaft and the surrounding soil. An allowable skin friction value of 500 pounds per square foot (psf) of embedment may be used for design purposes for combined dead plus live loads. Friction resistance in the upper portion of the pier within 24 inches of the ground surface should be ignored when determining the load carrying capacity of the piers. The pier should be spaced at least three pier diameters and reinforced their entire length.

The recommended design bearing pressure at the site should not exceed 3,000 psf due to dead plus live loads, and 3,500 psf all loads which include wind or seismic.

15. If retaining walls are required as part of the building, the walls can be supported on foundations as designed in accordance with the recommendations presented previously under "Drilled Cast-In-Place Concrete Piers". A combined of wall base footings with pier foundation system may be used for retaining wall footings.

The retaining wall should be designed to resist lateral pressures exerted from a media having an equivalent fluid weight as follows:

Gradient of Back Slope	Equivalent Fluid Weight pcf	Passive Resistance pcf	Coefficient of friction	Angle of Internal Friction
Flat	50	400	0.25	27
2 : 1	65	400	0.25	27

Drainage behind retaining walls should consist of a 4-inch diameter perforated pipe surrounded by filter gravel, 1/2 inch to 1 inch in size wrapped with filter fabric.

Concrete Slab-on-Grade Floors

Concrete slab-on-grade floors should be supported on a minimum of 6 inches of Class 2 aggregate base. Aggregate for Class 2 aggregate base shall be free from vegetable matter and other deleterious substances, and shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base. The Class 2 aggregate should be complied with latest CATRANS Specification Section 26-1.02B. At the option of the contractor, the grading for either the 1-1/2 inch maximum or 3/4 inch shall be used. The slab subgrade to receive aggregate base, should be rolled smooth prior to slab construction to provide a uniformly dense non-yielding surface.

Moisture vapor is likely to condense on the under side of slab-on-grade floors. If the moisture vapor is undesirable, a synthetic membrane can be placed over the capillary break.

Drainage

All ground surfaces, including pavements and sidewalks, should slope away from the structures at a minimum gradient of 2 percent. Surface runoff should be controlled by a system of swales and catch basins, and then conveyed off the property to suitable discharge facility.

Surface water should not be allowed to pond on the site. In addition, roof downspouts should be connected to closed collector pipes which discharge into the storm water system or onto paved parking areas or dispose through lined ditch.

Flexible Pavement Thicknesses

If flexible pavement is required as part of the building, the design criteria recommend based on an assumed R-value of 20 (typical clayey gravels, gravel-sand clay mixtures), Assumed Traffic Indexes (T.I.) and the CALTRANS design procedure for asphaltic concrete pavement, we recommend the following preliminary asphaltic concrete pavement thicknesses:

		Thickness (inches)	
		Asphaltic	Class 2
Location	T.I.	Concrete	AggregateBase*
Automobile Parking	4	2	6
Driveways and Service Areas	5	3	8

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* R-Value -78 minimum the subgrade soil may vary in quality and contain local areas of low shear strengths. We should observe the completed subgrade to check that the preliminary pavement design is applicable. Subgrade soils to receive pavement should be rolled to provide a smooth, unyielding surface compacted to at least 95% relative compaction. On site subgrade soils should be maintained in a moist condition until covered the completed pavement section. The Class 2 Aggregate Base should be placed in a manner to prevent segregation, uniformly moisture conditioned to near optimum and compacted to at least 95% relative compaction with a smooth and unyielding surface.

Trench Backfill

16. Underground utility trenches may be backfilled with on-site soils, provided they are moisture-conditioned to near optimum and are not in "chunks". Bedding and initial backfilling should be done in accordance with local requirements and specifications. Subsequent backfilling should be done in accordance with local requirements and specifications. Subsequent backfill (generally one foot and higher above the utility) should be placed in layers and mechanically compacted as follows:

Trench Location	Minimum Relative Compaction
Natural ground, outside street and lot areas.	85%
Lot areas and streets, below upper 24 inches.	90%
Street areas, entire depths.	95%

Observation and Testing

17. All work connected with site grading, drainage and erosion control should be observed and tested by the soil engineer. The purpose of these services will be to confirm that the conditions exposed during grading are as anticipated and provide supplemental recommendations if required; and to determine that the site work is being done in general conformance with the recommendations of this report and the City of Pacifica requirements.

Additional Soil Engineering Service

18. We should review the final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications. We should provide engineering services during site preparation, grading, foundation and pavement construction phases of the work. This would allow us to observe compliance with the design concepts, specifications and to allow design changes in the event that surface conditions differ from those anticipated prior to the start of construction.

V. PLAN REVIEW, CONSTRUCTION OBSERVATION AND TESTING

We should be retained to review the earthwork and foundation plans and specifications for conformance with the intent of our recommendations. The review would enable us to modify our recommendations if final design conditions are not as we now understand them to be. During construction, we should observe and test the earthwork and foundation installation. As needed during construction, we should be retained to consult on geotechnical questions, construction problems, and unanticipated conditions. This will allow us to develop supplemental recommendations as appropriate for the actual soil conditions encountered and the specific construction techniques employed by contractor.

VI. GUIDELINES FOR REQUIRED SERVICES

The following list of services are the services required and must be provided by Yang and Associates, during the project development. These services are presented in check list format as a convenience to those entrusted with their implementation.

The items listed are included in the body of the report in detail. This list is intended only as an outlined of the required services and does not replace specific

recommendations and, therefore, must be used with reference to the total report.

The importance of careful adherence to the report recommendations cannot be overemphasized. It should be noted, however, that this report is issued with the understanding that each step of the project development will be performed under the direct observation of Yang and Associates.

The use of this report by others presumes that they have verified all information and assume full responsibility for the total project.

ITEM DESCRIPTION	REQUIRED	NOT REQUIRED
1. Provide foundation design parameters	X	
2. Review grading plans & specifications	X	
3. Review foundation plans & specs.	X	
4. Observe & provide demolition recommendation		X
5. Observe & provide site stripping recommendations	X	
6. Observe and provide recommendations on moisture conditioning, removal and/or precompaction of unsuitable existing soils	X	
7. Observe and provide recommendations on installation of subdrain facilities		X
8. Observe and provide testing services on fill areas and/or imported fill materials	X	
9. Review as-graded plans and provide additional foundation recommendations, if necessary	X	
10. Observe and provide compaction tests on sanitary sewers, storm drain, water lines and PG&E trenches	X	
11. Observe foundation excavations and provide supplemental recommendations, if necessary, prior to placing concrete	X	
12. Observe and provide moisture conditioning recommendations for foundation areas prior to placing concrete		X
13. Provide design parameters for retaining walls	X	
14. Provide geologic observations and recommendations for keyway excavations and cut slopes during grading	X	
15. Excavate and recompact all geologic trenches and/or test pits.		X

VII. LIMITATIONS AND UNIFORMITY OF CONDITIONS

A. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings and test pits. If and variations or undesirable conditions are encountered during construction, or if the actual construction will differ from that planned at the present time, J. Yang and Associates should be notified so that supplemental recommendations can be given.

B. This report is issued the understanding that it is responsibility of the owner or of his representatives to ensure that the information and recommendations contained herein are called to the attention of the other members of the design team (architect and engineers) for the project and are incorporated into the plans, and that the necessary steps are taken to see that the contractors and subcontractors carry out such recommendations in the field.

C. The findings of this report are valid as of the present date. However, changes in the conditions can occur with the passage of time, whether they be due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes outside of our control. Therefore, this report is subject to review by J. Yang and Associates after a period of three(3) years has elapsed from date of issuance of this report.

D. The body of the report specifically recommends that J. Yang and Associates be provided the opportunity for general review of the project plans and specifications, and that J. Yang and Associates be retained to provide observation and testing services during construction. The validity of this report assumes that J. Yang and Associates will be retained to provide these services.

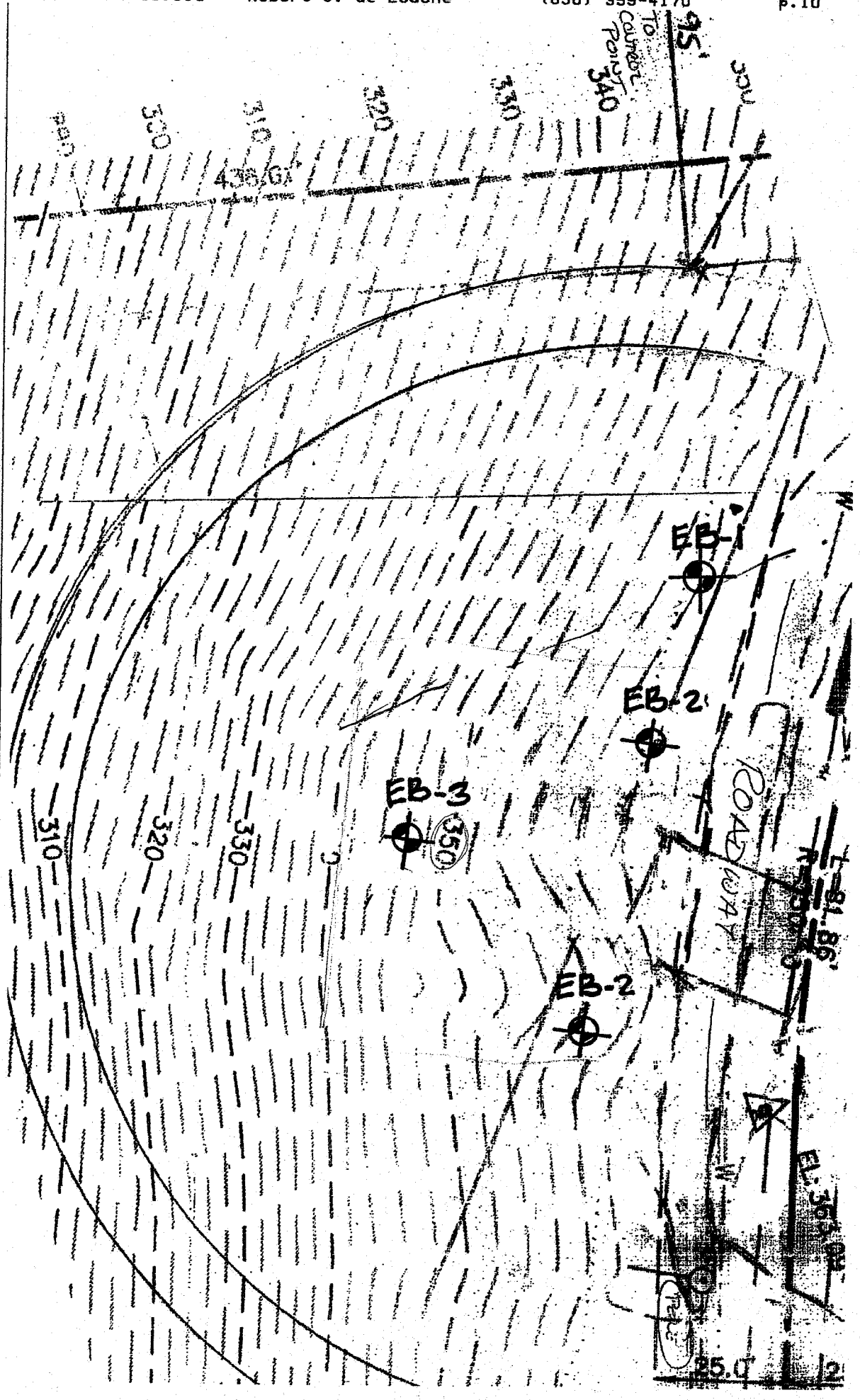
E. This report was prepared at your request for our services, and in accordance with the currently accepted geotechnical engineering practice. No warranty based on the contents of this report is intended, and none shall be inferred from the statements or opinions expressed herein.

APPENDIX AA

PLATE 3

A

LOCATION OF BORING



GYPSY HILL PROJECT

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.
			GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.
		GRAVEL with FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic 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.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SAND WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic 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.

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
		COURSE	FINE	COURSE	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 TEST DATA

SOIL CLASSIFICATION CHART & KEY TO TEST DATA

PLATE A1

DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE

PROJECT:	Gypsy Hill Pacifica, CA	BORING NO.	EB - 1
BORING SUPERVISOR:	J. Yang	TYPE OF BORING:	B24 5" Solid Stem Auger
HAMMER WEIGHT:	140#/30"drop	DATE OF BORING:	3-19-07
SURFACE ELEVATION:			
GROUNDWATER DEPTH			

DESCRIPTION OF MATERIALS	DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS
Silty sand (Topsoil)								
Mottled silty sand, sandstone shale, brown. Dense								
Mottled silty sand, sandstone** shale. Refusal drilling at 5'	5	EB1	5 2"	50/1"	--	--	--	
Bottom of hole								
**" Unable to recover sample due to broken soil.	10							
	15							
	20							
	25							
	30							

Job No. J07-1380	J. Yang and Associates	PLATE 4

PROJECT:	Gypsy Hill Pacifica, CA	BORING NO.	EB - 2
BORING SUPERVISOR:	J. Yang	TYPE OF BORING:	B24 5" Solid Stem Auger
HAMMER WEIGHT:	140#/30"drop	DATE OF BORING:	3-19-07
SURFACE ELEVATION:			
GROUNDWATER DEPTH			

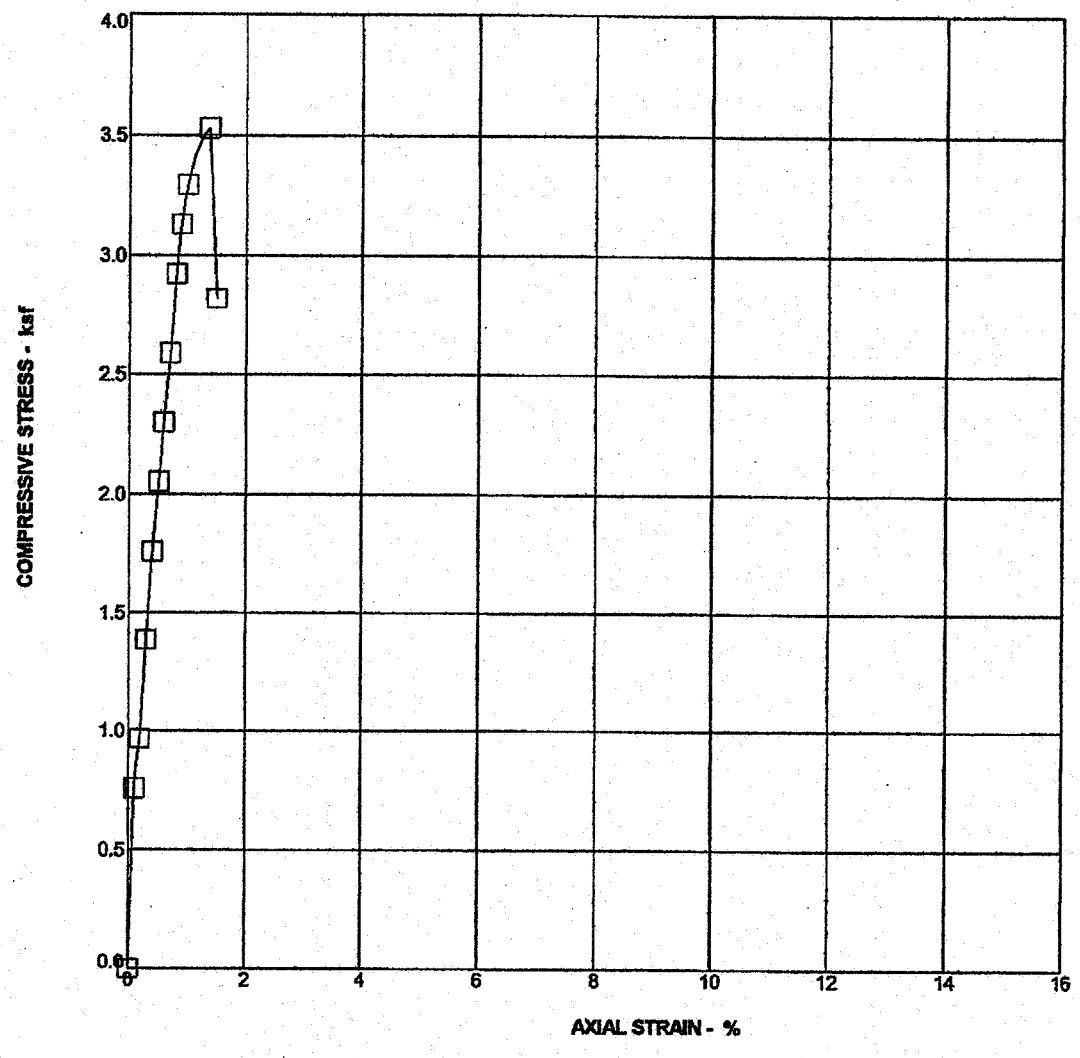
DESCRIPTION OF MATERIALS	DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS
Silty sand (Topsoil)								
Mottled silty sand, sandstone shale, brown, Dense.								
Refusal drilling at 5'	5	EB2	5 2"	50+	130	6.9	3.5ksf	
Bottom of hole	10							
	15							
	20							
	25							
	30							

Job No. J07-1380 | J. Yang and Associates | PLATE 4

PROJECT:	Gypsy Hill Pacifica, CA	BORING NO.	EB - 3
BORING SUPERVISOR:	J. Yang	TYPE OF BORING:	B24 5" Solid Stem Auger
HAMMER WEIGHT:	140#/30"drop	DATE OF BORING:	3-19-07
SURFACE ELEVATION:			
GROUNDWATER DEPTH			

DESCRIPTION OF MATERIALS	DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS
Silty sand (Topsoil)								
Mottled silty sand, rock shale, brown, Dense. **			EB1 4 2"	50+	--	--	---	
Mottled silty sand, sandstone bedrock, Refusal at 5"	5							
Bottom of hole								
	10							
	15							
	20							
	25							
	30							

**: Unable to recover sample due to rock.



BORING NO.	07G081-EB2	**DRY DENSITY - pcf**	130
DEPTH - ft	5	**WATER CONTENT - %**	6.9

SAMPLE DESCRIPTION Olive Yellow Clayey Sand (SC)

MAXIMUM COMPRESSIVE STRESS= 3.53 ksf at 1.4 % STRAIN

*PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166

KLEINFELDER

PROJECT NO. 14648 / 07G081

UNCONFINED COMPRESSION*

GYPSYHILL, PAC.
J. YANG AND ASSOCIATES

PLATE

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