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January 12, 2022

Ms Robin Hubinsky
44 Mirabel Avenue
San Francisco, CA 94110

Re: Supplemental Geotechnical Evaluation
Proposed garage
136 Tamalpais Road, Fairfax, California
APN 001-121-22
DAC Project No.: 1458-6321G

Dear Ms Hubinsky:

As requested, DAC Associates, Inc. (DAC) has performed a supplemental geotechnical evaluation for a proposed garage at 136 Tamalpais Road, in Fairfax. This report presents the results of our review of geotechnical information pertaining to the immediate site proximity and the results of our site reconnaissance. Soil and foundation conditions are discussed, and updated geotechnical recommendations are presented. Conclusions and recommendations contained herein are based on applicable standards of our profession at the time this report was prepared. Copies of this letter report are furnished only to provide the factual data that were gathered and summarized.

INTRODUCTION

Site Location and Description

The project is located at 37.9888 north latitude by -122.5971 west longitude. Figure 1 and Photo 1 show the project location and topography. The property is an "uphill" lot: elevations increase upward from the street farther into the lot, southwestward, as shown in Figure 1. There is an existing single-family home on the property. We understand the home was constructed in the late 1910s.

Site-specific Documents

In 1989, John C. Hom & Associates prepared a report titled *Report, geotechnical investigation, landslide, 259 and 265 Scenic Avenue, Fairfax, California*. Those two properties, 259 and 265 Scenic Avenue, are located directly upslope (southwest) of the subject site at 136 Tamalpais Road. The report described a landslide that occurred in 1986 and recommended that two timber walls be built to address the slope movement issue. The locations of these features are shown on Figure 1.

ATTACHMENT B

Geotechnical data, conclusions, and recommendations for a garage at the site were developed by Hom & Associates and summarized in their report dated March 19, 2018, titled *Report, geotechnical services, proposed garage, 136 Tamalpais Road, Fairfax, California*. Hom & Associates drilled two borings at the site of the proposed garage. We show these boring locations on Figure 1. The proposed garage location and garage project discussed in the Hom & Associates report closely resemble those in the current project plans, summarized in the next paragraph.

The current proposal for construction of the garage is shown in a set of drawings by Fredrich C. Devine Associates, dated June 15, 2021, titled *New garage, 136 Tamalpais Road, Fairfax, California ...* . A two-story structure consisting of a garage below, at street grade, with a deck and attic above will be constructed. Space for this structure will be created by cutting 234 cubic yards of hillside material adjacent to the existing house. Retaining walls up to about 18 ft tall will retain the three excavated walls of the proposed structure. A new retaining wall will also be built adjacent to the street to retain what is currently an unsupported near-vertical cut slope about 6 ft tall.

Miller Pacific Engineering Group prepared a review letter for the garage project, addressed to the City of Fairfax, dated August 16, 2021, titled *First planning-level geologic, geotechnical, and civil engineering review, new garage ...*

DAC's Purpose and Scope of Work

The primary purpose of our geotechnical evaluation was to provide updated geotechnical recommendations for the proposed project. Two associated goals were to take on the role of geotechnical-engineer-of-record for the project and to address the August 2021 comments by Miller Pacific. Our scope of work consisted of four tasks: (1) reviewing the readily available documents relevant to the project, (2) performing a site reconnaissance and meeting with Frank Hubinski, a long-time resident of the property, on December 11, 2021, (3) developing updated geotechnical conclusions and recommendations, and (4) preparing this report to summarize our findings, conclusions, and recommendations.

This report has been prepared in accordance with generally accepted geotechnical engineering practices, and with our agreement with you for exclusive use of yourselves and your consultants for specific application to the proposed project. In the event there are any changes in the ownership, nature, design or location of the proposed development, the conclusions and recommendations contained in this report shall not be considered valid unless (1) the project changes are reviewed by our office and (2) conclusions and recommendations presented in this report are modified or verified in writing.

Reliance on this report by others must be at their own risk unless we are consulted on its use or limitations. This study is purely a geotechnical evaluation, and it does not include any environmental examination or evaluation of the surface and/or subsurface conditions. We cannot be responsible for impacts of any changes in engineering and environmental standards, practices,

or regulations subsequent to the performance of services without our further consultation. We can neither vouch for the accuracy of information supplied by others nor accept consequences for unconsulted use of segregated portions of this report.

SITE RECONNAISSANCE

On December 11, 2021, we visited the site to observe site conditions and talk with the long-time resident, Mr. Hubinski. The foundation of the existing house likely consists of perimeter footings that bear on bedrock, although we performed no detailed investigation of below-grade or other hidden portions. We noted no obvious foundation distress on the northwest side of the house, although our scope of work included no inspection of the house.

Next to the south corner of the house, we noted a near-vertical cut slope about 7 ft tall exposing the subsurface profile (Photo 2). Approximately 2 ft of soil overlies sandstone bedrock. We recorded four representative attitudes of significant discontinuities in this rock.

At the bottom of the scar of the upslope 1986 landslide, there is a small exposure of siltstone. We recorded two representative attitudes of discontinuities in this rock.

There is a swale that plunges from the landslide scar and, continuing downslope, crosses onto the subject site (Photo 3). The topographic contours in Figure 1 show this swale. The swale ends at a paved terrace/patio, as shown in Figure 1 and Photo 4. Judging from the topography, we believe that the terrace was constructed by placing fill within the former swale. This fill body likely has the shape of a triangular pyramid, rotated 90° from vertical, and with a maximum vertical thickness of approximately 10 ft near the downslope (northeast) side of the terrace.

Mr. Hubinski was a resident when the 1986 landslide occurred. Reportedly, slide debris flowed down the swale below the slide and onto the terrace and continued farther downslope. The lower timber wall shown in the report by Hom & Associates (1989) (Figure 1) extends a few feet above grade and thereby forms a small debris basin that can intercept potential debris-flow material that originates upslope.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our geotechnical evaluation, it is our opinion that the proposed project is feasible from a geotechnical engineering standpoint. The conclusions and recommendations presented in this report, however, should be incorporated into design and construction of the project to help minimize potential soil and/or foundation related problems.

Two primary geotechnical concerns are (1) the temporary (during construction) stability/instability of the garage excavation, with the related issue of potential undermining of the adjacent house foundation, and (2) the potential for debris flows to originate upslope and

impact the future garage structure. Discussion of these important issues and other design considerations and recommendations for addressing them are provided in detail below.

Previous Geotechnical Recommendations

We have reviewed the geotechnical conclusions and recommendations for the project presented in the 2018 report by Hom & Associates, and we conclude that they are appropriate in general. Specifically, we conclude that the foundations will bear on bedrock and that footing foundations for the garage will be appropriate. The geotechnical design parameters for the proposed footings, retaining walls, and subsurface drainage presented on pages 4 through 6 of the 2018 report are appropriate.

We present the following recommendations that supersede or supplement the 2018 recommendations.

Retaining Walls

Because a significant thickness of colluvium and fill will likely be exposed in the rear (southwest) face of the excavation, we recommend that the rear retaining wall be designed to resist an active equivalent fluid pressure of 45 pcf.

Retaining walls restrained from moving at the top should be designed for at-rest conditions: an equivalent fluid pressure of 60 pcf should be incorporated in the design.

Retaining Wall Backfill

Backfill, if and where needed behind retaining walls, should be placed properly. We anticipate that the earth material excavated for the garage will be suitable for reuse as backfill. The backfill should be placed at or about the optimum moisture content as determined using ASTM Test Method D2992, latest edition; thus, the material may need to be moistened if too dry or be allowed to dry if found to be too wet. The backfill should be placed in lifts no thicker than 8 inches and compacted to a minimum of 90% relative compaction in accordance with ASTM Test Methods D2992 and D1557, latest editions.

Slab-on-grade structures

Concrete slab-on-grade structures should be supported on prepared subgrade. The subgrade should be level and free of debris and organic material. A 4-inch layer of compacted class 2 aggregate base should be provided below the slab. The concrete slab-on-grade should have a minimum thickness of 5 inches and at a minimum be reinforced with a biaxial grid of #4 bars spaced 14 inches apart on center. The slab should be designed by the project structural engineer.

For interior slabs-on-grade, if migration of moisture through the slab is undesirable, a moisture barrier or capillary break should be provided between the slab and subgrade. We recommend that the moisture barrier consist of 4 inches of free-draining gravel (drain rock) covered with an impermeable membrane (15-mil visqueen or equivalent). The membrane should be covered with 2 inches of sand for protection against tearing and puncture during construction. The sand should be lightly moistened just prior to placing the concrete. The drain rock should be placed on a properly moisture conditioned and compacted subgrade that has been approved in the field during construction by the geotechnical engineer. Alternatively, a capillary break consisting of 6 inches of free-draining gravel (drain rock) could be used.

In lieu of the 15-mil visqueen, if desired, we recommend using a heavy duty (Stego wrap or approved equivalent) minimum 15-mil plastic membrane vapor barrier in conformance with the class A requirements outlined in ASTM Test Method E1745. The membrane should be placed per ASTM Test Method 1643 over the drain rock. Joints and penetrations should be sealed with the manufacturer-recommended adhesive, pressure-sensitive tape, or both.

Temporary (during construction) stability of excavation walls

Excavation for the garage should be performed, and the excavation faces should be left unsupported, only during a dry time of year. DAC should be given opportunities to observe the subsurface materials exposed in the excavation as the work progresses, i.e., every 5 vertical feet of downward excavation progress.

Southeast face (adjacent to existing residence)

The southeast face of the excavation will be adjacent to one wall of the existing residence. It may be anticipated that essentially all of this face will expose bedrock. This rock is criss-crossed by joints and fractures (*fissures* per OSHA[1] definitions), and the rock therefore may be classified as Type B soil per OSHA definitions. We performed a very preliminary, qualitative approximate analysis of the rock discontinuities we observed at the site (Figure 3). Based on the results, the discontinuities exposed in the southeast excavation face could intersect to produce wedges that could slip out of the excavation face. Such slips could (A) injure workers in the garage excavation and (B) undermine the foundation of the house. We therefore recommend that this face of the excavation be temporarily supported, during construction, for example using timber shoring, in accordance with OSHA requirements.

Southwest face (rear face, below terrace)

The southeast (rear) face of the excavation will be adjacent to the existing terrace/patio. Because the terrace was likely graded by placing fill in the former swale, we anticipate that this excavation

1 *OSHA* here and hereafter refers to the California Occupational Safety and Health Administration. Cal OSHA's construction safety orders for excavations are found in the California Code of Regulations, Sections 1504 and 1539 through 1543.

face will display a large V such that dark-colored colluvium and fill will be exposed within (above) the V and lighter-colored bedrock will be exposed below. This fill may be classified as OSHA Type C soil because it likely is granular, weak, wet, and with sloping layers. Because of the potential worker safety hazard and potential for undermining of the terrace, we recommend that this excavation face be supported, e.g., shored, during construction.

Northwest face (along northwest property line)

The northwest face of the excavation will be smaller than the other two faces. This face likely will expose soil overlying rock, with the boundary between the two sloping downhill (northeastward). These materials likely may be classified as OSHA Type B and C soils. Because of the potential worker safety hazard and potential for disturbing the neighboring property, we recommend that the excavation face be supported, e.g., shored, during construction. Assuming that this face is temporarily supported during construction, we do not anticipate significant soil interactions between (A) the existing garage and eroding, creeping slope on the neighboring property and (B) the proposed garage excavation.

Potential Debris Flows

The upslope property owners bear some responsibility for minimizing the hazards their properties pose to yours. The two timber walls on the upslope property(ies) will probably reach the end of their useful lives some time within the next decade. It would be prudent for you to also help minimize the risk posed by debris flows originating upslope of the proposed garage. Potential debris-flow material could flow onto the terrace and from there onto the roof of the garage, thereby exceeding the future roof structure's load-bearing capacity.

Thus, the future rear (upslope, southwest) retaining wall of the garage should be provided with at least 2½ vertical feet of "freeboard", i.e., a vertical extension above the grade of the terrace. This freeboard will supplement the terrace's capacity to serve as a catchment basin and provide a debris catchment capacity of roughly 50 cubic yards. The freeboard might need to include a "wing" at each end: i.e., short extensions angled upslope, to help contain debris and reduce the risk of impacts to the neighboring property and to the existing residence. The rear retaining wall for the garage should be designed for a surcharge load imposed by such debris. Drop inlet(s) for managing stormwater on the terrace should be provided with a riser(s) at least 2½ ft tall that allow water to enter while keeping coarse solids out. Soon after a debris-flow event, any debris-flow material will need to be removed manually (using shovels, etc.) from the terrace to restore the catchment capacity.

Seismic Design Parameters

We have obtained site-specific spectral seismic design parameters in accordance with the 2016 ASCE-7 standard. These design parameters are for use by the structural engineer in designing the structure for potential seismic shaking.

Table 1. Seismic design parameters.

Parameter	Value
S_{MS}, for 0.2-second period	1.8 g
S_{M1}, for 1.0-second period	0.84 g
S_{DS}, for 0.2-second period	1.2 g
S_{D1}, for 1.0-second period	0.56 g

Based on the specific site location, i.e., latitude and longitude, S_S and S_1 are 1.5 g and 0.6 g, respectively. These values were obtained online from a seismic design tool provided by Structural Engineers Association of California, assuming a Site Class C (Figure 2). Based on the subsurface conditions encountered in the borings and by us, we classify the site as Site Class C, corresponding to soft rock, for developing seismic design parameters.

Surface Drainage

All roof gutters and downspouts on the new garage, the existing residence, and the terrace should be connected to a drainage system that conducts the stormwater runoff to an appropriate discharge point(s) away from the building foundations. In addition, the ground surface should be sloped away from the new garage foundation. Impervious surfaces within 10 ft of the foundation should be sloped a minimum 2% away from the foundation. Under no circumstance should surface runoff be directed into subdrains. The discharge flows should be dispersed in such a way that protects the natural (unprotected) slope from erosion.

Review of Construction Plans and Specifications

We recommend that we review the final design and specifications to check that the earthwork and foundation recommendations presented in this letter have been properly interpreted and incorporated into the design and construction specifications. We can assume no responsibility for misinterpretation of our recommendations if we do not review final project plans and specifications.

Wet-weather Construction

If construction proceeds during or shortly after wet weather conditions, the moisture content of the on-site soils could appreciably increase, leading to potential problems with subgrade preparation and backfill compaction. Consequently, working at the site may become difficult and even hazardous. Wet weather construction recommendations can be provided by the geotechnical engineer in the field at the time of construction, if appropriate.

Additional Services

Additional geotechnical engineering services will be needed for design and construction of the project. These include plan review, responses to plan-check comments, and construction observations by our firm.

Our firm can provide engineering services for the above tasks. In addition, we should be accorded the opportunity to review the final plans and specifications to determine if the recommendations of this report have been implemented in those documents. Results of the review should be summarized in writing.

To a great degree, the performance of the site improvement depends on construction procedures and quality. Therefore, we should provide on-site soil observations of the contractor's procedures and the foundation soils, together with field testing during foundation construction. These observations will allow us to check the contractor's work for conformance with the intent of our recommendations and to observe any unanticipated soil conditions that could require modification of our recommendations. In addition, we would appreciate the opportunity to meet with the contractor before the start of construction to discuss the procedures and methods of construction. This can facilitate the performance of the construction operation and reduce possible misunderstandings and construction delays.

Responses to Comments by Miller Pacific

Review comments regarding the geotechnical aspects of the project by Miller Pacific are numbered 1 through 6 and appear on pages 3 and 4 of their August 2021 letter. For convenience, we note these six comments and the places in our report, above, where we address each comment.

Comment 1, seismic criteria. In Table 1, above, we provide seismic design criteria developed in accordance with ASCE's 2016 standard (latest available).
Comment 2, restrained retaining walls. On page 4, above, we recommend an at-rest active pressure for retaining walls, if needed by the structural engineer.
Comment 3, slabs on grade. On pages 4 and 5, above, we provide recommendations for slabs on grade.
Comment 4, wall backfill. On page 4, above, we provide recommendations for retaining-wall backfill.
Comment 5, multiple. Comment 5 contains three concerns, as follows:

- Debris-flow hazard. On page 6, above, we provide recommendations for addressing the potential debris-flow hazard to the proposed garage by way of countermeasures located on the subject site. To an extent, however, the maintenance of countermeasures on the neighboring properties to the southwest will play an important role in mitigating this potential hazard.

- Slope on neighboring property. The slope on the neighboring property to the northwest shows minor erosion and creep; however, these processes are driven primarily by forces acting parallel to rather than toward the proposed garage project. Assuming that the proposed garage excavation faces are properly supported, we anticipate no significant soil interactions between the two properties, as noted on page 6, above.
- Excavation safety. On pages 6 and 7, above, we provide preliminary OSHA soil types and preliminary conclusions and recommendations for addressing excavation safety. However, excavation safety during construction will primarily be the responsibility of the excavation contractor.

Comment 6, plan review. As described on pages 7 and 8, above, DAC Associates anticipates providing a review of the civil engineering plans and summarizing the review in a separate document.

Closure and Limitations

Submittal of this letter completes the current scope of our geotechnical study for the project. By accepting this report, the recipients acknowledge their understanding of conditions described below.

Conclusions and recommendations contained herein are based upon our geotechnical investigation including our exploratory work performed at the site. For construction observation scheduling, our firm must be notified at least three business days in advance.

The analysis, designs, opinions, and recommendations submitted in this letter are based in part upon the geotechnical data that was collected, and upon the conditions existing when services were performed. Variations of subsurface conditions from those analyzed or characterized in this report are possible as may become evident during construction. In that event it may be necessary to revisit certain analyses or assumptions.

This report has been prepared for the exclusive use of Deborah Buehler and her consultants for specific application to the proposed addition and remodel as described herein. Our services consist of professional opinions and conclusions developed in accordance with generally accepted geotechnical engineering principles and current standards of practice. We provide no other warranty, either expressed or implied. Our conclusions and recommendations are based on the information provided to us pertaining to the proposed construction, and on the results of our data review, site reconnaissance, and our engineering analyses and our professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications and our observation of project construction.

Changes in the surface and subsurface conditions may occur as a result of natural/environmental changes or human activities. Site conditions and site features described herein are those existing at the time of our site reconnaissance and may not necessarily be the same or even comparable at other times. Therefore, the validity of subsurface conditions and our recommendations should

be reviewed and confirmed by our firm after a period of 12 month from the date of issuance of this report.

Our investigation did not include any environmental assessment or investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, ground water or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of ecologically sensitive features. In addition, we did not perform any assessment or evaluation of the existing structures either from the environmental standpoint concerning the composition of onsite construction materials or integrity/stability of the facilities and building components.

We appreciate the opportunity of providing you with our engineering services. If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,
DAC Associates, Inc.

Frank Groffie, P.G., C.E.G.
Principal Geologist
PG4930, CEG1539

Darius Abolhassani, P.E., G.E.
Principal
C58778, GE2648

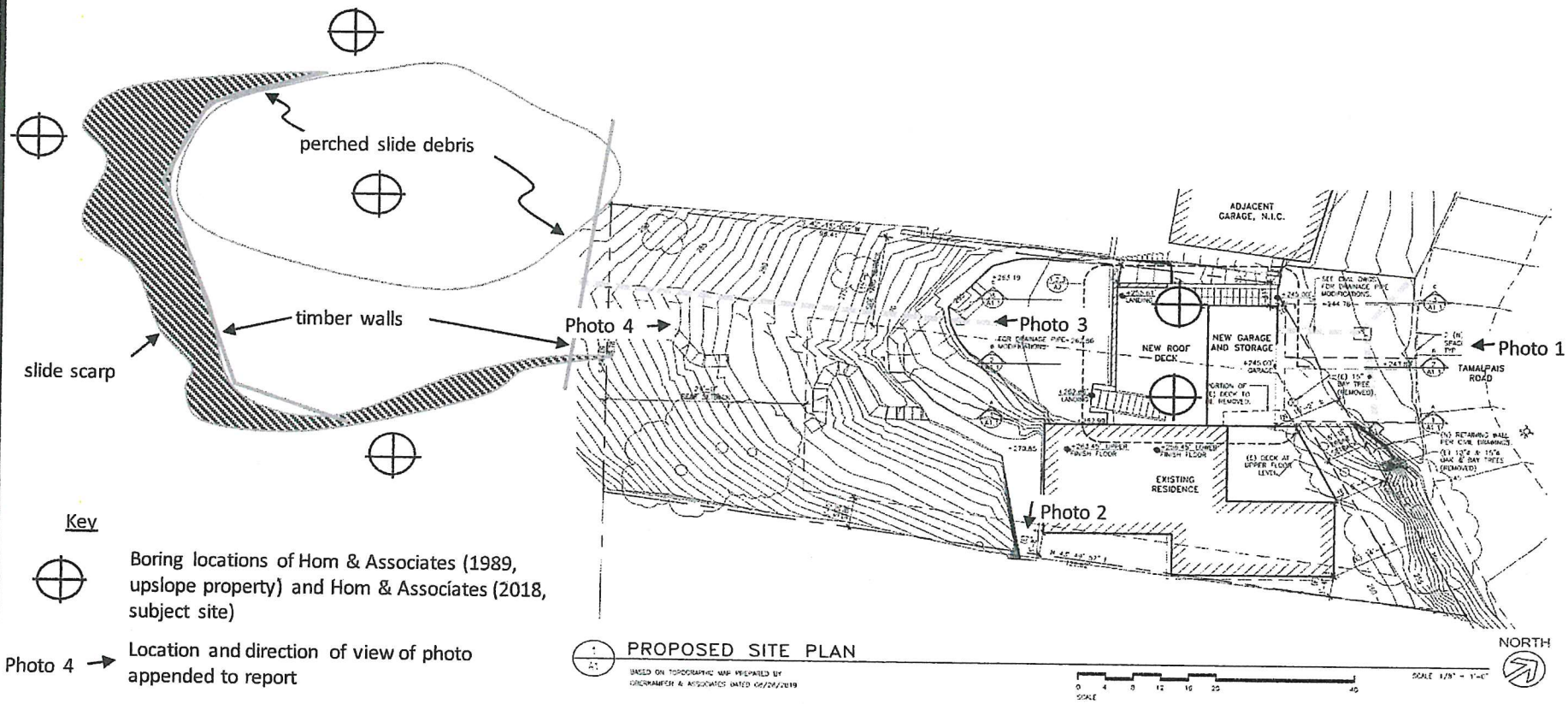
Attachments:
Photographs
Figure 1 — Site Plan
Figure 2 — Seismic Design Parameters
Figure 3 — Rock Discontinuity Analysis

Photo 1. Area of proposed garage, looking southwest (uphill). The garage will be constructed between the house seen on the left and the boundary with the neighboring property on the right.

Photo 2. Cut near south corner of house, exposing bedrock, viewed looking southeast.

Photo 3. View upslope (southwestward) from the terrace. Note lower debris wall (upper right), steep soil-mantled ground to the left, and swale plunging diagonally across view.

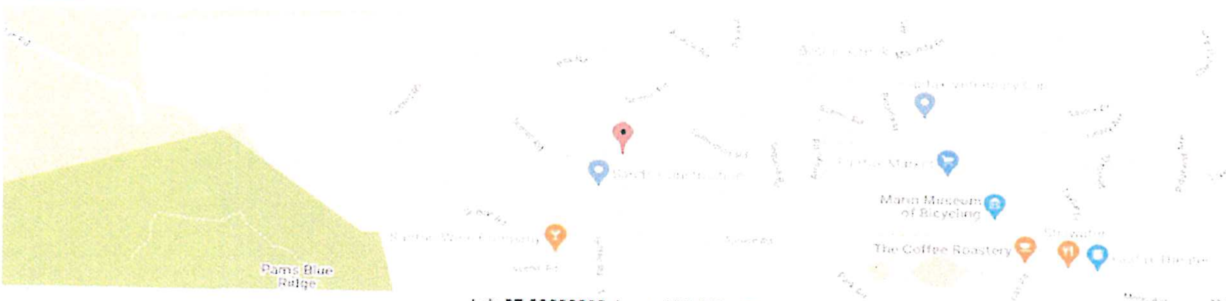
Photo 4. Terrace, looking downhill (northeastward) from above. Note swale plunging toward terrace.



Base: *New garage, 136 Tamalpais Road, Fairfax, California, by* Fredrich C. Devine Associates, dated June 15, 2021. Upslope features from Plate 1 of report by Hom & Associates (1989).

DAC	**Site Plan** **Proposed garage** **136 Tamalpais Road** **Fairfax, California**	Report Date:	Dec. 2021
		Reviewed By:	DA
		Proj. Manager:	DA
		Job no:	1458-6321G
			Figure 1

OSHPD Seismic Design Maps   Home   About   Report an Issue   Contact



Lat: 37.98880000, Lng: -122.59710000

Search for Address or Coordinates

Reference ASCE 7-16   Risk Category II   Site Class C - Very Dense Soil and Soft

Project Title (optional)   Address   Coords   37.9888   -122.5971   Go

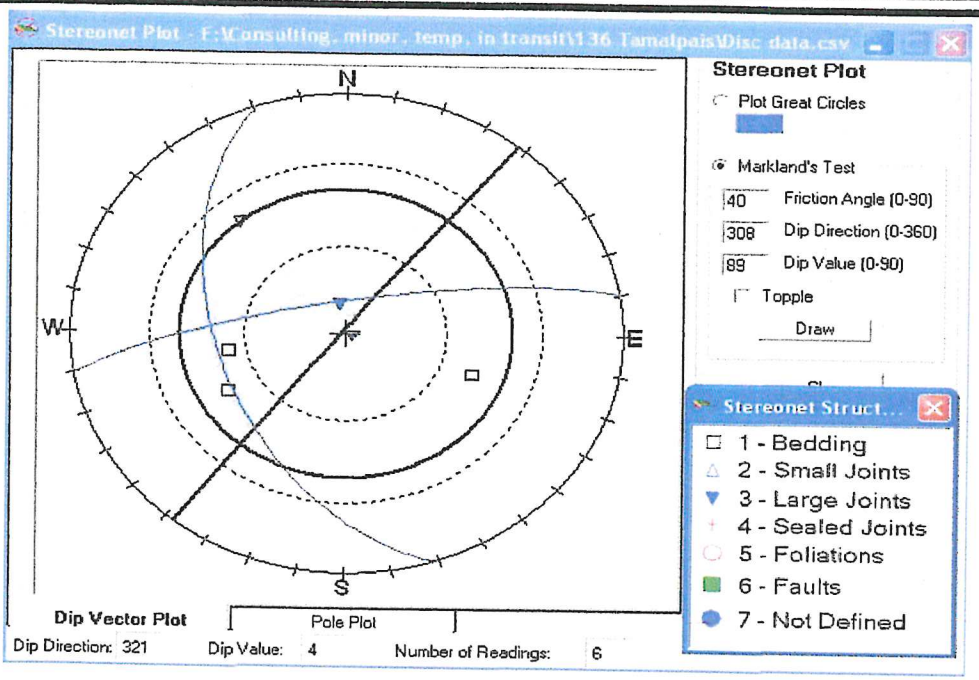
Latitude, Longitude: 37.9888, -122.5971   Print

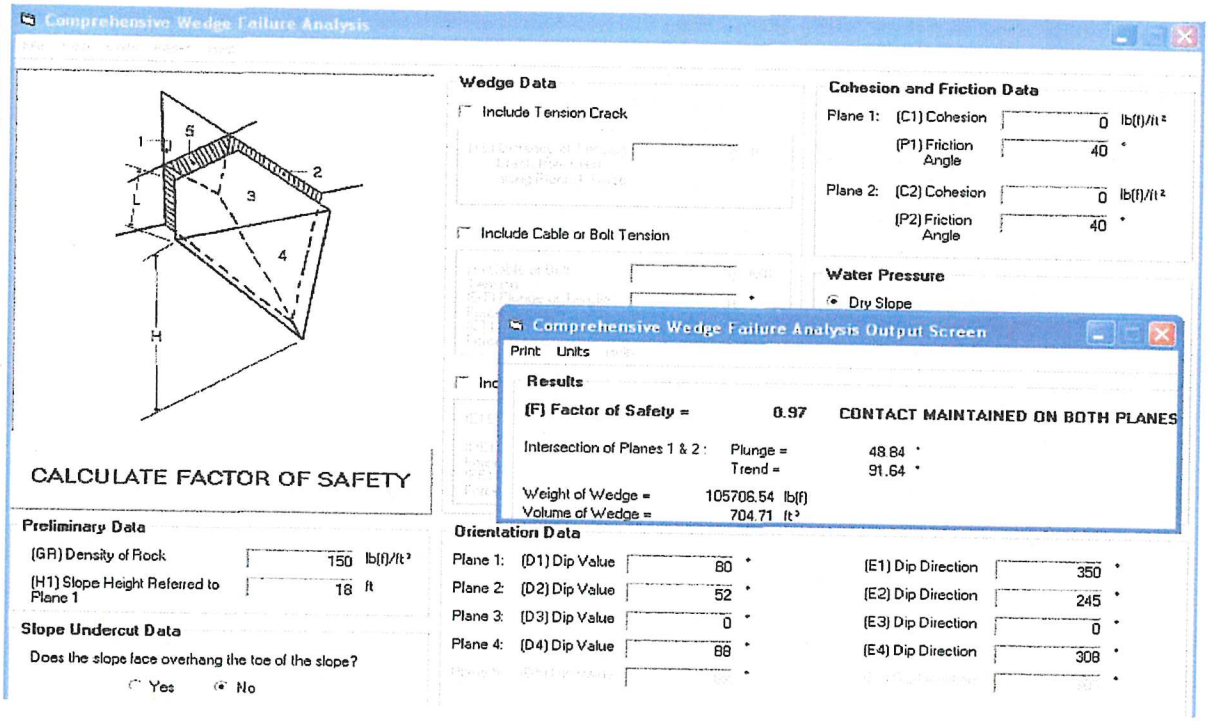
Date	12/21/2021, 1:27:02 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.5	MCE_R ground motion. (for 0.2 second period)
S_1	0.6	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.8	Site-modified spectral acceleration value
S_{M1}	0.84	Site-modified spectral acceleration value
S_{DS}	1.2	Numeric seismic design value at 0.2 second SA
S_{D1}	0.56	Numeric seismic design value at 1.0 second SA

Source: OSHPD Seismic Design Maps, https://seismicmaps.org/

DAC	Seismic design parameters	Report Date:	Dec. 2021	Figure 2
	Proposed garage 136 Tamalpais Road Fairfax, California	Reviewed By:	DA	
		Proj. Manager:	DA	
		Job No.:	1458-6321G	





Upper panel: lower-hemisphere stereonet plot of six distcontinuities measured at site. Lower panel: preliminary stability analysis of potential wedge failure in southeast excavation face. Software: RockPack III , from RockWare Inc., Golden, CO.

DAC	**Rock discontinuity analysis**	Report Date:	January 2022
	Proposed garage 136 Tamalpais Road Fairfax, California	Reviewed By:	DA
		Proj. Manager:	DA
		Job No.:	1458-6321G
			Figure 3

JCH
JOHN C. HOM & ASSOCIATES, INC.
P.O. Box 150553
San Rafael, California 94915-0553
Telephone(415)258-9027

March 9, 2018

Job Number 1896.1

Robin Hubinsky
44 Mirabel Ave.
San Francisco, CA 94110

Dear Ms Hubinsky

Report
Geotechnical Services
Proposed Garage
136 Tamalpais Avenue
Fairfax, California

This report presents the results of the geotechnical investigation we conducted for the proposed garage to be located 136 Tamalpais Avenue in Fairfax, California. We understand that the garage will be located adjacent to Tamalpais Avenue.

As agreed to in our proposal of February 16, 2018, we were to review published geologic data, to investigate the subsurface conditions at the site to the extend of two test boring and to provide recommendations for suitable foundation support. We were to analyze the results of the field work to provide the following information in a written report:

1. A description of the soil, rock and wall conditions observed.
2. Site grading recommendations.
3. Recommended foundation type and design criteria.
4. Recommended retaining wall design criteria, if necessary.
5. Soil engineering drainage recommendations.

WORK PERFORMED

We reviewed selected published geologic data including:

1. SMITH, Theodore C., RICE, Salem J., and STRAND, Rudolph G., 1976, "Geology of The Upper Ross Valley and The Western Part of The San Rafael Area, Marin County, California"; California Division of Mines and Geology

2. NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM, "NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other

Structures." 2003 Edition.

3. WORKING GROUP on California Earthquake Probabilities, Open File Report 03-214, 2003, "Earthquake Probabilities in the San Francisco Bay Region: 2002 - 2031".

On March 3, 2018 we explored the subsurface conditions at the site to the extent of two test borings. The locations of the test borings are shown on the attached Test Boring Location Plan, Plate 1. Our Field Engineer was on site to locate the test boring, to log the conditions encountered and obtained samples for visual examination. The materials encountered are shown on Log of Borings, Plates 2 and 3 . The soils are described in accordance with the Unified Soil Classification System, as explained on Plate 4. The bedrock materials are described on the Geologic Terms For Rock, Plate 5.

In our laboratory, we re-examined the samples to verify their field classification. Because of the shallow bedrock, no laboratory testing was deemed necessary.

SITE CONDITIONS

The site is on the south and upslope side Tamaloais in Fairfax, California. A previous repaired landslide is located on n adjacent property at 259 Scenic. We provide geotchnical se rvices fo the repair. The repair performed well.

The test borings indicates that the site is underlain by shallow colluvials soils over sandstone bedrock of the Franciscan Formation. The colluvial soil is considered to be weak and compressible. The bedrock is considered to be relatively firm and incompressible.

At the time of our investigation, we did not encounter any free groundwater. The groundwater table probably varies with seasonal rainfall.

SEISMICITY

The San Francisco Bay Area, in general, is located in a highly active seismic region. Several major earthquakes resulting in extensive damage have occurred in the San Francisco Bay Area during historic times. Included area the earthquakes of 1868 and 1936 on the Hayward Fault, and the earthquakes of 1838, 1906 and 1989 on the San Andreas Fault.

The project site could be affected by an earthquake with its epicenter on any of the active and potentially active faults that occur in the region. The nearest faults are the San Andreas and Hayward Faults, located about 10 and 8 miles to the southwest and northeast, respectively. At present, it is not possible to predict when or where movement will occur on these faults. However, probabilities of major earthquakes occurring on principal fault segments are being studied and developed. According to the Working Group on California Earthquake Probabilities, a major earthquake (6.7 or greater on the Richter Scale) has a 67-percent probability of occurring in the Bay Area within the next 30 years (beginning 2002). The North Coast segment of the San Andreas Fault has a probability of 21-percent of a Richter magnitude 6.7 or greater earthquake and the Hayward - Rodgers Creek Faults have a probability of 27-percent occurring in the next 30 years, Plate 6.

In the event of a major earthquake in the Bay Area, the site may be susceptible to surface rupture, seismic shaking and related ground failure.

Surface rupture (surface faulting) is highly unlikely since no active faults are known to cross the project site. The site is not located within the Alquist-Priolo Special Studies Zones Map. Also, no evidence of active fault traces or creep zones were observed.

Seismic shaking at the site is highly probable during the life of the project. In the event of a major earthquake on the San Andreas Fault or Hayward Fault, horizontal ground accelerations of 0.5g or greater should be expected at the site. The proposed structure should be designed in accordance with current standards for earthquake resistant construction. The minimum requirement is that the California Building Code be followed.

Ground failures (such as landslides, differential settlement, liquefaction, lurch cracking and lateral spreading that is seismically induced) are related to groundwater, soil and bedrock conditions. The geologic conditions existing at the project site are such that the potential for these failures are considered negligible.

CONCLUSIONS

Based upon the results of our work, it is our opinion that the project is feasible, from a geotechnical engineering standpoint, provided that the recommendations contained in this report are followed. The primary geotechnical consideration is the colluvial soils. We expect the proposed excavation will extend into bedrock and spread footings may be used

We did not observe any evidence of instability that would preclude the construction of this project

The colluvium is considered to be weak, experience downhill creep and are unsuitable for foundation support. Because of the shallow bedrock, spread footings extending into rock may be used.

Our following recommendations section will provide details for the work.

RECOMMENDATIONS

Seismic Design

We recommend that the Site Class C in accordance with the 2010 California Building Code. For Seismic Design Output we used the application ASCE 7-10 Standard available on the USGS website and the output is summarized on Plate 7.

Site Grading

We do not expect any fills for the project.

The Contractor should maintain construction cut slopes per current OSHA standards

Cut slopes should be no steeper than 2-horizontal to 1-vertical (2:1). Steeper slopes should be retained. Disturbed slopes should be planted with deep-rooted ground cover.

Foundations

Spread Footings - Spread footings should only be used where excavation for the structure will extend below existing grade and into bedrock. The depth to rock is about three feet. Spread footings should be at least 16-inches wide, 12-inches below adjacent grade, and should extend at least 12-inches into bedrock. The footings should be stepped as necessary to produce level tops and bottoms; and should be deepened as necessary to provide at least 7-feet of horizontal confinement between the footing bottoms and the face of slope. Footings may be sized for 3000-, 3500-, and 4000-pounds per square foot (psf) under dead loads, dead plus code live loads, and total load (including wind and seismic) conditions. We recommend that a passive equivalent fluid pressure of 450 pounds per cubic foot (pcf) and a friction factor of 0.45 be used to resist lateral loads.

Retaining Walls

Retaining walls free to rotate on top and supporting level backfill may be designed to resist an active equivalent fluid pressure of 35 pcf acting in a triangular pressure distribution. Where the backfill slopes up steeper than 3:1, the wall pressure should be increased to 55 pcf. Where the retaining walls would be surcharged by traffic, an additional two feet of surcharge should be used . For seismic pressures, these pressures should be increased by 33.3 percent.

We recommend that the retaining wall foundations extend into rock. Foundations extending into firm rock at least 7 horizontal feet from the face of the nearest slope may impose a passive equivalent fluid pressure and a friction factor of 450 pcf and 0.45, respectively, to resist sliding.
We recommend that the retaining wall foundations extend into rock.

We recommend that a backdrain be provided behind all retaining walls. The backdrains should consist of a heavy-walled, 4-inch diameter, perforated pipe sloped to drain to outlets by gravity, and of clean, free-draining, 3/4- to 1-1/2-inch crushed rock or gravel. To reduce water infiltration through walls, we recommend that the top of the pipe should be at least 12-inches below adjacent interior finished floor level. The crushed rock or gravel should extend to within 1-foot of the surface. The upper 1-foot should be backfilled with compacted soil to exclude surface water. A Mirafi 140N filter cloth should be placed between the on-site soil and drain rock. A filter cloth would not be required between bedrock and drain rock.

Based on the information we have been provided, we could not determined that the outlet for the retaining wall backdrain can be installed on this property with positive gravity flow. If this cannot be accomplished, we should provide additional consultation.

We recommend that the ground surface behind retaining walls be sloped to drain. Under no circumstances should the surface water be diverted into back drains. Where migration of moisture through walls would be detrimental, the walls should be water-proofed

Slab-On-Grade

Subgrade should be where excavated into bedrock. The upper 6-inches of slab subgrade should be compacted to at least 90-percent relative compaction, where disturbed. The slabs should be underlain with a capillary moisture break consisting of at least 4-inches of clean, free-draining crushed rock or gravel at least 1/4-inch, and no larger than 3/4-inch, in size. Where migration of moisture vapor through slabs would be detrimental, an impermeable membrane moisture vapor barrier should be provided between the drain rock and the slabs. Slabs should be reinforced to

reduce cracking.

For living area slabs, where vapor mitigation is not tolerable, a vapor barrier is to be considered.

Soil Engineering Drainage

We recommend that the roofs be provided with gutters and that the downspouts be connected to closed conduits discharging onto the pavement, where possible. Surface water should be channeled away from slopes and foundations.

To reduce seepage conditions beneath the structure, we recommend that drains be placed adjacent to and upslope of all foundations, except on the downhill foundations. Foundation drains should extend at least 6-inches below the lowest adjacent grade. The bottom of the trench should be sloped to drain by gravity. The bottom of the trench should be lined with a few inches of 3/4- to 1-1/2-inch drain rock. Four-inch diameter, perforated pipe, with holes down and sloped to drain, should be placed on top of the thin layer of drain rock. The trench should then be backfilled to within 6-inches of the finished surface with drain rock. The upper 6-inches should consist of compacted soil to reduce surface water inclusion. We recommend that a drainage filter cloth, such as Mirafi 140N, be placed between the soil and the drain rock. The area under the house should be sloped to drain. Outlets through the foundation, to allow drainage from underneath the residence, will be required.

This would reduce but not completely eliminate moisture beneath the addition. To further reduce moisture, the use of a moisture vapor barrier with a rat slab may be considered and generally considered to above the building code requirements.

Roof downspouts and surface drains must be maintained entirely separate from subdrains and foundation drains. The outlets should discharge onto erosion resistant areas, such as the roadway pavement.

LIMITATIONS

We judge that this report has been prepared in accordance with generally accepted geotechnical engineering practices, and is in accordance with the standards of practice as set by Geotechnical Engineers in the area. We offer no other warranties or guarantees. Subsurface conditions could vary between those indicated by surface features. This report assumes that a qualified Geotechnical Engineer will be retained to provide construction observation services to observe the conditions,

to provide field and laboratory testing, and to ascertain that the project is constructed in accordance with these recommendations.

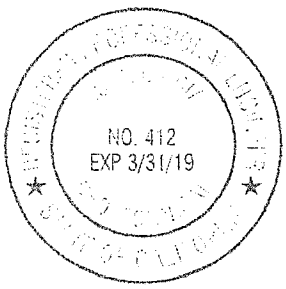
The practice of soil engineering changes and, therefore, we should be consulted to update this report if construction is not performed within 18-months.

SUPPLEMENTAL SERVICES

We recommend that we review foundation and grading plans for conformance with the intent of our recommendations. During construction, we should inspect the site grading, including the site excavation; observe the foundation excavations; and observe the installation of drainage facilities. Upon completion of the project, we should perform a final inspection and finalize the results of our work in a final report.

These services will be performed only if we are provided with sufficient notice to perform the work. We do not accept responsibility for items that we are not notified to observe. We recommend that the Owner or the Contractor be responsible for the notification.

We trust this provides the information you require at this time. If you have any questions, please call.

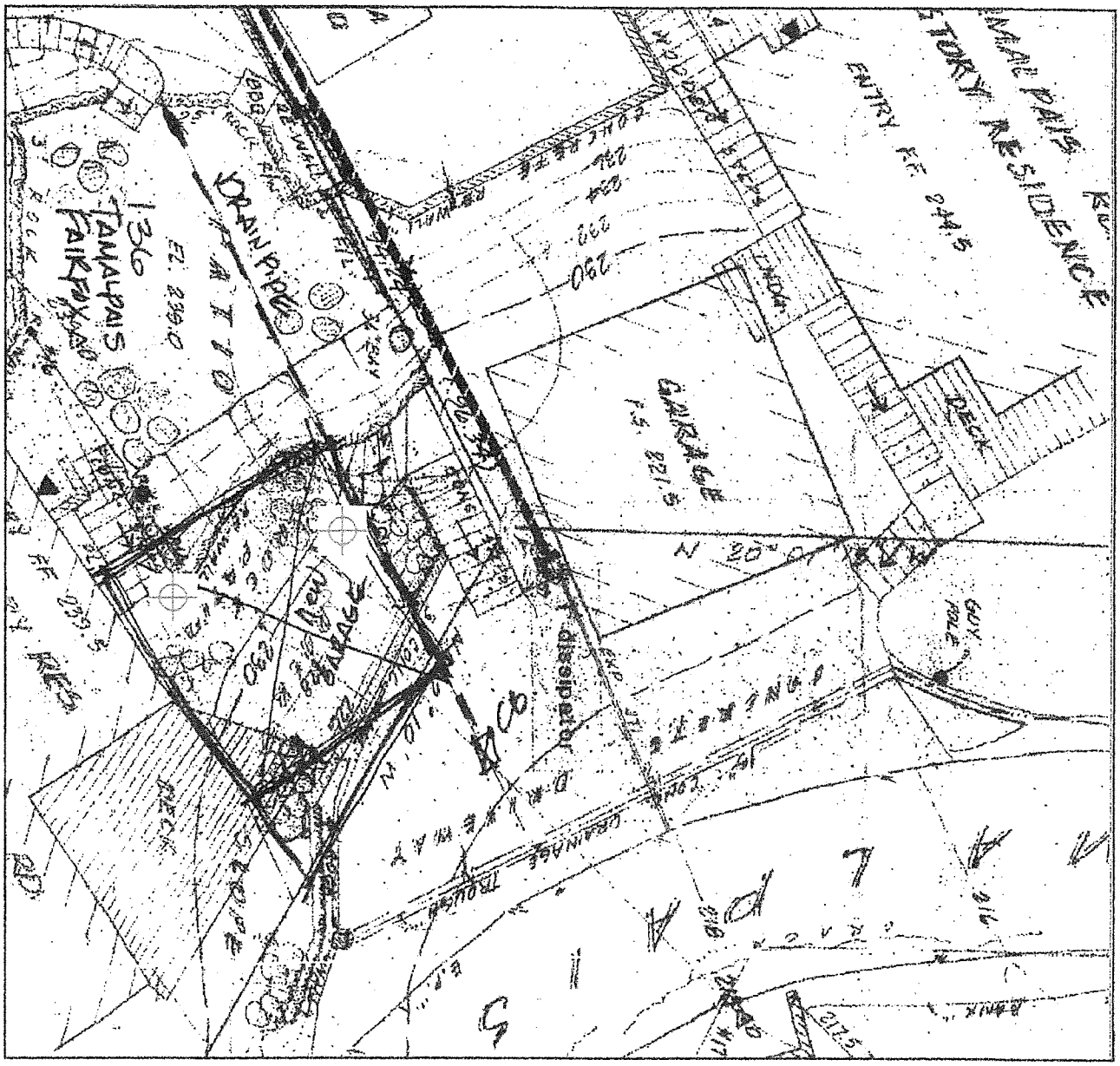


Yours very truly,
JOHN C HOM & ASSOCIATES, INC

John C Hom
Civil Engineer - 28877
Geotechnical Engineer - 412
Certificates Expire 3/31/19

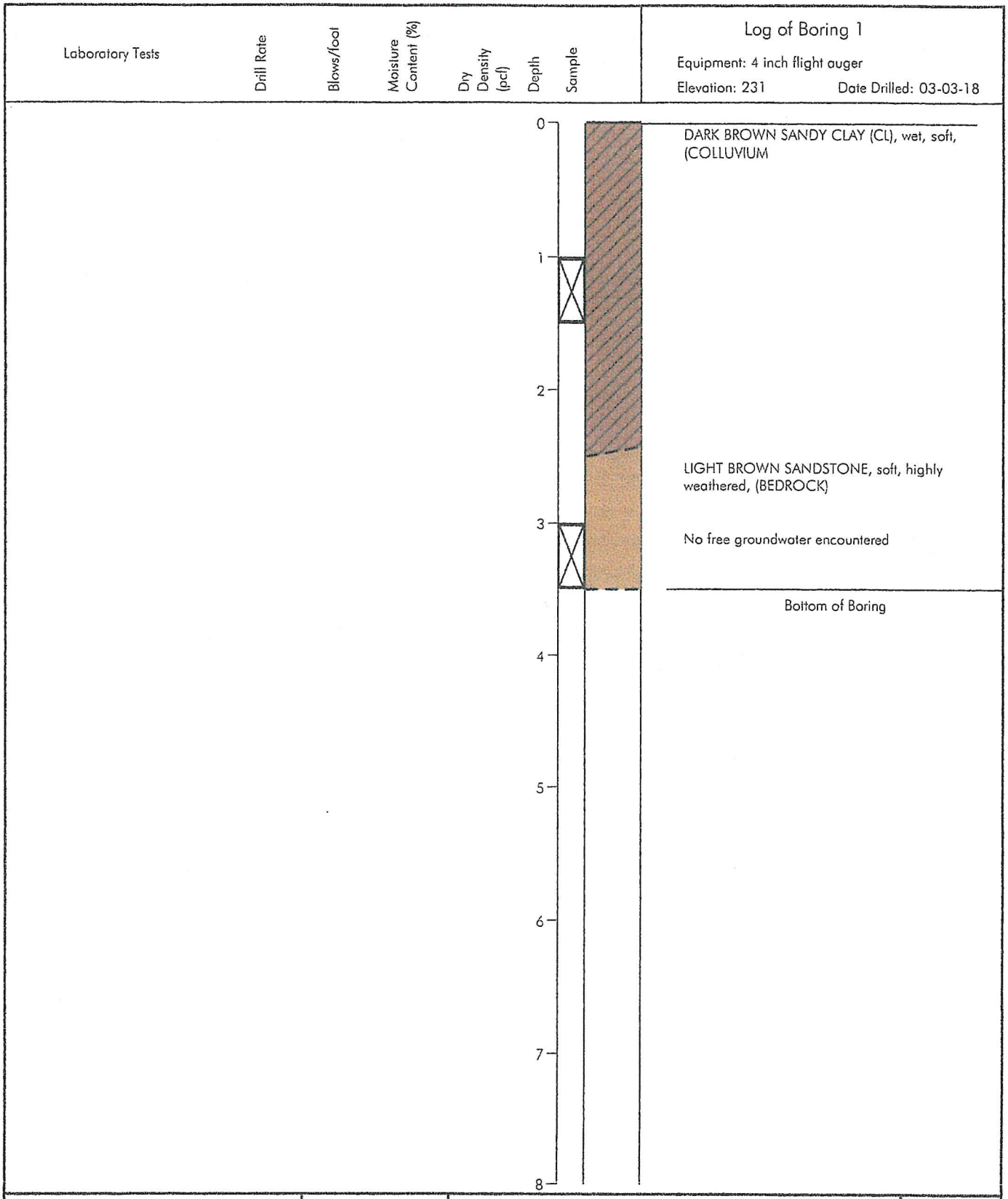
JCH
three copies submitted

JCH
JOHN C. HOM
& ASSOCIATES, INC.
Geotechnical Consultants



Test Boring Location

JCH **JOHN C. HOM** & ASSOCIATES, INC. *Geotechnical Consultants*	Job No. :1895.1 Appr:jch Date:03-18	TEST BORING LOCATION PLAN 136 Tamalpais Avenue Fairfax, California	PLATE **1**



JCH
JOHN C. HOM
& ASSOCIATES, INC.
Geotechnical Consultants

Job No: 1895.1
Appr: jch
Date: 03-18

LOG OF BORING 1

136 Tamalpais Avenue
Fairfax, California

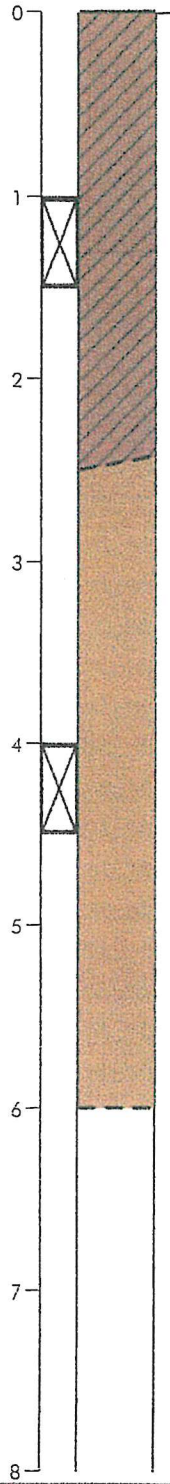
PLATE
2

Log of Boring 2

Equipment: 4 inch flight auger

Elevation: 231 Date Drilled: 03-03-18

Laboratory Tests	Drill Rate	Blows/foot	Moisture Content (%)	Dry Density (pcf)	Depth	Sample



DARK BROWN SANDY CLAY (CL), wet, soft, (COLLUVIUM)

LIGHT BROWN SANDSTONE, soft, highly weathered, (BEDROCK)

No free groundwater encountered

Bottom of Boring

JCH
JOHN C. HOM
& ASSOCIATES, INC.
Geotechnical Consultants

Job No: 1895.1

Appr: jch

Date: 03-18

LOG OF BORING 1

136 Tamalpais Avenue
Fairfax, California

PLATE
3

MAJOR DIVISIONS					TYPICAL NAMES
COARSE GRAINED SOILS (MORE THAN HALF IS LARGER THAN #200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP		POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC		CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS (MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS, GRAVELLY SANDS
			SP		POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC		CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN HALF IS SMALLER THAN #200 SIEVE)	SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)		ML		INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)		MH		INORGANIC SILTS, FINE SANDY OR SILTY SOILS, PLASTIC SILTS
			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

UNIFIED SOIL CLASSIFICATION SYSTEM

			Shear Strength, psf / Confining Pressure, psf	
Consol	Consolidation	Tx	320 (2600)	Unconsolidated Undrained Triaxial
LL	Liquid Limit (in %)	TxCU	320 (2600)	Consolidated Undrained Triaxial
PL	Plastic Limit (in %)	DS	2750 (2000)	Consolidated Drained Direct Shear
PI	Plastic Index (in %)	FVS	470	Field Vane Shear
Gs	Specific Gravity	UC	2000	Unconfined Compression
SA	Sieve Analysis	LVS	700	Laboratory Vane Shear
■	Undisturbed Sample	SS	Shrink Swell	
▣	Auger Sample	EXP	Expansion	
◪	Standard Penetration Sample	P	Permeability	
▨	Excavation Sample			
□	Sample Attempt No Recovery			

Note: All strength tests on 2.8" or 2.4" diameter samples unless otherwise indicated.

KEY TO TEST DATA

JCH
JOHN C. HOM
& ASSOCIATES, INC.
Geotechnical Consultants

Job No:1895.1
Apprjch:
Date:03-18

SOIL CLASSIFICATION CHART
AND KEY TO TEST DATA

136 Tamalpais Avenue
Fairfax, California

PLATE
4

ROCK TYPES

 CONGLOMERATE

 SHALE

 METAMORPHIC ROCKS

 SANDSTONE

 SHEARED SHALE MELANGE

 IGNEOUS ROCKS

 CHERT

 SERPENTINE

 GREENSTONE

 SANDSTONE & SHALE

BEDDING THICKNESS

Massive - Greater than 6-feet
Thickly Bedded - 2- to 6-feet
Medium Bedded - 6- to 24-inches
Thinly Bedded - 2-1/2- to 8-inches
Very Thinly Bedded - 3/4- to 2-1/2-inches
Closely Laminated - 1/4- to 3/4-inches
Very Closely Laminated - less than 1/4-inch

JOINT, FRACTURE, OR SHEAR SPACING

Very Widely Spaced - Greater than 6-feet
Widely Spaced - 2- to 6-feet
Moderately To Widely Spaced - 8- to 24-inches
Closely Spaced - 2-1/2- to 8-inches
Very Closely Spaced - 3/4- to 2-1/2-inches
Extremely Closely Spaced - less than 3/4-inch

HARDNESS

Soft - pliable; can be dug by hand
Slighily Hard - can be gouged deeply or carved with a pocket knife
Moderately Hard - can be readily scratched by a knife blade; scratch leaves heavy trace of dust and is readily visible after the powder has been blown away
Hard - can be scratched with difficulty; scratch produces little powder and is often faintly visible
Very Hard - cannot be scratched with pocket knife; leaves a metallic streak

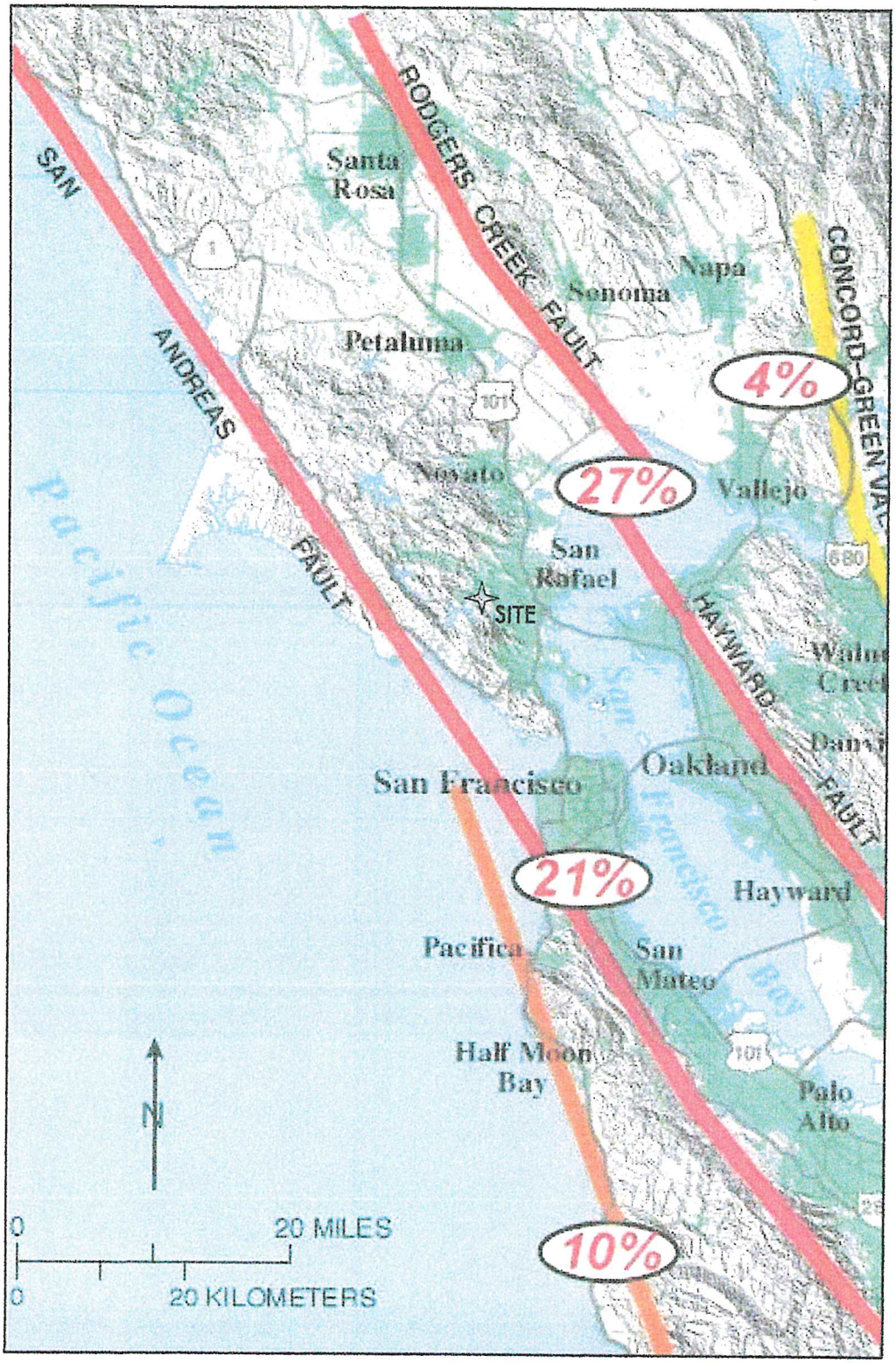
STRENGTH

Plastic - capable of being molded by hand
Friable - crumbles by rubbing with fingers
Weak - an unfractured specimen of such material with crumble under light hammer blows
Moderately Strong - specimen will withstand a few heavy hammer blows before breaking
Strong- specimen will withstand a few heavy ringing hammer blows and usually yields large fragments
Very Strong - rock will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments

DEGREE OF WEATHERING

Highly Weathered - abundant fractures coated with oxides, carbonates, sulphates, mud, etc., through discoloration, rock disintegration, mineral decomposition
Moderately Weathered - some fracture coating, moderate or localized discoloration, little to no effect on cementation, slight mineral decomposition
Slightly Weathered - a few strainedfractures, slight discoloration, little or no effect on cementation,mineral decomposition
Fresh - unaffected by weathering agents, no appreciable change with depth

JCH **JOHN C. HOM** & ASSOCIATES, INC. *Geotechnical Consultants*	Job No.: 1895.1 Appr: jch Date: 03-18	GEOLOGIC TERMS FOR ROCK 136 Tamalpais Avenue Fairfax, California	PLATE **5**



SAN FRANCISCO BAY REGION EARTHQUAKE PROBABILITY

M≥6.7

probability for one or more magnitude 6.7 or greater earthquakes from 2003 to 2032

EXPLANATION

Probability in a 30-year period from 2008 to 2032

- >10%
- 4–10%
- 1–4%
- <1%

Reference: Modified from Figure ES.1, "Earthquake Probabilities in the San Francisco Bay Region: 2002 to 2031" by the Working Group on California Earthquake Probabilities Open File Report 03-214, 2003.

JCH **JOHN C. HOM** & ASSOCIATES, INC. *Geotechnical Consultants*	Job No. : 1895.1 Appr: jch Date: 03-18	EARTHQUAKE PROBABILITY MAP 136 Tamalpais Avenue Fairfax, California	PLATE **6**

USGS Design Maps Summary Report

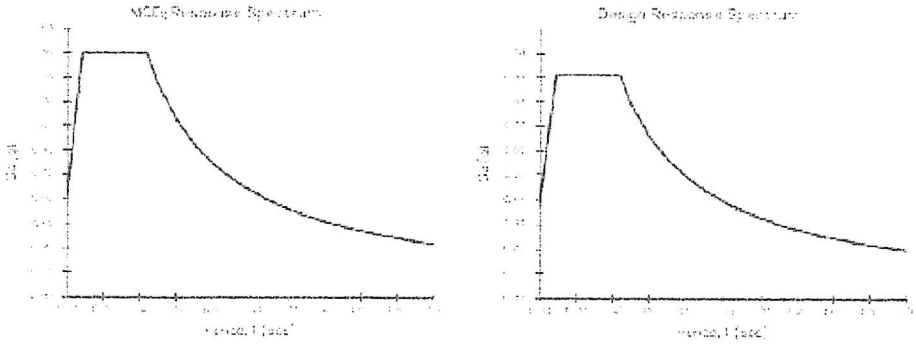
User-Specified Input

Report Title	136 Tamalpais Avenue Thu March 8, 2018 17:31:34 UTC
Building Code Reference Document	ASCE 7-10 Standard (which utilizes USGS hazard data available in 2008)
Site Coordinates	37.98°N, 122.597°W
Site Soil Classification	Site Class B – "Rock"
Risk Category	I/II/III

USGS-Provided Output

S_s =	1.500 g	S_{MS} =	1.500 g	S_{DS} =	1.000 g
S_1 =	0.651 g	S_{M1} =	0.651 g	S_{D1} =	0.434 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



For PGA_M, T_L, C_{RS}, and C_{R1} values, please view the detailed report.

Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

JCH JOHN C. HOM & ASSOCIATES, INC. *Geotechnical Consultants*	Job No. 1895.1: Appr:jch Date03-18:	SEISMIC OUTPUT 136 Tamalpais Avenue Fairfax, California	PLATE **7**

MILLER PACIFIC ENGINEERING GROUP

April 19, 2022
File: 201.200cltr.doc

Town of Fairfax
Planning and Building Services Department
142 Bolinas Avenue
Fairfax, California 94930

Attn: Ms. Linda Neal, Principal Planner

Re: Third Planning-Level Geologic, Geotechnical, and Civil Engineering Review
New Garage, Entry Stairs, and Drainage Re-Alignment
136 Tamalpais Road
Fairfax, California

Introduction

In response to your request and in accordance with our agreement dated March 20, 2018, we have performed a second planning-level review of project plans and supporting documentation for the proposed construction of a new garage, entry stairs, and associated improvements at 136 Tamalpais Road (APN 0001-121-22) in Fairfax, California. Our First Review comments were summarized in our letter dated August 16, 2021. The purpose of our services is to review the submitted documents, comment on the completeness and adequacy of the submittal in consideration of Town requirements, and to provide a recommendation to Town Planning and Building staff regarding project approval.

The scope of our services includes:

- A site reconnaissance to observe existing conditions and review proposed development features;
- Review of provided project documents for conformance to the Town of Fairfax Hill Area Residential Development Ordinance, specifically Town Code Sections 17.072.080(B), (C), (E), and (F), and Section 17.072.110 (C).
- Development of opinions regarding project compliance with applicable Town Code requirements; and
- Development of recommendations to Town staff as to whether the project may be safely constructed in consideration of any geologic, hydrologic, or geotechnical hazards.

It should be noted that the scope of our review is limited solely to geologic, geotechnical, and civil portions of the project, and does not include review of structural, architectural, mechanical, or other items beyond the scope of our qualifications. We recommend that non-geotechnical aspects of the plans be reviewed by suitably qualified professionals.

Project Description

The project generally consists of constructing a new 2-car detached garage along the Tamalpais Road frontage of the steeply-sloping site. The new garage will be effectively excavated into the hillside and supported by new retaining walls on the upslope and left/right sides. The structure itself will be a 2-story building incorporating attic storage space on one side and a new roof

ATTACHMENT C

deck/access stairway on the other side. Access from the garage to the residence will be provided by a new entry stairway at the side of the structure, and the upslope/opposite side of the driveway will be supported by a new retaining wall ranging up to about 10-feet high. The garage structure itself will incorporate a tiered wall system on the upslope side that will retain a total of about 18 vertical feet.

In order to accommodate the new garage structure, an existing 10-inch PVC storm drain pipe will be re-aligned beneath the access stairs alongside of the garage and provided with new junction boxes and drop inlets. The re-aligned pipe will discharge into a relocated drain inlet in the driveway, which itself discharges via an existing pipe to an unknown location.

Project Review

We performed a brief site reconnaissance on April 19, 2021 to observe existing conditions at the site. We also reviewed the following documents provided by the Town as part of our First Review. Note that no structural plans were provided for our review:

- John C. Hom & Associates (2018), "Report, Geotechnical Services, Proposed Garage, 136 Tamalpais Avenue, Fairfax, California", Job Number 1896.1, dated March 9, 2021.
- Oberkamper & Associates (2020), "136 Tamalpais Rd. (APN 001-121-22), Town of Fairfax, Marin County, California" (Preliminary Civil Plans), Job No. 19-156, Sheets C1 through C4 (4 Sheets), dated August 25, 2020.
- William W. Moore (2021), "Re: Geotechnical Engineering Services, Proposed Garage", dated June 1, 2021.
- Frederic C. Divine Associates (2021), "New Garage, 136 Tamalpais Road, Fairfax, CA 94903, APN 001-121-22" (Architectural Plans), Sheets A1 through A3.2 (6 Sheets), Planning Comments Revision Set dated June 15, 2021.

Following issuance of our First Review comments we reviewed the following documents as part of our Second Review:

- DAC Associates (2022), "Supplemental Geotechnical Evaluation, Proposed Garage, 136 Tamalpais Road, Fairfax, California", Project No. 1458-6321G, dated January 12, 2022.
- Marin County Recorder (1993), "Mutual Encroachment Easement", Doc. No, 93-049298, recorded June 22, 1993.
- Old Republic Title Company (2021), "Preliminary Report, First Updated Report, 136 Tamalpais Road, Fairfax, CA 94930" (Fee Title Report), Order No. 0219021033-NS, dated September 14, 2021.

More recently, we reviewed the following documents for this Third Review:

- Philip A. Danskin & Associates (1991), "Record of Survey, Lands Conveyed to Firenze, Fairfax, Marin County, California", Survey No. 264, dated April 1991, recorded September 4, 1991.
- First American Title Company (1991), "Litigation Guarantee", Order No. 161040 WPB, dated June 21, 1991.

Conclusions

Based on our site reconnaissance and document review, the following submittal items required by the Town of Fairfax Hill Area Residential Development Ordinance remain outstanding.

Hill Area Residential Development Ordinance

- Section 17.072.080(C) – Site Plan

1) The Site Plan indicates that the new garage and driveway retaining wall structures will be located very close to the existing residence, such that the required excavations will likely remove lateral support from existing residence foundations. A Shoring Plan, prepared on the basis of the Geotechnical Engineer's recommendations, should be required at the Building Submittal level.

- Section 17.072.080(E) – Geotechnical Report

The project Geotechnical report was prepared in 2018 by John C. Hom & Associates (JCH). The report describes subsurface exploration consisting of 2 soil borings extending to depths of 3.5- and 6.0-feet, summarizes existing site conditions, and provides brief discussion of regional seismicity and slope instability/landsliding hazards. The report concludes that foundations may consist of shallow footings bearing directly on weathered bedrock. Geotechnical recommendations are provided for 2010 CBC seismic design, site preparation, foundation design, concrete slab design, retaining wall design, and geotechnical site drainage. No sampler blow counts or other objective data are recorded on the drill logs, and no laboratory testing was apparently performed.

The supplemental report prepared by DAC provides updated evaluation, more detailed discussion, and direct responses to our First Review comments, all of which are judged to be generally acceptable and appropriate.

1) Prior to Building permit approval, the Geotechnical Engineer should review the plans for incorporation of his recommendations and provide a Plan Review Letter to the City attesting to his approval.

- Section 17.072.080(F) – Grading and Drainage Plan

2) The Grading and Drainage plan indicates that about 230 cubic yards of soil will be removed from the site, with virtually no onsite re-use of excavation spoils. A detailed Construction Management and Staging Plan should be required at the building submittal level given the extremely limited access and general lack of offsite staging/parking areas.

3) The Grading and Drainage Plan does not show any retaining wall or other subsurface drain alignments or discharges. Retaining wall and other subdrain pipe alignments, sizes, and discharges should be shown on the plan.

4) The Grading and Drainage Plan does not show any details for new underground utility trenches and backfills, or for new driveway and garage concrete slabs/pavement sections. Plans should be revised to incorporate construction details and specifications for the aforementioned items.

Recommendations

Based on our review, we judge that all outstanding Planning-level comments have been satisfactorily addressed, and recommend that project processing continue. We expect that other items, including review of design-level Grading, Drainage, Shoring, Structural, and Construction Management Plans and details, and can be handled at the Building Permit submittal level with minimal anticipated impact.

We trust that this letter contains the information you require at this time. If you have any questions, please call. We will directly discuss our comments with the applicant's consultants if they wish to do so.

Yours very truly,
MILLER PACIFIC ENGINEERING GROUP

Mike Jewett
Town of Fairfax Contract Geologist
Engineering Geologist No. 2610
(Expires 1/31/23)

REVIEWED BY:

Scott Stephens
Town of Fairfax Contract Engineer
Geotechnical Engineer No. 2398
(Expires 6/30/23)

4.

93-049298

Rec Fee 20.00
Check 20.00

RECORDED BY:

Recorded
Official Records
County of
MARIN
JAMES DAL BON
Recorder
8:01am 22-Jun-93

XX 6

WHEN RECORDED RETURN TO:

Faye Taylor, Attorney at Law
1615 Fifth Avenue
San Rafael, CA 94901

MUTUAL ENCROACHMENT EASEMENT

THIS AGREEMENT is made this 28th of May, 1993 by and between Josephine Firenze, an unmarried woman, (hereinafter "Grantor as to Parcel A" and "Grantee as to Parcel B") and Duane Collins and Lizette Collins, husband and wife, (hereinafter "Grantors" as to Parcel B and "Grantees" as to Parcel A).

RECITALS:

WHEREAS, Grantor of Parcel A is the owner of certain improved real property situated in the Town of Fairfax, County of Marin, State of California, commonly known as 136 Tamalpais Road, Fairfax, California, legal description of which is attached hereto as Exhibit A and otherwise described herein as Parcel A;

WHEREAS, Grantors of Parcel B are the owners of certain improved real property situated in the Town of Fairfax, County of Marin, State of California, commonly known as 132 Tamalpais Road, Fairfax, California, legal description of which is attached hereto as Exhibit B and otherwise described herein as Parcel B;

WHEREAS, the parties hereto wish hereby to grant mutual easements for the benefit of the respective properties with respect to existing conditions which have been in effect for a number of years;

ATTACHMENT D

NOW, THEREFORE, it is agreed as follows:

1. For valuable consideration, the parties hereto grant the easements as specified hereinafter.

2. The easement granted hereto over Parcel A is appurtenant to Parcel B, and the easements hereto granted over Parcel B are appurtenant to Parcel A.

3. To the extent that certain existing concrete steps, concrete parking pad, shed, and planter box servicing Parcel A may actually be located upon Parcel B, an easement appurtenant is hereby granted in favor of Parcel A over Parcel B for said encroachments and the maintenance of such encroachments in perpetuity. The owner of Parcel A shall further have the exclusive obligation to maintain such encroachments at his or her sole cost and expense.

4. To the extent that an existing fence and property behind said fence is utilized by Parcel B, may actually be located upon Parcel A, an easement appurtenant is hereby granted in favor of Parcel B over Parcel A for said encroachments and the maintenance of such encroachments in perpetuity. The owner of Parcel B shall further have the exclusive obligation to maintain such encroachments at his or her sole cost and expense.

5. The respective Grantees hereby agree to hold the respective Grantors harmless and to indemnify the respective Grantors from any and all loss or liability of whatever kind and nature arising out of any claim of injury to Grantee or any third person with respect to alleged injuries occurring on the respective easements.

6. This instrument contains the entire agreement between the parties relating to the rights herein granted and the obligations herein assumed. Any oral representations or modifications concerning this instrument shall be of no force and effect excepting a subsequent modification in writing, signed by the party to be charged.

7. This instrument shall be binding upon and shall inure to the benefit of the successors and assigns of the respective Grantors and respective Grantees and shall run with the land and shall benefit the Dominant Tenement and burden the Servient Tenement as hereinabove specified.

8. In the event any party should commence legal proceedings to enforce or interpret any of the terms of this instrument, the prevailing party in any such legal proceedings shall be entitled to reasonable attorney fees and costs.

DATED: May 28, 1993

Josephine Firenze, an unmarried woman, Grantor as to Parcel A and Grantee as to Parcel B

DATED: May 28, 1993

Duane Collins, Grantor as to Parcel B and Grantee as to Parcel A

DATED: May 28, 1993

Lizette Collins, Grantor as to Parcel B and Grantee as to Parcel A

ACKNOWLEDGEMENT

State of California)
) ss
County of Marin)

On this 28 day of May, in the year 1993 before me, the undersigned Notary Public, personally appeared Josephine Firenze personally known to me on the basis of satisfactory evidence, to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Sydney L. Ferris

SYDNEY L. FERRIS
COMM #969481
NOTARY PUBLIC-CALIFORNIA
MARIN COUNTY
My Comm. Expires July 15, 1996

ACKNOWLEDGEMENT

State of California)
) ss
County of Marin)

On this 28th day of May, in the year 1993 before me, the undersigned Notary Public, personally appeared Duane Collins personally known to me on the basis of satisfactory evidence, to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

OFFICIAL SEAL
JEANNIE ROGERS

ACKNOWLEDGEMENT

State of California)
) ss
County of Marin)

On this 28th day of May, in the year 1993 before me, the undersigned Notary Public, personally appeared Lizette Collins personally known to me on the basis of satisfactory evidence, to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

OFFICIAL SEAL
JEANNIE ROGERS

DESCRIPTION

All that certain real property situate in the City of Fairfax County of Marin, State of California, described as follows:

BEING a portion of Tamalpais Road, as shown upon that certain map entitled "Amended Map of Fairfax Manor, Marin County, Calif.", filed for record on April 8, 1919 in Book 5 of Maps at page 4, Marin County Records, and being bounded as follows:

BOUNDED on the Northerly side by the centerline of said Tamalpais Road; bounded on the Southerly side by Lots Nos. 48 and 51 in Block "D", as shown upon said map; bounded on the Southeasterly side by the Northeasterly prolongation of the Southeasterly line of said Lot No. 51 in Block "D", to the center line of Tamalpais Road; bounded on the Northwesterly side by the Northeasterly prolongation of the Northwesterly line of said Lot No. 48 in Block "D", to the center line of Tamalpais Road.

More commonly known as 136 Tamalpais Road, Fairfax, California

DESCRIPTION

All that certain real property situate in the City of Fairfax, County of Marin, State of California, described as follows:

> LOT 46, in Block "D" as shown upon that certain map entitled, "Map of Fairfax Manor Subdivision No. 2, Marin Co., Calif.", filed for record September 17, 1913 in Volume 4 of Maps at Page 53, Marin County Records."

More commonly known as 132 Tamalpais Road, Fairfax, California.

EXHIBIT "B"

TOWN OF FAIRFAX

142 BOLINAS ROAD, FAIRFAX, CALIFORNIA 94930
(415) 453-1584/FAX (415) 453-1618

Date: August 3, 2021

Permit #21-T-56

NOTICE OF TREE COMMITTEE ACTION

This action may be appealed to the Fairfax Town Council within 10 days of the Tree Committee decision. This permit is not in effect until the 10 day appeal period is over.

Request for a tree permit to remove: (1) Live Oak
(2) Bay

Address of Tree(s) to be removed: 136 Tamalpais Road

Applicant's Phone: Robin Hubinsky (415) 939-4028

On, July 26, 2021 the Fairfax Tree Committee took the following action on the above referenced tree permit application:

_____ APPROVED - **FOR RECOMMENDATION ONLY** Recommendation for the Planning Commission

Motion to approve – Richardson-Mack, 2nd Childers. Unanimous

REMINDER: PLEASE KEEP PERMIT NOTICE UP DURING THE 10 DAY WAITING PERIOD

_____ CONTINUED

_____ DENIED

CONDITIONS OF APPROVAL:

THIS APPROVED APPLICATION IS YOUR PERMIT-KEEP IT ON THE JOB SITE. FAILURE TO HAVE THE PERMIT ON THE SITE WHILE THE TREE WORK IS IN PROGRESS MAY RESULT IN THE WORK BEING HALTED UNTIL YOU SHOW PROOF OF APPROVAL.
Please verify that the tree company performing the work has a current Fairfax Business license and worker's compensation coverage.
THIS TREE PERMIT EXPIRES IN SIX MONTHS. If necessary, you may apply for an extension in writing prior to the expiration date.

ATTACHMENT E

FOR RECOMMENDATION ONLY TO PLANNING COMMISSION

TOWN OF FAIRFAX

142 BOLINAS ROAD, FAIRFAX, CA 94930
(415) 453-1584 / FAX (415) 453-1618

APPLICATION FOR TREE REMOVAL OR ALTERATION

A permit is required to remove or alter one or more trees on any parcel in the Town of Fairfax. All trees for which a permit is requested shall be tagged with an orange ribbon, a minimum of 10 days prior to the Tree Advisory Committee meeting date. Applicants must also post a notice of intent to alter or remove the marked Tree(s) in a prominent location visible along the frontage of the affected property.

APPLICANT INFORMATION

OWNER (APPLICATIONS MUST BE FILED BY PROPERTY OWNER): Robin Hubinsky	DATE OF APPLICATION: 07-01-2021
JOB ADDRESS/ASSESSOR'S PARCEL NO. IF SITE IS VACANT 136 Tamalpais Road	PHONE NUMBER: 415-939-4028
EMAIL ADDRESS: rhubinsky@hotmail.com	FAX NUMBER:
PROPERTY OWNER'S ADDRESS IF DIFFERENT FROM ABOVE 44 Mirabel Ave., San Francisco CA 94110	ALTERNATE PHONE NUMBER:

Will verify

TREE INFORMATION

SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: Live Oak	CIRCUMFERENCE BREAST HEIGHT: 31.4"
	REASON FOR REMOVAL/ALTERATION: New retaining wall, for garage construction
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: Bay (2)	CIRCUMFERENCE BREAST HEIGHT: 47.1 " (2)
	REASON FOR REMOVAL/ALTERATION: New retaining wall, for garage construction
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE:	CIRCUMFERENCE BREAST HEIGHT:
	REASON FOR REMOVAL/ALTERATION
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE:	CIRCUMFERENCE BREAST HEIGHT:
	REASON FOR REMOVAL/ALTERATION

Please attached a site plan to this application showing the location and species of all trees with a diameter of 4 inches (circumference of 12 inches or more), measured 4.5feet above grade at tree base, property boundaries and easements, location of structures, foundation lines of neighboring structures and paved areas including driveways, .

AGENDA ITEM # 3

Any tree company used for the removal or alteration must have a current and valid Fairfax Business license. Please include the name, address, and phone number of the person or company doing the above listed work:

NAME: T.B.D.	PHONE NUMBER:
ADDRESS:	CONTRACTOR BUSINESS LICENSE NUMBER

Please note the Tree Advisory Committee may require applicants to submit their application to a Qualified Arborist for a report or recommendation at the expense of the applicant. A Qualified Arborist is defined as a Certified Arborist, A Certified Urban Forester, a Registered Consulting Arborist, or a Registered Professional Forester.

OWNER'S STATEMENT

I understand that in order to properly process and evaluate this application, it may be necessary for Town personnel to inspect the property, which is the subject of the application. I also understand that due to time constraints it may not always be possible for Town personnel to provide advanced notice of such inspections. Therefore, this application will be deemed to constitute my authorization to enter upon the property for the purpose of inspecting the same, provided that Town personnel shall not enter any building on the property except in my presence or the presence of any other rightful occupant of such building. I understand that my refusal to permit reasonable inspection of any portion of the property by town personnel may result in a denial of this application due to the lack of adequate information regarding the property.

Robin Hulvey

Signature of Property Owner

06-29-2021

Date

[AREA BELOW FOR STAFF USE ONLY]

Permit Number: 21-T-56	
Date Received: 7-1-21	Received by: S. Walker
Conditions of Approval:	
Tree Committee Action:	Date:

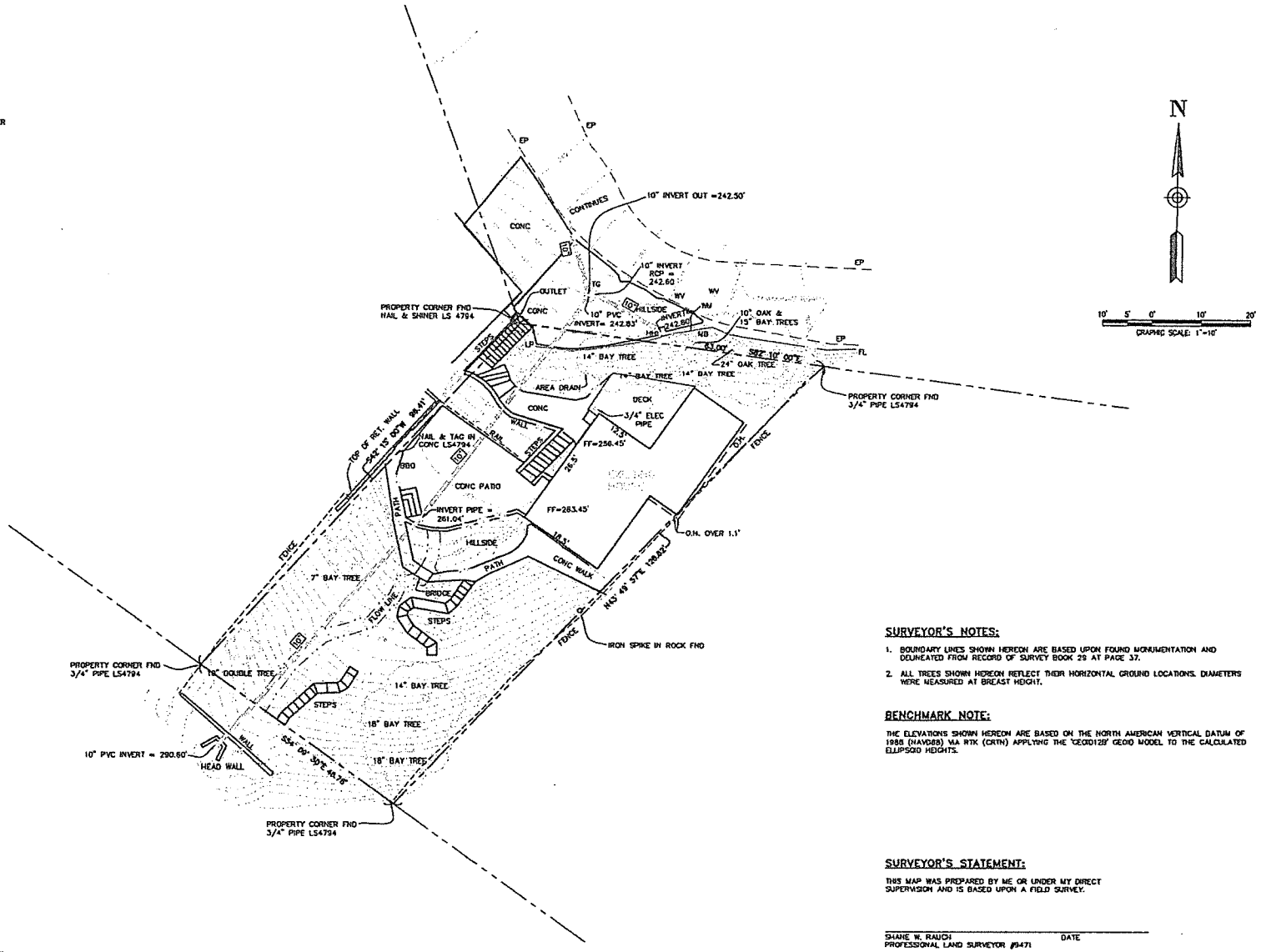
Tree Committee Actions can be appealed to the Town Council within 10 days of the Tree Committee Action. Contact Town Hall for more information.

DATE OF FIELD SURVEY:

AUGUST 28, 2019

ABBREVIATIONS:

A.P.N.	TAX ASSESSOR'S PARCEL NUMBER
CONC.	CONCRETE
ELEC/E	ELECTRICAL
E.P.	EDGE OF PAVEMENT
F.H.	FIRE HYDRANT
FS	FINISHED SURFACE
GS	GROUND SHOT ELEVATION
INV.	INVERT ELEVATION
HH	HAND HOLE
LP	LIGHT POLE
MB	MAILBOX
O.H.	OVERHANG
RCP	REINFORCED CONCRETE PIPE
RET.	RETAINING
SD	STORM DRAIN
TG	TOP OF GRATE
V.I.F.	VERIFY IN FIELD
WM	WATER METER
WV	WATER VALVE



LEGEND

BOUNDARY LINE

EXISTING CONTOUR LINE

EXISTING STORM DRAIN LINE

SURVEYOR'S NOTES:

1. BOUNDARY LINES SHOWN HEREON ARE BASED UPON FOUND MONUMENTATION AND DELINEATED FROM RECORD OF SURVEY BOOK 29 AT PAGE 37.
2. ALL TREES SHOWN HEREON REFLECT THEIR HORIZONTAL GROUND LOCATIONS. DIAMETERS WERE MEASURED AT BREAST HEIGHT.

BENCHMARK NOTE:

THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) VIA RTK (CRTN) APPLYING THE "GEOID12B" GEOID MODEL TO THE CALCULATED ELLIPSOID HEIGHTS.

SURVEYOR'S STATEMENT:

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND IS BASED UPON A FIELD SURVEY.

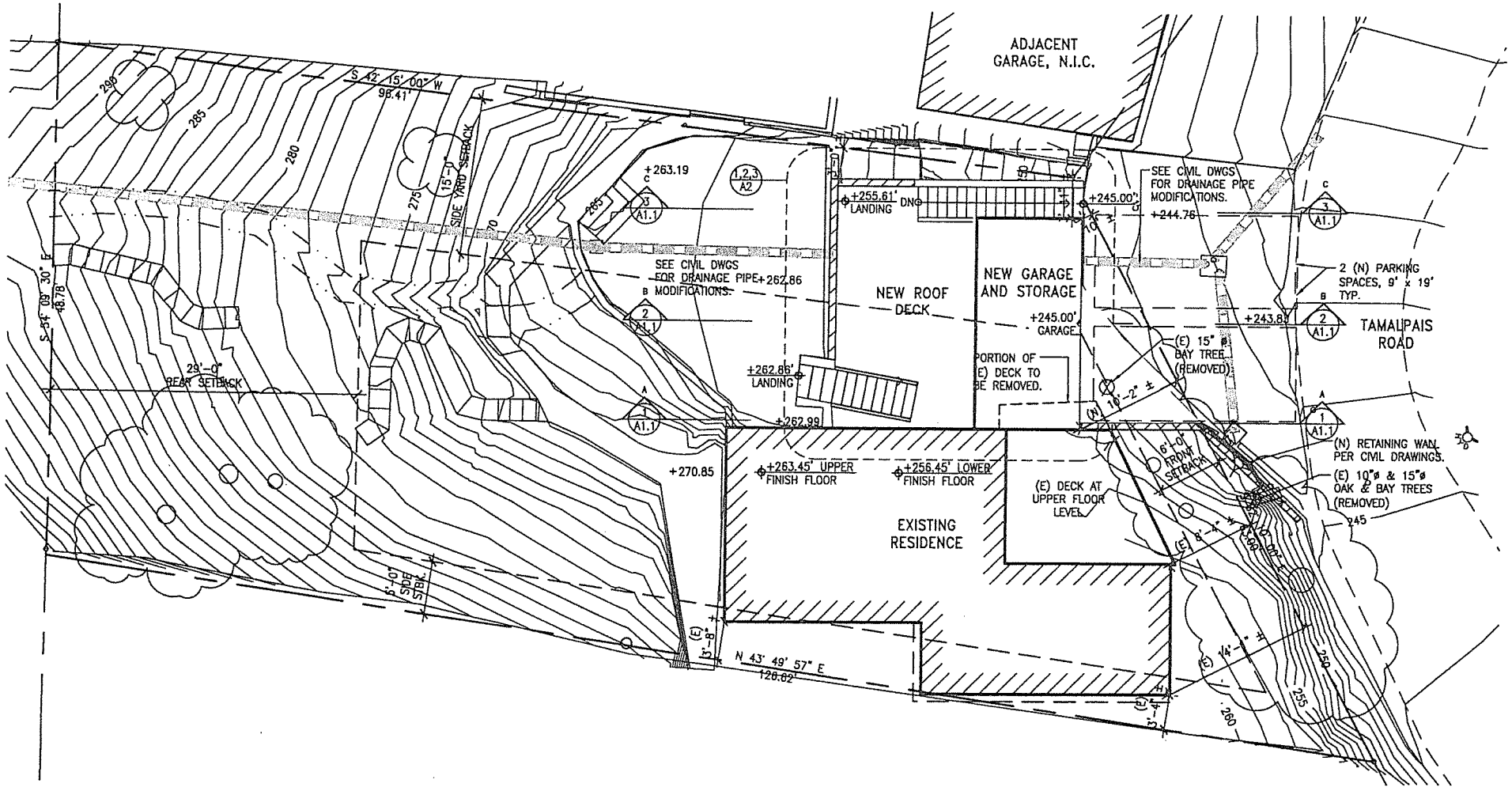
SHANE W. RAUCH DATE
PROFESSIONAL LAND SURVEYOR #9471

OBERKAMPER & ASSOCIATES
CIVIL ENGINEERS INC.
7200 REDWOOD BLVD. SUITE 308 NOVATO, CA 94945
PHONE: (415) 897-2800
www.oberkamper.com

EXISTING CONDITIONS MAP
136 TAMALPAIS RD. (A.P.N. 001-121-22)
MARIN COUNTY CALIFORNIA
TOWN OF FAIRFAX

Scale: 1" = 10'
Drawn by: SWR
Field Date: SWR/AS
Checked by: SWR
Date: 10/25/2019

SHEET
C1
OF 4
19-156

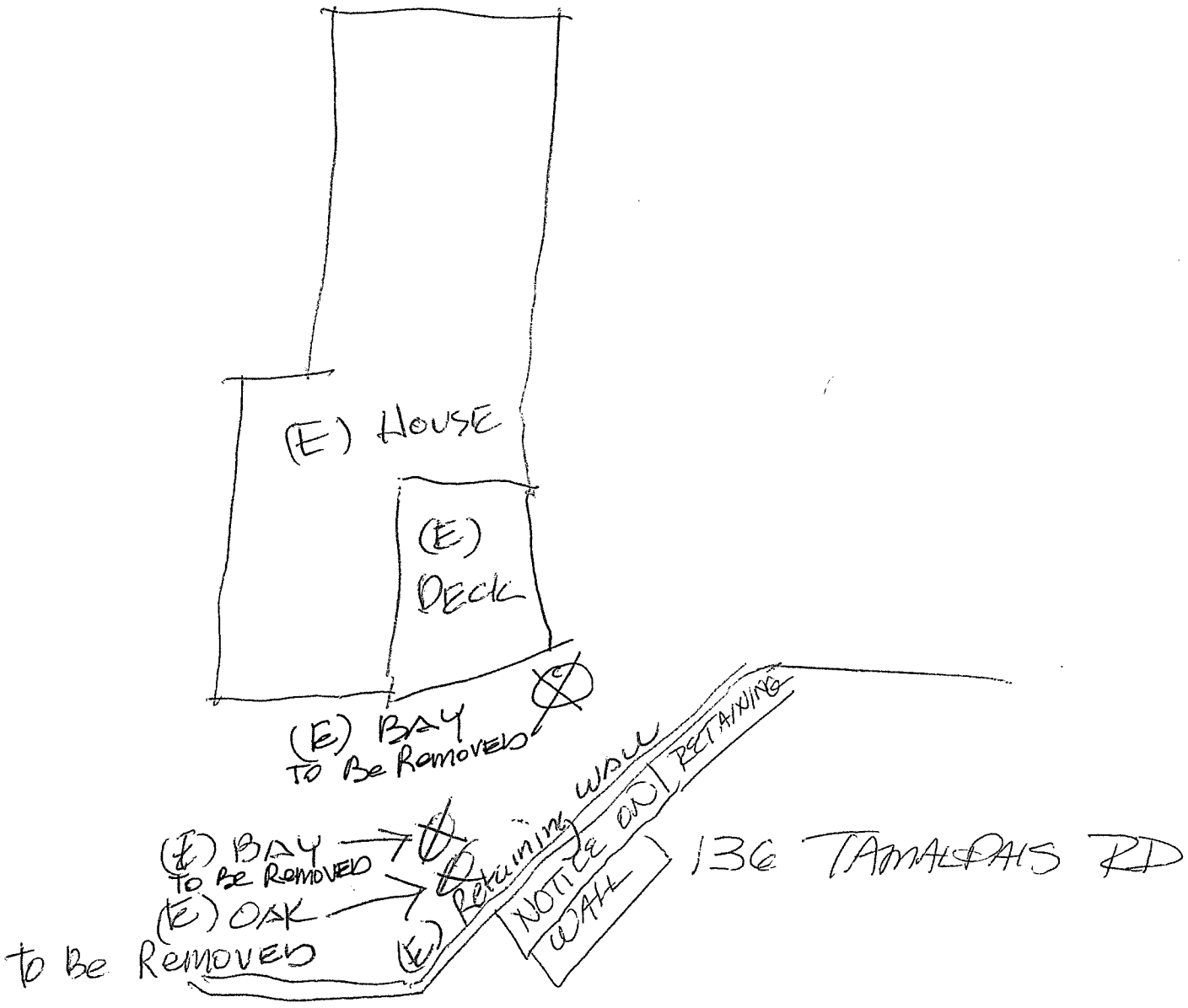


1 / A1 PROPOSED SITE PLAN

BASED ON TOPOGRAPHIC MAP PREPARED BY
OBERKAMPER & ASSOCIATES DATED 08/28/2019

0 4 8 12 16 20 40
SCALE

SCALE: 1/8" = 1'-0"



TAMALPAIS ROAD

Agenda #3