R G H

GEOTECHNICAL and
ENVIRONMENTAL
CONSULTANTS

Gary W. Russey
Keith S. Gregory
Juan B. Hidalgo

February 7, 2001

Mr. John Fisher
1435 Partrick Road
Napa, CA 94558

RE: Preliminary Geotechnical Investigation
Fisher Tentative Parcel Map
APN's 050-010-24,30,31
Napa, California

Project Number: 5514.01.01.2

Dear Mr. Fisher:

INTRODUCTION

This report presents the results of our preliminary geotechnical investigation for the Fisher Tentative Parcel Map in Napa, California. The Fisher property (APN 050-010-24,30,31) is approximately 1213 acres in size and extends over moderately steep to steep, wooded, landslide-prone terrain off of Partrick Road west of the City of Napa. RGH previously performed a Preliminary Geotechnical Investigation for a previous Tentative Map of the Fisher property (APN's 050-010-24,31,30,33,34), and presented the results in a report dated April 28, 1999. The landslides and site location is shown on Plate 1.

The subject property comprises three large acreage parcels of 300±, 428± and 463± acres. It is proposed to subdivide the subject property into six lots of 122±, 200±, 193±, 270±, 200± and 228± acres. Each parcel will contain two lots each. We understand you wish to identify a geotechnically feasible building envelope on each of the proposed properties and two alternate sites for possible future single-family residential development. The proposed building envelopes and alternate sites are to be accessed off of Partrick Road primarily by pre-existing dirt roads.

The purpose of our investigation was to evaluate the geologic conditions on the subject property and provide geotechnical engineering input during the preparation of the Tentative Parcel Map. In addition, we were to recommend supplemental geotechnical services needed for future residential design and construction on the individual lots.

SCOPE AND SERVICES PROVIDED

Our scope of work was limited to a brief site reconnaissance, a review of selected published geologic data and stereo-paired aerial photographs pertinent to the property, and preparation of this report. Our scope of services included identifying geotechnically feasible building envelopes and alternate sites on each of the proposed lots for future single-family residential construction. A list of the geotechnical references reviewed is presented at the end of this report. On January 17, 2001, our geologist conducted a surficial reconnaissance of the proposed building areas selected by Reichers, Spence & Associates (RSA), the project Civil Engineer. During the reconnaissance, we observed exposed topographic features, surface soils, rock outcroppings, cut banks, swales and ravines. The proposed building areas are shown on the Tentative Parcel Map prepared by RSA, presented on Plate 2. A geologic map of the property is presented on Plate 3. A site-specific subsurface exploration was not requested, authorized or performed for this phase of our services.

Based on the geologic literature review and site reconnaissance, we were to develop the following information:

A. A brief description of surface, geologic and spring or surface seepage conditions observed during our reconnaissance;

B. Distances to nearby active faults and a discussion of geologic hazards that may affect the proposed residential development;

C. Our opinions regarding the geotechnical feasibility of the project; and

D. Preliminary conclusions and recommendations concerning;

1. Primary geotechnical engineering concerns and mitigating measures, as applicable;

2. Possible foundation systems for new structures;

3. Feasibility of access routes to the site;

4. Slope stability of building areas for construction of leach fields and dwellings; and

5. Recommended supplemental geotechnical engineering services.

SITE CONDITIONS

The property is an irregularly-shaped parcel that extends over grassy and wooded knolls, saddles, swales, ravines and ridges. Moderately steep to steep slopes separate the swales and ridges. Carneros Creek flows southeasterly along the southwestern property boundary. Partrick Road extends in a northwesterly direction through the approximate middle portion of the property. Building areas are generally situated on less sloping portions of the site such as knolltops and saddle areas. In general, the portions of the property that extend southwesterly of Partrick Road are underlain by very large, ancient landslide complexes. Younger active landslides are visible on the surface of the larger slides or on formerly undisturbed ground, most notably downhill from the alternate B building area on Lot 5. The surface soils on the sloping portions of the property are undergoing erosion, sloughing and a gradual downhill movement commonly known as creep. Soil creep is typically manifested by hummocky topography and downhill-leaning trees at their bases.

Geology and Soils

The U.S. Geological Survey maps reviewed, Fox et al. (1973), indicate that, in general, the north and northeastern portions of the property are underlain by predominantly late Miocene-early Pliocene Sonoma Volcanics rhyolite bedrock. Sedimentary rocks of the Jurassic-Cretaceous Great Valley Sequence underlie the southwestern through southeastern and far northeastern portions of the property. The sediments generally comprise mudstone, siltstone and minor thin-bedded sandstone. The Great Valley sediments comprise the majority of slide-prone materials on the property.

Mapping by the U.S. Soil Conservation Service (Lambert and Kashiwagi, 1978) has classified soil over the portion of this property proposed for development as belonging to multiple series including the Fagan (132), Felton (136) and Forward (139, 140 and 141) series. The alternate building area on Lot 4 is shown to be underlain by the Fagan series, and comprises well-drained soils on side slopes and uplands. These soils are said to have moderate to high plasticity (LL = 30 to 55; PI = 10 to 35) and expansion potential. Runoff over these soils is rapid. The hazard of erosion is moderate. The remaining building areas are shown to be underlain by members of the Forward series. These members generally comprise well-drained, moderately steep to very steep soils on uplands. These soils are said to have low plasticity (LL = 15 to 30; PI = NP to 15) and expansion potential. Runoff over these soils is medium to very rapid. The hazard of erosion ranges from slight to very high depending on slope.

Landslides

The California Division of Mines and Geology's reconnaissance photo interpretation maps of landslides (Dwyer, 1976) reviewed indicate large-scale landslide complexes across the 1213-acre parcel. Most of the landslide activity is confined to the portions of the parcels on the southwestern side of Partrick Road. There are also numerous smaller landslides either on top of the larger landslides or on natural slopes. The landslides are of varying sizes, depths and degrees of activity ranging from dormant to active. Our aerial photograph interpretation generally confirms the presence of these landslides.

Faulting and Seismicity

We did not observe land forms within the area that would indicate the presence of active faults and the site is not within a current Alquist-Priolo Earthquake Fault Zone. However, the property is shown to be bordered by the Carneros fault along the southwestern property boundary. The Carneros fault is generally considered to be inactive (older than 11,000 years). The risk of future fault rupturing at a given site is generally considered to be subordinated to recent faulting (younger than 11,000 years). Several northwest-trending active fault zones exist in close proximity to, and within several miles of, the site (Brown, 1970; Helley and Herd, 1977; Bortugno, 1982). The shortest distances from the site to these faults are presented below in Table 1. However, the property is within a seismically active region and as such will be subjected to strong ground shaking.

TABLE 1

ACTIVE FAULT PROXIMITY

Fault	Direction	Distance-Miles
San Andreas	28	SW
Healdsburg - Rodgers Creek	7½	SW
Green Valley	8½	E
Hayward	18	S
West Napa (Zoned)	6	SE

Groundwater

Free groundwater seeps or springs are evident throughout the property but were not observed at the preselected building areas during our reconnaissance. However, we did observe phreatophyte (water- thriving) grasses outside of the preselected building area on the eastern side of the alternate B site on Lot 4. On hillsides, rainwater typically percolates through the porous topsoil and migrates downslope in the form of seepage at the interfaces of the topsoil, landslide debris and bedrock, and through cracks and fractures in the bedrock. Fluctuations in the seepage rates typically occur due to variations in rainfall and other factors such as periodic irrigation.

DISCUSSIONS AND CONCLUSIONS

Based upon the results of our geologic data review and reconnaissance, we judge that it is geotechnically feasible to construct single-family residences, leach fields and access driveways on the building areas and alternate sites as shown on Plate 2. The primary geotechnical considerations and potential mitigating measures recommended for building site development are discussed in the following paragraphs. These conclusions are preliminary and will need to be verified or modified during final design following a detailed site specific geotechnical investigation including subsurface exploration, laboratory testing and geotechnical engineering evaluation, as recommended herein. The thickness and expansion potential, creep potential and/or the porosity of the surface soils will be analyzed during our site specific investigations.

Landslides

We observed active landslides and landslide complexes on the Fisher property, as shown on Plate 1. The preselected building areas, as shown on Plate 2, are generally located outside of these landslides. The building area on Lot 3 is situated along a stable-appearing ridge. However, the headscarp of a large landslide and a definite landslide zone are situated on the steep flanks southwest (downhill) of the building area. The alternate A and B building areas on Lot 4 are situated near the lower portions of definitely active landslide zones. Alternative B building area on Lot 5 is situated north (uphill) of an active slide complex. In addition, a fresh (recent) scarp was observed on the slopes to the southeast. To minimize the impact of slope instability affecting the building areas, setback zones should be established, as recommended below.

Residence Locations and Setbacks

To reduce the risk of slope instability affecting future residences, they should be located in the building areas shown on Plate 2. We anticipate that, in general, spread footings could be used for foundation support in relatively level building areas underlain by shallow bedrock. Where the depth to bedrock exceeds 3 feet, drilled piers and grade beams should be considered for foundation support. Either foundation system will need to derive support in bedrock below the surface soils or in engineered fill keyed into bedrock. Design criteria of such foundation systems should be developed by a site specific geotechnical investigation as recommended in the supplemental services section of this report. Building development setbacks should be established from steep slopes and landslides. We recommend a minimum horizontal setback distance of 50-feet from breaks in slope of 2:1 or steeper, and of 100-feet from landslides.

Access Driveways

Access to the parcels will be gained from the existing dirt roads or construction of new driveways. In general, the proposed driveways should be aligned to avoid steep slopes and areas of instability in order to reduce construction costs and future maintenance. Access to building areas on Lots 1 and 2 along the ridgeline would extend up steep slopes, and would have to be accomplished with a switchback or a series of switchbacks. The grading of this driveway will require standard hillside grading techniques such as fill buttressing or retention. Since, in general, alignments off the existing dirt road to each designated building site traverse terrain that is level to moderately sloping, we anticipate final driveway grading to be geotechnically feasible.

Erosion and Site Drainage

The long-term satisfactory performance of residential development, leach fields and driveways constructed on hillsides results primarily from strict control of surface runoff and subsurface seepage. The site surface soils have a moderate to high erosion potential, depending on slope inclination, as evidenced by the erosion on steeper portions of the property. Uncontrolled erosion could induce sloughing or landsliding, or reactivation or acceleration of dormant or existing landslides. Downspouts from the future residences should discharge into closed glued pipes that empty away from unstable areas and into nearby driveway V-ditches or natural drainages. Discharge for driveway edge drains (V-ditches) and downspout points need to be protected against erosion and sloughing by energy dissipators such as rip-rap and gabions, or equivalent protective and energy dissipating measures, as appropriate.

Roof runoff needs to be collected and disposed of through the storm drain system in a positive and harmless way. This can be accomplished with roof gutters, downspouts, splash blocks and/or closed-pipe conduits. Subsurface seepage can be controlled with perimeter foundation drains or accentuated positive drainage around structures.

Faulting

We did not observe evidence of active faults at the site and the site is not within such a zone identified by the State Geologist. Since historical occurrence(s) of surface faulting generally follows the trace of the most recent fault rupture, we judge the potential for surface fault rupture at the site is low.

Seismicity

As throughout the entire Northern California region, ground shaking from earthquakes represents a significant geologic hazard to development. The subdivided lots are expected to experience very strong to violent earthquake shaking during their design life. The intensity from ground shaking is dependent on several factors including the distance from the site to the earthquake focus, magnitude of the earthquake and the response of the underlying soil, nearby landslides and bedrock.

Severe ground shaking could induce new or renewed slope failure, therefore setbacks from steep slopes and landslides should be established and strictly adhered to or foundations designed to reduce this hazard. The project structural designer should consider seismic shaking forces in the design of structural elements for the future residences. We judge the likelihood of earthquake induced hazards such as liquefaction, lurching and densification within the preselected building areas is low to moderate, depending on the proximity to landslides, steep slopes and the strength of the underlying bedrock. However, some of these secondary earthquake effects are unpredictable as to location and extent, as evidenced by the 1989 Loma Prieta Earthquake. The potential for site specific lurching, liquefaction and densification potential needs to be evaluated in detail and quantified during the performance of the final geotechnical investigation recommended herein.

SUPPLEMENTAL SERVICES

We should perform a detailed, site specific geotechnical investigation with subsurface exploration of each building area prior to the construction of the residences. The investigation should include test borings or backhoe pits, laboratory testing and engineering analyses. The geotechnical investigation should address specific design and locating aspects of each planned residential development and the data generated should be incorporated into project plans. The plans should then be reviewed by the geotechnical engineer and/or engineering geologist prior to receiving bids for planned work. These supplemental services are performed on an as-requested basis and are in addition to this preliminary geotechnical investigation. We cannot accept responsibility for items that we are not notified to observe or for changed conditions we are not allowed to review.

LIMITATIONS

This report has been prepared by RGH for the exclusive use of John Fisher and his consultants to evaluate the geotechnical feasibility of proposed residential development within APN's 050-010-24,30,31 and as described in this report.

Our services consist of professional opinions and conclusions developed in accordance with generally accepted geotechnical engineering principles and practices. We provide no other warranty, either express or implied. Our conclusions and recommendations are based upon the information provided to us regarding the proposed Tentative Parcel Map, the results of our field reconnaissance, data review and professional judgement. As such, our conclusions and recommendations should be considered preliminary and for feasibility and planning purposes only. A detailed subsurface investigation, such as recommended herein, may reveal conditions different from those inferred by surface observations and data review only. Such subsurface investigation may warrant a revision to our preliminary conclusions.

Site conditions and cultural features described in the text of this report are those existing at the time of our field reconnaissance on January 17, 2001, and may not necessarily be the same or comparable at other times. The scope of our services did not include an environmental assessment or an investigation of the presence (or absence) of hazardous, toxic or corrosive materials in the soil, surface water, groundwater or air on, below, or around this site, nor did it include an evaluation or investigation for the presence (or absence) of wetlands.

It should be understood that slope failures including landslide reactivation, continued landslide movement, new landslides, debris flows and erosion are on-going natural processes which gradually wear away the landscape. Residual soils and weathered bedrock can be susceptible to downslope movement, even on apparently stable sites and particularly within known landslide terrain. Such inherent hillside and slope risks are generally more prevalent during periods of intense and prolonged rainfall which occasionally occur in northern California and/or during earthquakes. Therefore, it must be accepted that occasional, unpredictable slope failure and erosion and deposition of the residual soils and weathered bedrock materials are irreducible risks and hazards of building upon or near the base of any hillside or steep slope throughout northern California. By accepting this report, the client and other recipients acknowledge their understanding and acceptance of these risks and the terms and conditions herein.

We trust this provides the information you require at this time. We are available to provide additional evaluation during your planning phase and can present a proposal for the recommended supplemental services, as appropriate. If you have questions or wish to discuss this further, please call.

Very truly yours,

RGH Geotechnical and
Environmental Consultants

Gregory D. Sarganis
Geologist

Juan B. Hidalgo
Geotechnical Engineer - 398

REGISTERED PROFESSIONAL ENGINEER
JUAN B. HIDALGO
GE 398
GEOTECHNICAL
STATE OF CALIFORNIA

GDS:JBH:gs(5514112.Rpt)

Attachments: Plate 1, 2 and 3

Four copies submitted

CC: Ryan Gregory - Reichers, Spence & Associates, 1541 Third Street, Napa, CA 94559

Helley, E. J., and Lajoie, K. R., Spangle, W. E., and Blair, M. L., 1979, Flatland Deposits of the San Francisco Bay Region, California - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning: U.S. Geological Survey Professional Paper 943, 88 p.

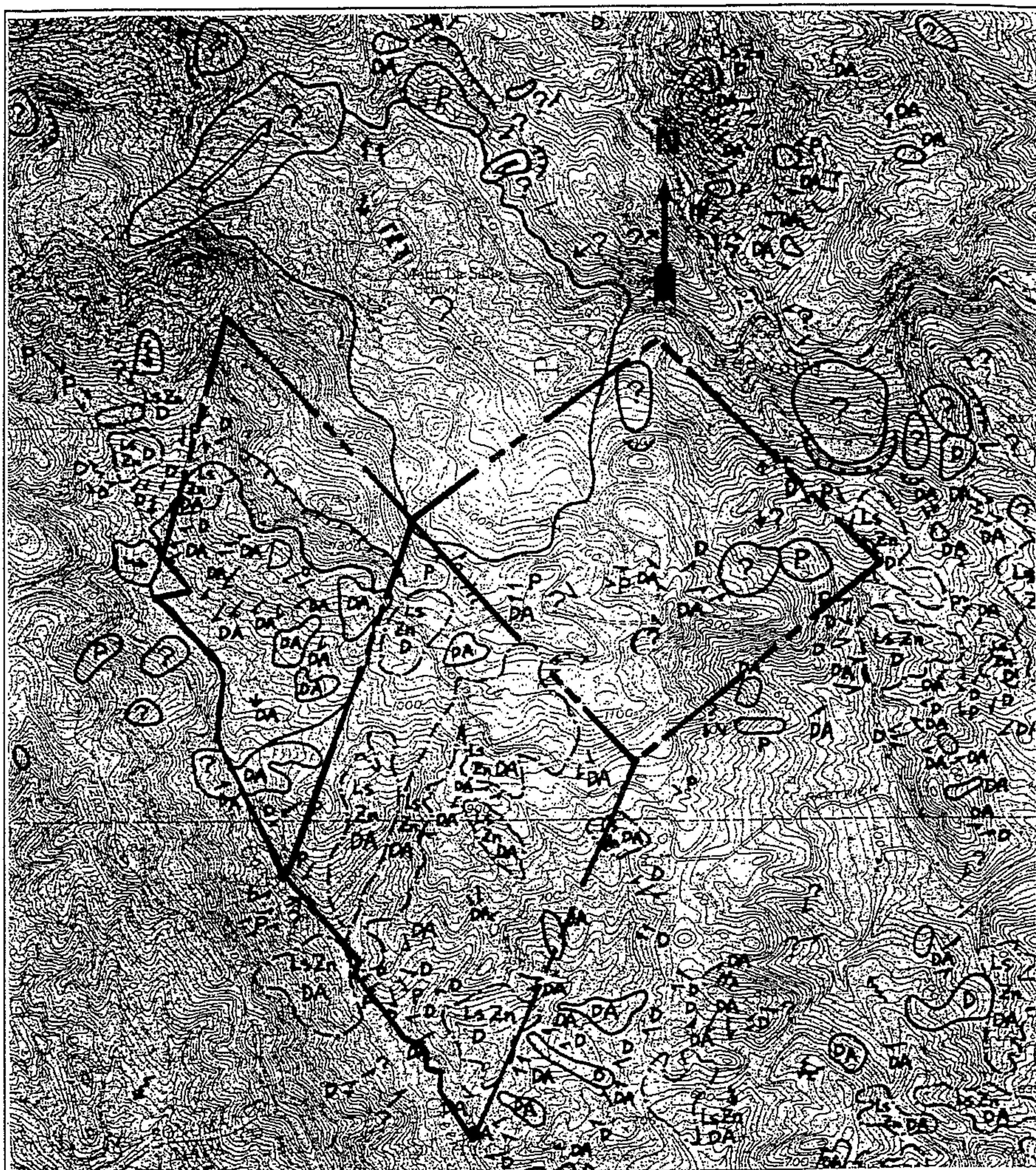
Kunkel, F. and Upson, J. E., 1960, Geology and Groundwater in Napa and Sonoma Valleys, Napa and Sonoma Counties, California: U.S. Geological Survey Water-Supply Paper 1495, 4 Plates, 252 p.

Lambert, G. and Kashiwagi, J., 1978, Soil Survey of Napa County, California: U.S. Department of Agriculture, Soil Conservation Service, 47 Sheets, Scale 1:24,000.

Ploessel, M. R. and Slosson, J. E., 1974, Repeatable High Ground Accelerations from Earthquakes: California Geology, September, 1974, p. 195-199.

U.S. Department of Housing and Urban Development, Federal Insurance Administration, 1989, Flood Insurance Rate Map, Napa County, California, Community Panel Number 060205 0410B.

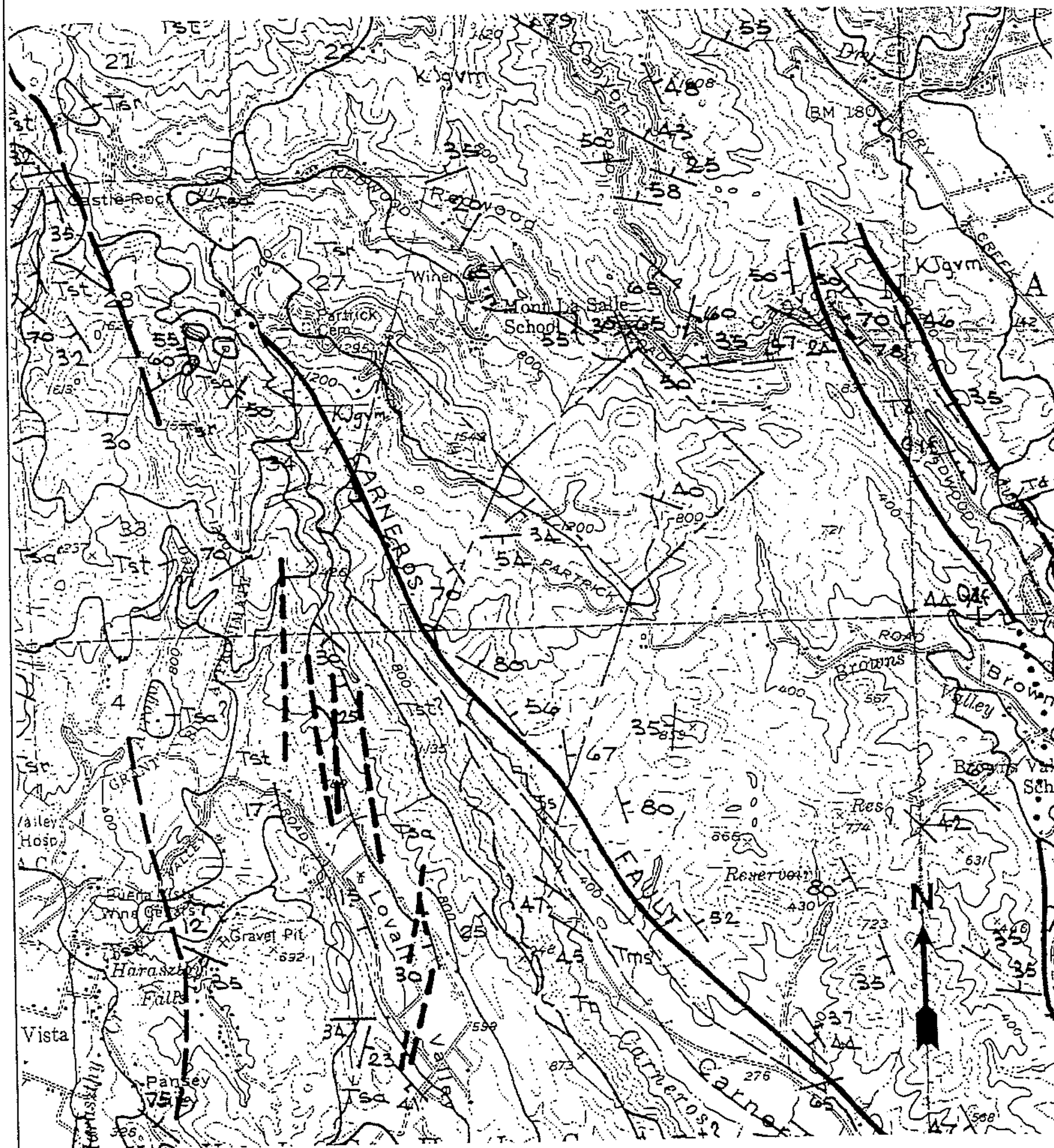
WAC Corporation, Napa County, 1996, Black and White Aerial Photographs, Roll WAC96A, Frames 6-90 to 93 and 186 to 189, Approximate Scale 1" = 2000'.



Reference: U.S. Geological Survey Open File Map 76-74, Dwyer et al (1976)

Scale: 1" = 2000'

R G H Geotechnical and Environmental Consultants	Job No: 5514.01.01.2 Appr: [signature] Drwn: gds Date: February 2001	LANDSLIDE AND SITE LOCATION MAP FISHER PROPERTY Napa, California	PLATE 1



Reference: U.S. Geological Survey Miscellaneous Field Studies Map MF-483, Fox et al (1973)

Scale: 1" = 3500'

R G H Geotechnical and Environmental Consultants	Job No: 5514.01.01.2 Appr: gs Drwn: gds Date: February 2001	**GEOLOGIC MAP** **FISHER PROPERTY** **Napa, California**	PLATE 3

R G H

CONSULTANTS, INC.

PRELIMINARY GEOTECHNICAL STUDY

FISHER PARCEL SPLIT - II
APN'S 050-010-24, -30 AND -31
2435 PARTRICK ROAD
NAPA, CALIFORNIA

Project Number:
5514.03.01.2

Prepared For:

John Fisher
2435 Partrick Road
Napa, California 94558

Prepared By:

RGH Consultants, Inc.
Napa Office
P.O. Box 10830
Napa, California 94581
(707) 252-8105

Gregory D. Sarganis
Professional Geologist – 7422

PROFESSIONAL GEOLOGIST GREGORY D. SARGANIS No. 7422 Exp 04/30/09 GEOLOGIST STATE OF CALIFORNIA

Eric G. Chase
Geotechnical Engineer – 2628

REGISTERED PROFESSIONAL ENGINEER ERIC G. CHASE No. 2628 Exp. 06/30/09 GEOTECHNICAL STATE OF CALIFORNIA

November 12, 2007

TABLE OF CONTENTS

INTRODUCTION

This report presents the results of our preliminary geotechnical study for a new proposed split of the Fisher property that is designated as APN's 050-010-024, -030 and 031, and located at 2435 Partrick Road in Napa, California. The parcels comprise approximately 322, 346 and 463 acres, respectively. The results of our previous preliminary geotechnical investigation for the captioned APN's are presented in a report dated February 7, 2001. For our previous investigation, we reviewed potential building envelopes on six proposed lots and found that some of the proposed building envelopes were situated within landslide terrain. We initially performed a preliminary geotechnical investigation for APN's 050-010-024, -031, -032, -033 and -034 to aid in the preparation of an earlier Tentative Parcel Map. The results of our initial investigation were presented in a report dated April 28, 1999.

APN's 050-010-024, -030 and 031, hereinafter referred to as "subject property" or "property," extend over moderately steep to steep terrain that is locally densely wooded with interspersed grass-covered areas. The subject property is underlain by relatively stable-appearing terrain flanked by numerous landslides of varying complexity and activity. The property is presently used as a cattle ranch and as such is divided into several fenced-in pastures that are accessed by dirt roads and trails. Some of the pastures contain small stock ponds and corrals. Carneros Creek bounds the property along the southwest. Partrick Road extends northwest-southeast through the property. The site location is shown on Plate 1, Appendix A.

We understand it is planned to subdivide the subject property into six new parcels for future single-family residential use. Access to the new parcels will be provided by improving existing dirt roads and trails, and constructing new roads. The purpose of our study, as outlined in our proposal of June 14, 2007, is to evaluate surface soil and geologic conditions at the property in order to identify a feasible building envelope on each of the proposed new parcels. In addition, we are to provide preliminary geotechnical conclusions and recommendations for site specific geotechnical services needed for actual development, design and construction of the project.

1. A brief description of surface soil, geologic exposures, landslides and spring or seepage conditions observed during our surficial reconnaissance;

2. Distances to nearby active faults and a discussion of geologic hazards that may affect the proposed project;

3. Our opinions regarding the feasibility of the project; and

4. Preliminary conclusions and recommendations concerning;

   a. Primary geotechnical engineering concerns and possible mitigation measures, as applicable;

   b. Relative stability and feasibility of building envelopes and access routes;

   c. Impact of leachfield installation on slope stability; and

   d. Supplemental geotechnical engineering services.

SITE CONDITIONS

General

Napa County is located within the California Coast Range geomorphic province. This province is a geologically complex and seismically active region characterized by sub-parallel northwest-trending faults, mountain ranges and valleys. The oldest bedrock units are the Jurassic-Cretaceous Franciscan Complex, and the Upper Cretaceous Great Valley sequence series including the Fagan (132), Felton (136) and Forward (139, 140 and 141) series. For the building envelopes on each proposed parcel, selected information of each series is briefly summarized below.

The building envelopes on Parcels 1 through 4, located northeast of Partrick Road, are shown to be underlain by soils of the Forward (139, 140 and 141) series. The Forward series consists of well drained soils on uplands sloping between approximately 9 and 75 percent. These soils are said to have formed in material weathered from rhyolite. These soils are said to consist of loam and gravelly loam to a depth of 35 inches, and exhibit low to moderate plasticity (LL = 15-40; PI = NP-15) and low shrink-swell potential. Runoff over these soils is medium on terrain sloping less than 30 percent, and rapid to very rapid on terrain sloping steeper than 30 percent. The hazard of erosion is highly variable depending on slope, and is given as slight to moderate on terrain sloping less than 30 percent and high to very high on terrain steeper than 30 percent. The risk of corrosion is given as moderate for uncoated steel and moderate to high for concrete.

The building envelope on Parcel 5 is shown to be underlain by soils of the Felton (136) series. The Felton series consists of well drained soils on uplands sloping between approximately 30 and 50 percent. These soils are said to have formed in material weathered from sandstone and shale. These soils are said to consist of gravelly loam and clay loam to a depth of 33 inches, and exhibit low to moderate plasticity (LL = 20-40; PI = 5-25) and moderate shrink-swell potential. Runoff over these soils is rapid. The hazard of erosion is moderate to high. The risk of corrosion is given as moderate for uncoated steel and moderate to high for concrete.

The building envelope on Parcel 6 is shown to be underlain by soils of the Fagan (132) series. The Fagan series consists of well drained soils on uplands sloping between approximately 15 and 30 percent. These soils are said to have formed in material weathered from sandstone and shale. These soils are said to consist of clay loam, clay, silty clay, sandy clay, sandy clay loam and clay loam to a depth of 46 inches, and exhibit moderate to high plasticity (LL = 30-55; PI = 10-35) and moderate to high shrink-swell potential. Runoff over

The subject property is underlain by relatively stable-appearing terrain flanked by numerous and abundant landslides and landslide zones of varying size, complexity and activity. Proposed building envelopes relative to mapped landslides are shown on Plate 4. The building envelopes are generally situated on less sloping portions of the property such as knolltops, ridges and saddle areas. The terrain within the proposed building envelopes is generally sloping at gradients of 5:1 and flatter with locally steeper areas.

In general, the portions of the property on the southwesterly side of Partrick Road are underlain by very large landslide complexes. Younger active landslides are visible on the surface of the larger slides and interspersed around the property. On the northeastern side of Partrick Road, the landslides are smaller except for two larger landslides: one is on the southwestern portion of Parcel 2 that extends across Partrick Road and onto Parcel 6; and the other on the northwestern side of Parcel 1 that extends under Mont La Salle School.

The surface soils on the sloping portions of the property are undergoing erosion, sloughing and a gradual downhill movement commonly known as creep. Soil creep is typically manifested by hummocky and irregular topography and downhill-leaning trees at their bases. Soil creep is inherent to hillsides in the area and its force is directly proportional to slope inclination, the soils plasticity, water content and expansion potential.

DISCUSSION AND CONCLUSIONS

Seismic Hazards

Faulting

We did not observe landforms within the area that would indicate the presence of active faults and the property is not within a current Alquist-Priolo Earthquake Fault Zone

Working Group on California Earthquake Probabilities (2002) estimates the chance of one or more large earthquakes (Magnitude 6.7 or greater) in the San Francisco Bay region within the next 30 years to be approximately 62 percent. Therefore, future seismic shaking should be anticipated at the site.

Severe ground shaking could induce new slope failures or renewed landslide activity. Therefore, setbacks from steep slopes and landslides should be established and strictly adhered to. The project structural designer will need to consider seismic shaking forces in the design of structural elements for the future residences. We judge the likelihood of earthquake induced hazards, such as liquefaction and densification within the preselected building areas, is low given the presence of bedrock and absence of loosely consolidated liquefiable sediments.

Seismic slope failure or lurching is a phenomenon that occurs during earthquakes when slopes or man-made embankments yield and displace in the unsupported direction. We judge the potential for lurching (another type of earthquake induced hazard) within the preselected building areas is low to moderate depending on the proximity to landslides, steep slopes and the strength of the underlying bedrock. Some of these secondary earthquake effects are unpredictable as to location and extent, as evidenced by the 1989 Loma Prieta Earthquake. The potential for site specific earthquake induced hazards needs to be evaluated in detail and quantified during the performance of a site specific geotechnical study for each building envelope, as recommended herein.

Geotechnical Issues

Based upon the results of our geologic data review and surficial reconnaissance, we judge that the proposed building envelopes, as shown on the attached plates, are currently outside of the mapped landslides. Thus, we judge it is geotechnically feasible to subdivide the property. Access roads to the proposed building envelopes are also feasible provided unstable areas are avoided or repaired. The primary geotechnical considerations and potential settlement causes cracks in slabs and structural distress in the form of cracked plaster, and sticky doors and windows. Therefore, it will be necessary to obtain fill and foundation support below the creeping soils. In sloping areas underlain by creep-prone soils that are not remediated by grading, the foundations should be designed to resist stresses imposed by the creeping soils.

Expansive surface soils shrink and swell as they lose and gain moisture throughout the yearly weather cycle. Near the surface, the resulting movements can heave and crack lightly loaded shallow foundations (spread footings) and slabs. The zone of significant moisture variation (active layer) is dependent on the expansion potential of the soil and the extent of the dry season. Stable foundation support needs to be obtained below this layer, or remediated by grading.

Fill Support

In general, hillside fills may need to be limited due to the proximity of steep terrain at the site. Hillside fills, where planned, will need to be constructed on level keyways and benches excavated entirely on firm material. However, regardless of the care used during grading, buttressed fills of uneven thickness such as those typically built on hillsides, will settle differentially. Satisfactory performance of structural elements constructed on hillside fills, such as houses, pools, pool decks, slabs and driveways, will require the use of specialized grading techniques discussed in the following sections of this report. These include excavating all creeping soils, and replacing said materials as a buttressed fill of even thickness or constructing said improvements entirely on cut areas that expose firm material.

Foundation Support

We anticipate that, in general, spread footing or drilled pier foundations can be used for foundation support. The foundation system will depend upon the results of a site specific

4. The slabs should be grooved to induce cracking in a non-obtrusive manner.

Leachfield Installation

The building envelopes shown on Plate 2 contain areas that are considered to be outside of slope instability. Because of the introduction of water underground, the installation of leachfields tends to lower the stability of hillsides. Therefore, leachfields should be installed in level to gently sloping relatively stable areas and per the recommendations of the project Civil Engineer. Leachfield areas should be set back a minimum of 50 feet from planned structures to reduce the risk of hillside instability impacting the structure. The stability of leachfields can be enhanced by installing an interceptor drain around the uphill perimeter. The interceptor drain should discharge collected waters onto rock rip rap aprons constructed on erosion resistant areas. Leachfields should not be located in areas of steep to very steep slopes, creeping soils or landslide terrain.

Access Roads

The proposed access roads will follow existing dirt roads and/or be gained by constructing new roads. We judge it is geotechnically feasible to improve vehicle access to the building envelopes provided they are aligned to avoid steep slopes and areas of instability in order to reduce construction costs and future maintenance. Roads constructed in areas of instability could become potholed, rutted or shifted, as evidenced by portions of Partrick Road that were constructed on weak surface materials and/or landslides.

Portions of roads constructed on sloping terrain may require a series of switchbacks and hillside grading techniques such as constructing fill buttresses. Final roadway design should include a site-specific study of the alignment, particularly areas of inherent weakness such as steep slopes, swales, ravines and landslides.

during grading, said conditions should be addressed at that time. Fluctuations in the seepage rates typically occur due to variations in rainfall and other factors.

Supplemental Services

We should perform a detailed geotechnical study during the design phase and prior to the development of each parcel. The study should include test borings and/or test pits, laboratory testing and engineering analyses, and should address specific design and locating aspects of each planned residential location and access road. The data generated during our study should be incorporated into project plans. The plans should then be reviewed by the geotechnical engineer and /or engineering geologist prior to receiving bids for planned work.

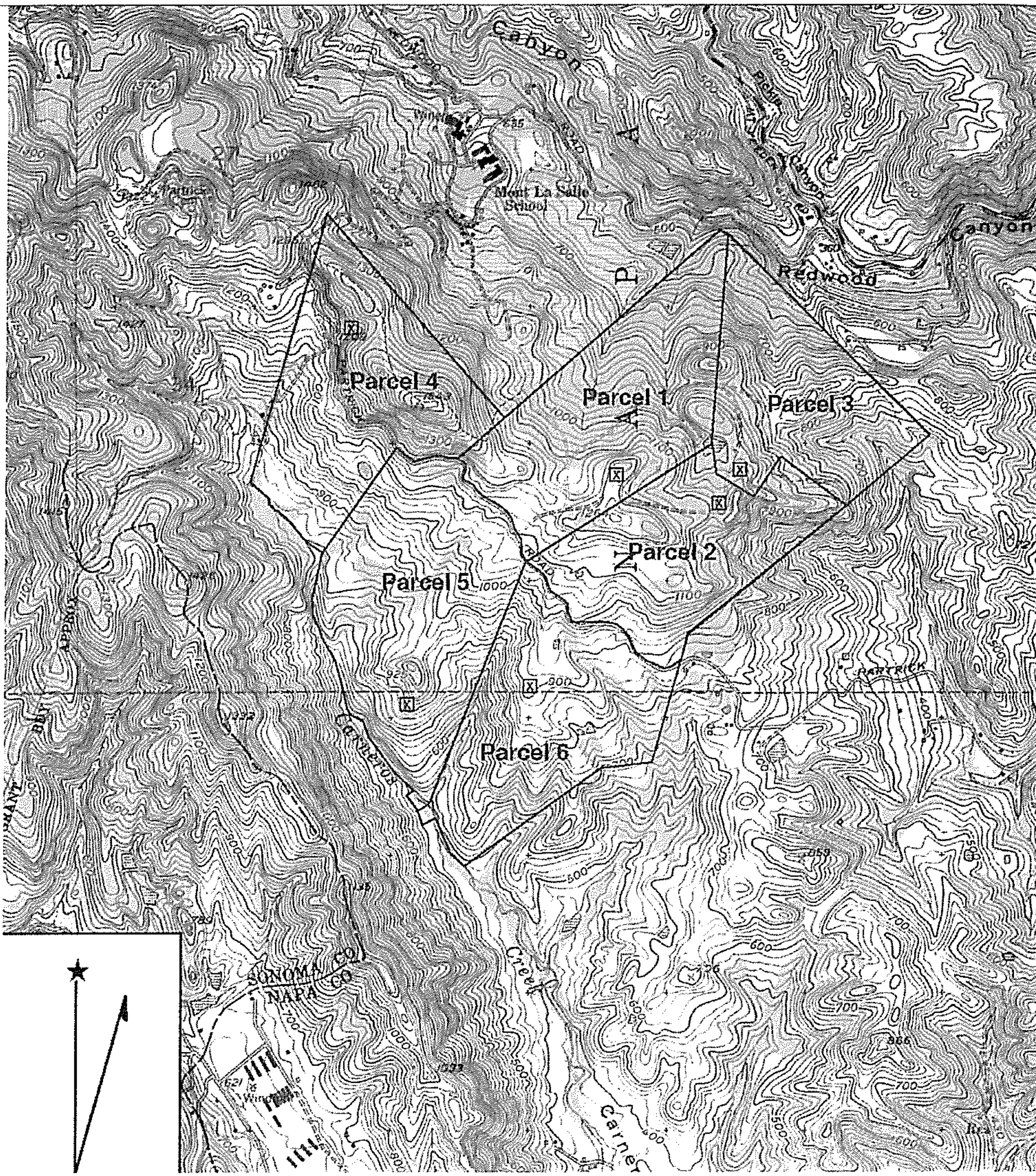
LIMITATIONS

This report has been prepared by RGH for the exclusive use of John Fisher and his consultants to evaluate the geotechnical feasibility of residential development within the proposed property.

Our services consist of professional opinions and conclusions developed in accordance with generally accepted geotechnical engineering principles and practices. We provide no other warranty, either expressed or implied. Our conclusions and recommendations are based on the information provided to us regarding the proposed parcel split, the results of our field reconnaissance, data review and professional judgment. As such, our conclusions and recommendations should be considered preliminary and for feasibility and planning purposes only. A subsurface study, such as recommended herein, may reveal conditions different from those inferred by surface observation and data review only. Such subsurface study may warrant a revision to our preliminary conclusions.

APPENDIX A - PLATES

LIST OF PLATES

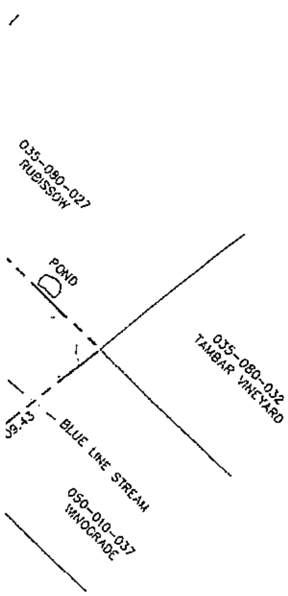


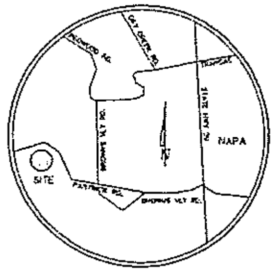
Reference: Maptech TopoQuad, Sonoma - Napa, California Quadrangle **Scale:** 1" = 2000'

☒ Approximate Proposed Building Site.

Proposed New Parcel Boundaries inferred from Tentative Parcel Map by Albion Surveys, dated 8-31-07 and last revised 10-9-07. Map shown on Plate 2.

RGH Consultants, Inc.	Job No: 5514.03.01.2 Appr: [signature] Drwn: tl Date: November 2007	**SITE LOCATION MAP** Fisher Property Split II 2435 Partrick Road Napa, California	PLATE **1**





VICINITY MAP
N.T.S.

NOTES

1) THE TOPOGRAPHY USED ON THESE DRAWINGS IS FROM AN AERIAL TOPOGRAPHIC SURVEY.
2) BOUNDARY INFORMATION SHOWN IS COMPILED FROM RECORD DATA AND DOES NOT REPRESENT A FIELD SURVEY.
3) A PRELIMINARY GEOTECHNICAL INVESTIGATION HAS BEEN PREPARED BY RGH DATED FEBRUARY 7, 2001.
4) THIS PROPERTY IS IS NOT SUBJECT TO INUNDATION BY FLOOD WATERS AND DOES NOT LIE WITH THE 100 YEAR FLOOD PLAIN AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM).
5) THIS MAP SHOWS ALL CONTIGOUS PROPERTY OWNED BY THE PROPERTY OWNERS.
6) THERE ARE NO EXISTING STRUCTURES ON THE SUBJECT PARCELS.
7) ALL EXISTING EASEMENTS FOR DRAINAGE, SEWER AND PUBLIC UTILITY AND ALL PROPOSED EASEMENTS ARE SHOWN ON THE MAP.
8) ALL EXISTING AND PROPOSED UTILITIES ARE SHOWN ON THE MAP.
9) NO STREETS ARE BEING OFFERED FOR PUBLIC DEDICATION.
10) RECIPROCAL ACCESS EASEMENTS SHALL BE PROVIDED FOR ALL LOTS.
11) THERE ARE NO PARKS, RECREATION SITES OR PUBLIC TRAILS PRPOSED FOR THIS PROJECT.
12) THERE ARE NO AREAS TO BE DEDICATED OR RESERVED FOR PUBLIC USE PROPOSED FOR THIS PROJECT.
13) THERE ARE NO COMMON OR OPEN SPACE AREAS PROPOSED FOR THIS PROJECT.
14) THERE ARE NO KNOWN SEPTIC TANKS OF RECORD WITH THE NAPA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT WITHIN THE SUBJECT PROPERTY.
15) ALL PROPOSED PARCELS WILL HAVE FRONTAGE ON PARTRICK ROAD EXCEPT PARCEL 3
16) A "BUYER BEWARE" STATEMENT WILL APPEAR ON THE FINAL MAP

SLOPE ANALYSIS

1) THE PERCENT SLOPE OF EACH PROPOSED BUILDING SITE IS 15% OR LESS.
2) THE PERCENT SLOPES OF ALL PROPOSED DRIVEWAYS ARE LESS THAN 16%.

EASEMENT NOTES

THE FOLLOWING EASEMENTS EXIST BUT ARE NOT PLOTTED ON THE MAP.

1) TERMS, CONDITIONS, RIGHTS AND EASEMENTS AS CONTAINED IN THE WATER AGREEMENT BY AND BETWEEN PETER NICHELS AND B. FILIPELLI, 69 OR 228 (LOCATION NOT DEFINED).
2) RIGHT OF WAY FOR POLE LINE AND INCIDENTAL PURPOSES TO PACIFIC TELEPHONE AND TELEGRAPH COMPANY, 252 OR 240 (ROUTE NOT DEFINED).

GENERAL NOTES

OWNER: CLAIR LOUISE FISHER 1997 TRUST
BRUCE COWAN, TRUSTEE
333 MARKET STREET, STE
SAN FRANCISCO, CA 94105

PARCEL NO: 50-010-024

PARCEL AREA: 322 ACRES±

OWNER: JILL RANDALL FISHER 1997 TRUST
BRUCE COWAN, TRUSTEE
333 MARKET STREET, STE 3200
SAN FRANCISCO, CA 94105

PARCEL NO: 50-010-031

PARCEL AREA: 453 ACRES±

OWNER: JOHN J. FISHER
2435 PATRICK ROAD
NAPA, CA 94558

PARCEL NO: 50-010-030

PARCEL AREA: 348 ACRES±

SPECIAL NOTES

EXISTING USE: OPEN LAND

PROPOSED USE: OPEN LAND

WATER: WELL AND SPRING

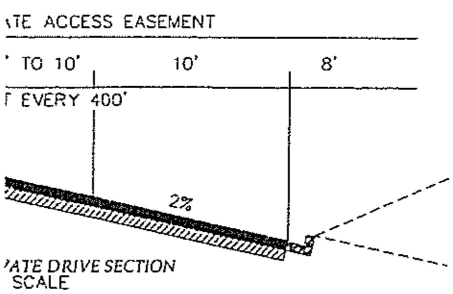
SEWER: SEPTIC SYSTEM

EXISTING ZONING: AW

PROPOSED ZONING: AW

GENERAL PLAN: AWOS

PROPOSED PARCEL	PROPOSED ACREAGE±
1	204
2	163
3	164
4	185
5	238
6	174



SURVEYOR'S STATEMENT

THIS MAP HAS BEEN PREPARED BY ME AND UNDER MY DIRECTION AT THE REQUEST OF JOHN FISHER.

FOR ALBION SURVEYS, INC.

SIGNED. ______________________
JON M. WEBB LS 6709
EXPIRATION DATE: JUNE 30, 2008

ALBION
ALBION SURVEYS, INC.
CONSULTING LAND SURVEYORS
1113 HUNT AVENUE
ST. HELENA, CA 94574
(707) 963-1217
FAX (707) 963-1829

DRAWING NOTES

THIS MAP IS NOT A BOUNDARY SURVEY. IT IS PROVIDED TO LOCATE THE PROPOSED SUBJECT PROPERTY IN RELATION TO ADJOINING LANDS, HIGHWAYS, ROADS, STREETS AND NOT TO GUARANTEE ANY FIXED DIMENSION OR ACREAGE. A FIELD SURVEY SHOULD BE PERFORMED PRIOR TO ANY CONSTRUCTION OR CONVEYANCE.

SITE INFORMATION

APN:
STREET:
CITY:
SITE CONTACT:
PHONE:
SEE GENERAL NOTES

SURVEYOR

COMPANY: ALBION SURVEYS
CONTACT: JON WEBB, L.S. 6709
PHONE: (707) 963-1217
EMAIL: JWEBB@ALBIONSURVEYS.COM

TENTATIVE PARCEL MAP OF THE LANDS OF FISHER
COUNTY OF NAPA STATE OF CALIFORNIA

REVISIONS & ADDITIONS

DATE: AUGUST 24, 2006
FIELD BOOK NO: NA
PAGE(S): NA
DRAWN BY: J. CANNON
DATE: NOVEMBER 8, 2006
FIELD BOOK NO: NA
PAGE(S): NA
DRAWN BY: J. CANNON
DATE: OCTOBER 9, 2007
FIELD BOOK NO: NA
PAGE(S): NA
DRAWN BY: J. CANNON

ALBION REFERENCES

PROJECT NO: 2321
ASSOCIATED DWG(S): 2321AER, 2321PLT
PROJECT MANAGER: JON WEBB
ORIGINAL FIELD BOOK NO:
DATE: AUGUST 31, 2006

N

SCALE:

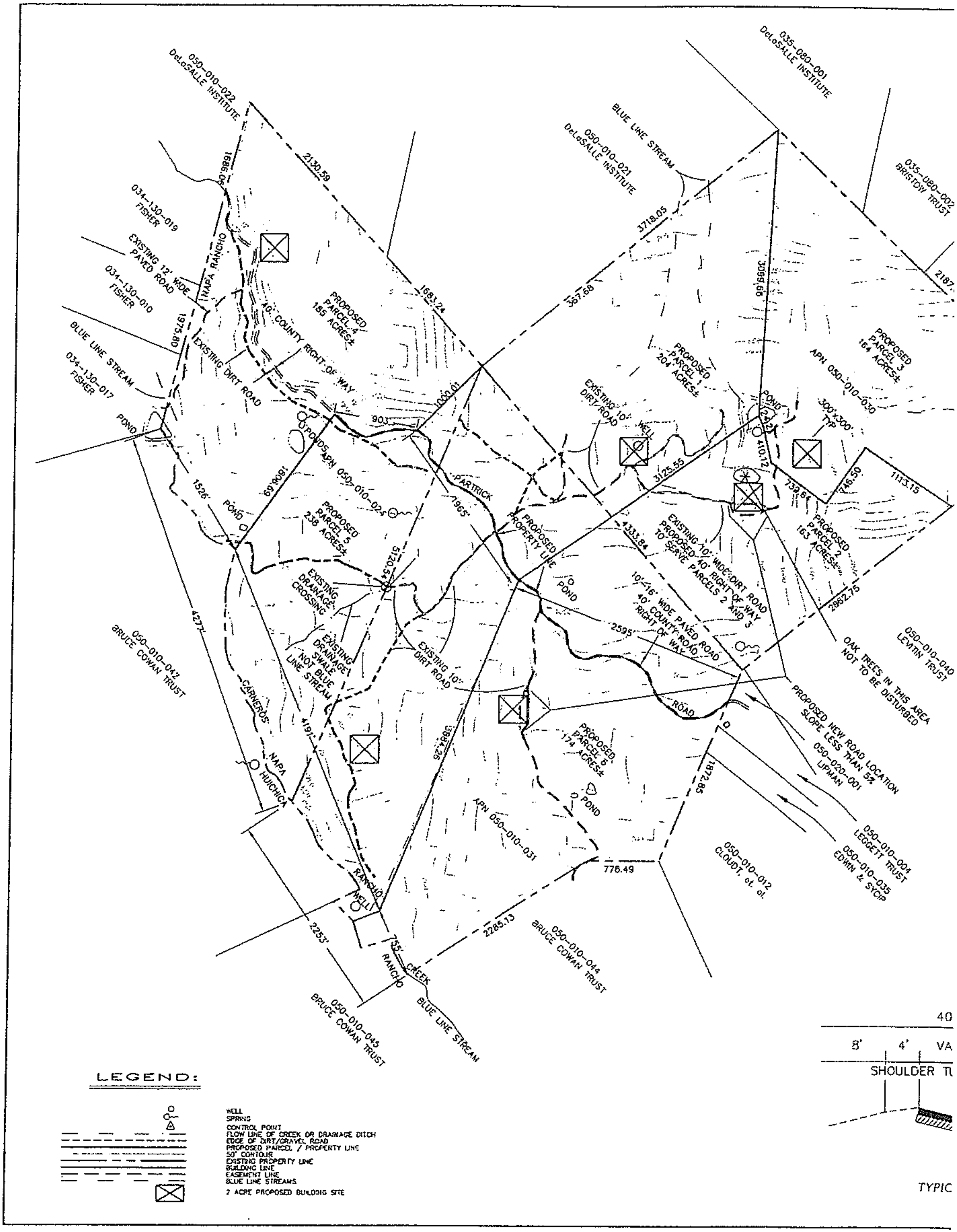
CONTOUR INTERVAL 10'
VERTICAL DATUM ASSUMED.
DIRECTION OF NORTH BASED ON A COMPASS SIGHTING

SHEET 1 OF 2
LDC PROJECT 2321
DWG 2321.02-TMH

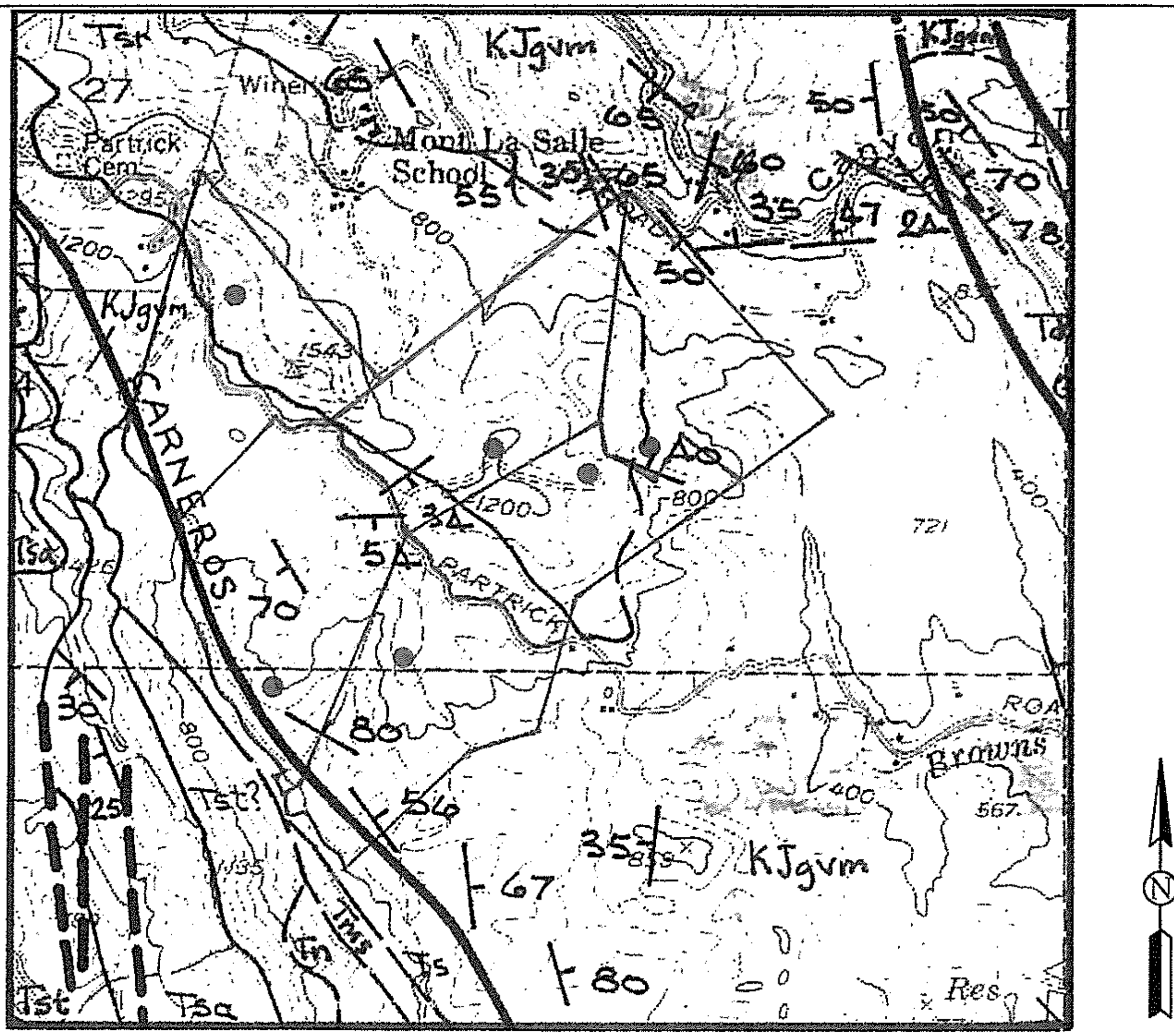
Reference: As shown

Scale: As shown

RGH Consultants, Inc.	Job No: 5514.03.01.2 Appr: JO Drwn: tl Date: November 2007	**TENTATIVE PARCEL MAP** Fisher Property Split II 2435 Partrick Road Napa, California	PLATE 2



050-010-022
DeLoSALLE INSTITUTE
035-080-001
DeLoSALLE INSTITUTE
050-010-021
DeLoSALLE INSTITUTE
BLUE LINE STREAM
035-080-002
BRISTOW TRUST
034-130-019
FISHER
034-130-010
FISHER
034-130-017
FISHER
EXISTING 12' WIDE PAVED ROAD
NAPA RANCHO
EXISTING DIRT ROAD
40' COUNTY RIGHT OF WAY
PROPOSED PARCEL 4
185 ACRES±
PROPOSED PARCEL 1
204 ACRES±
PROPOSED PARCEL 3
164 ACRES±
APN 050-010-030
300'x300' TYP
PROPOSED PARCEL 2
163 ACRES±
PROPOSED PARCEL 5
238 ACRES±
APN 050-010-025
PROPOSED PARCEL 6
174 ACRES±
APN 050-010-031
EXISTING 10' DIRT ROAD
WELL
POND
PONDS
PARTRICK
PROPOSED PROPERTY LINE
EXISTING 10' WIDE DIRT ROAD
PROPOSED 40' RIGHT OF WAY
TO SERVE PARCELS 2 AND 3
10'-16' WIDE PAVED ROAD
40' COUNTY ROAD RIGHT OF WAY
EXISTING DRAINAGE CROSSING
EXISTING DRAINAGE SWALE
NOT BLUE LINE STREAM
CARNEROS
NAPA HUICHICA
RANCHO
ROAD
CREEK
050-010-042
BRUCE COWAN TRUST
050-010-040
LEVITIN TRUST
OAK TREES IN THIS AREA
NOT TO BE DISTURBED
PROPOSED NEW ROAD LOCATION
SLOPE LESS THAN 5%
050-020-001
LIPMAN
050-010-004
LEGGETT TRUST
050-010-035
EDWIN & SYCIP
050-010-012
CLOUDT, et. al.
050-010-044
BRUCE COWAN TRUST
050-010-045
BRUCE COWAN TRUST
1686.06
2130.59
3718.05
1683.24
367.68
3099.66
2187
1975.80
1000.01
903
1526'
806.69
5120.54
1965'
3125.55
410.12
739.84
746.50
1113.15
4333.84
2862.75
2595'
4277'
4191'
3984.26
1872.85
778.49
2285.13
2253'
755'
40
8'
4'
VA
SHOULDER
TYPIC
LEGEND:
WELL
SPRING
CONTROL POINT
FLOW LINE OF CREEK OR DRAINAGE DITCH
EDGE OF DIRT/GRAVEL ROAD
PROPOSED PARCEL / PROPERTY LINE
50' CONTOUR
EXISTING PROPERTY LINE
BUILDING LINE
EASEMENT LINE
BLUE LINE STREAMS
2 ACRE PROPOSED BUILDING SITE



—— Approximate Proposed New Parcel Boundaries ● Approximate Proposed Building Sites

Map Symbols

Geologic Contact; long dash where uncertain, short dash where gradational

Fault Contact; long dash where approximate, short dash where uncertain

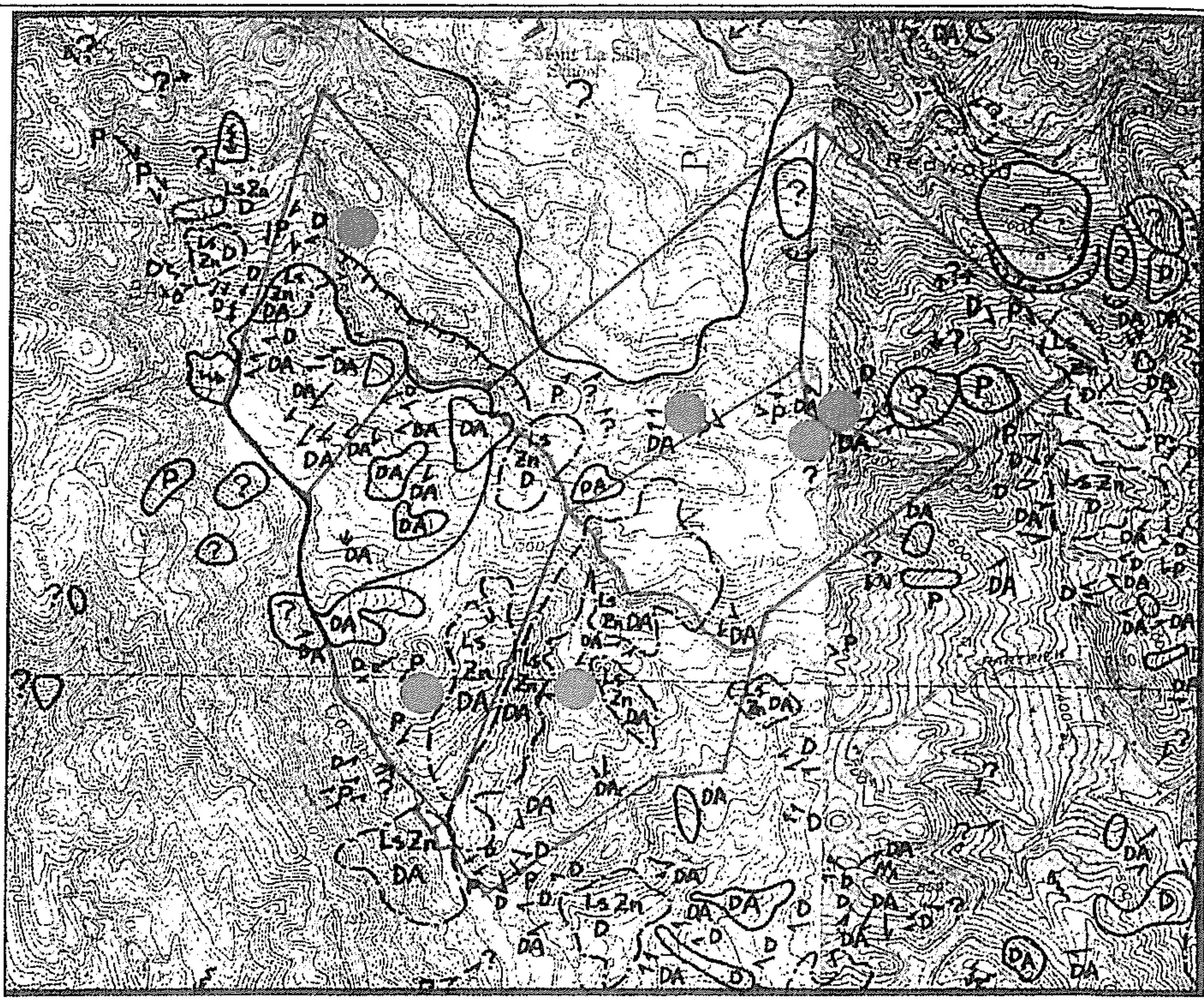
35 Strike and dip of bedding; inclined

Map Units

Pliocene	Sonoma Volcanics		
	Tsr	-	rhyolite
	Tsa	-	andesite and basalt
	Tst	-	tuff and agglomerate
Miocene	Tn	-	Neroly (?) Sandstone
	Tms	-	Sandstone, siltstone and shale
Miocene (?)	Ts	-	San Ramon Sandstone
Eocene	Td	-	Domengine Sandstone
Jurassic and Cretaceous	KJgvm	-	Middle Part of Great Valley Sequence mudstone and siltstone

Reference: U.S. Geological Survey Miscellaneous Field Studies Map MF-483, Fox et al. (1973). Scale: 1" = ½ mile

RGH Consultants, Inc.	Job No: 5514.03.01.2 Appr: go Drwn: tl Date: Nov 2007	**REGIONAL GEOLOGIC MAP** Fisher Property Split II 2435 Partrick Road Napa, California	PLATE **3**



—— Approximate Proposed New Parcel Boundaries ● Approximate Proposed Building Sites

LANDSLIDE EXPLANATION

(modified from Dwyer et al. 1976)

LARGE LANDSLIDE DEPOSITS

Arrows indicate general direction of landslide movement. Smaller arrows within a large landslide indicate smaller and more recent landslides occurring on a large landslide mass. Capital letters designations: D - DEFINITE; P - PROBABLE; Q, QUESTIONABLE; A - recent ACTIVITY. Hachured lines show the approximate position of inferred landslide scarps.

Topographic features whose outlines are subdued by weathering and/or largely obscured by vegetation but whose overall form is suggestive of landslide origin are called questionable landslides (? on map).

SMALL LANDSLIDE DEPOSITS

Arrows indicate general direction of landslide movement and are centered over the location of deposits.

SOIL CREEP

Area of suspected soil creep; the shallow and gradual downhill movement of soil and loose rock material. Undulating arrows indicate general direction of creep and are centered over the location of creep area

LANDSLIDE ZONE (LsZn)

Landslide areas consisting of numerous coalesced and superposed landslides of various sizes, types of movement, and degrees of activity. Symbols: D-DA, landslide zones consists of primarily DEFINITE to DEFINITE AND ACTIVE landslide deposits.

Reference: U.S. Geological Survey Open File Map 76-74, Dwyer et al. (1976) Scale: 1" = 2000'

RGH Consultants, Inc.	Job No: 5514.03.01.2 Appr: go Drwn: tl Date: Nov 2007	**REGIONAL LANDSLIDE MAP** Fisher Property Split II 2435 Partrick Road Napa, California	PLATE 4

Important Information About Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.

ASFE
The Best People on Earth

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

APPENDIX B – REFERENCES

Bortugno, E.J., 1982, Map Showing Recency of Faulting, Santa Rosa Quadrangle in Wagner and Bortugno, Geologic Map of the Santa Rosa Quadrangle: California Division of Mines and Geology, Regional Geologic Map Series, Map No. 2A, Santa Rosa Quadrangle, Scale 1:250,000.

Brown, R.D., Jr. 1970, Faults That are Historically Active or That Show Evidence of Geologically Young Surface Displacement, San Francisco Bay Region, A Progress Report: A Progress Report, U.S. Geologic Survey Miscellaneous Field Studies Map MF-331, Basic Data Contribution 7, Scale 1:250,00.

Bryant, W.A., 1982, West Napa Fault Zone and Soda Creek (East Napa) Fault, Cuttings Wharf, Napa, Yountville, and part of Cordelia 7.5-Minute Quadrangles, Napa County, California: California Division of Mines and Geology Fault Evaluation Report FER-129, 10 p.., maps, Scale 1:24:000.

Dwyer, M.J., Noguchi, N., and O'Rourke, J., 1976, Reconnaissance Photo-Interpretation Map of Landslides in 24 Selected 7.5-Minute Quadrangles in Lake, Napa, Solano, and Sonoma Counties, California: U.S. Geological Survey OFR 76-74, 25 Plates, Scale 1:24,000.

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Hart, E.W., 1992a (revised), Fault-Rupture Hazard Zones in California: California Division of Mines and Geology Special Publication 42, 25 p.

Lambert, G. and Kashiwagi, J., 1978, Soil Survey of Napa County, California: U.S. Department of Agriculture, Soil Conservation Service, 47 Sheets, Scale 1:24,000.

WAC Corporation, Napa County, 1996, Black and White Aerial Photographs, Roll WAC-96CA, Frames 6-92&93, Approximate Scale 1" = 2000'.

Working Group on California Earthquake Probabilities, 2002, Summary of Earthquake Probabilities in the San Francisco Bay Region: 2003 to 2032: Note on U.S. Geological Survey Web Site (http://quake.usgs.gov/research/seismology/wg02/summary/).

APPENDIX C - DISTRIBUTION

Pisces, Inc. (4[2 wet-signed],1)
Attn: John Fisher
One Maritime Plaza, Suite 1400
San Francisco, CA 94111

Mary Pettis (1,0)
2435 Partrick Road
Napa, CA 94558

Albion Surveys (3[2 wet-signed],0)
Attn: Jon Webb
1113 Hunt Avenue
St. Helena, CA 94574

GDS:EGC:GWR:lw

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