A.M. BAIRD
ENGINEERING & SURVEYING, INC.
1257 Main Street • P.O. Box 396 • Fortuna, CA. 95540 • (707) 725-5182 • Fax (707) 725-5581

CONSULTING – LAND DEVELOPMENT – DESIGN – SURVEYING

SOILS ENGINEERING

Geologic R-2

SOILS REPORT

PREPARED FOR

Kevin Peak

APN: 216-082-006
Bell Springs Rd.

APPROVED
AUG 11 2020
HUMBOLDT COUNTY
BUILDING DIVISION

Engineer to inspect footings/excavations

BRIDGEVILLE, HUMBOLDT COUNTY, CA

PREPARED BY:

REGISTERED PROFESSIONAL ENGINEER
ALLAN M. BAIRD
No. 23681
Exp.
CIVIL
STATE OF CALIFORNIA

ALLAN M. BAIRD, RCE 23681

7/8/2020
Job# 20-4905

July 8, 2020

Building Official
County of Humboldt Building Department
3015 H Street
Eureka, California 95501

Humboldt County R2 Report: AP# 216-082-006
Bell Springs Rd.
Bridgeville, CA
Client: Kevin Peak

INTRODUCTION

A.M. Baird Engineering has reviewed the above referenced lot near Whitethorn, California for a soils suitability report. This report is furnished to satisfy the soils criteria as required by Humboldt County for an "R2" Geological Report as pertaining to graded fill. Observations of this inspection regarding the site soils and topography are the contents of this report. A grading plan has been prepared by this office.

SITE LOCATION AND DESCRIPTION

Bell Springs Rd is located off Alderpoint Road, approximately 9 road miles east of Garberville, some fifty-two air miles south-southeast of Eureka. The site is on the westerly slopes of the Coast Range Mountains approximately 2700 feet in elevation above the Pacific Ocean. The parcel is designated as APN 216-082-006 and is approximately 165 acres. Access to the parcel is provided via Bell Springs Road. This lot slopes south-southwest towards the Pacific Ocean from 0-60% in the vicinity of the graded area. See Enclosed Site Map.

SOIL CONDITIONS

Soil sampling within the excavation site on the parcel, labeled as TH1, revealed roughly 18 inches of black loamy topsoil over at least 6.5-foot-thick subsoil. The subsoil is a very dark brown Clay Loam (Munsell color 10 YR 2/2), consisting of approximately 39% coarse weight. There is no indication in the surrounding area of any slumps, faults, or springs that would be detrimental to the rain catchment site.

GROUNDWATER

No groundwater or soil mottling was encountered during this soils investigation.

SLOPE STABILITY AND SURFACE DRAINAGE HAZARDS

The nature of the entire project location appears to be stable and should remain stable provided the recommendations given in this report are followed. Areas disturbed during construction activities should be re-vegetated prior to the rainy season. Impermeable surfaces such as driveways and rooftops should be designed to uniformly diffuse runoff away from structures, and significant quantities of concentrated runoff should not be discharged over slopes greater than 20%.

GEOLOGICAL HAZARDS

This area of California is seismically very active and is subject to earthquakes of large magnitude, which can produce significant ground shaking. This moderate to very high level of risk of seismic hazard is typical for the northern coastal and inland areas.

This parcel is located within 4 miles of the Briceland Fault and within 20 miles of the Type A San Andreas Fault (north coast). In general, there are many sources of large magnitude earthquakes that could potentially affect this project area. These sources include but are not limited to the Garberville Fault, the Briceland Fault, the Lake Mountain Fault, the complex northwesterly oriented fault systems surrounding the Humboldt Bay area (including the Little Salmon, Mad River, Freshwater, and Gorda Fault Zones), and the Cascadia Subduction Zone near Cape Mendocino.

The San Andreas Fault has produced major earthquakes in this area at intervals of approximately 75-150 years. Earthquakes with average magnitudes of 5.8 occur on average every 10-15 years at varying locations in or near Humboldt County, and geological evidence suggests that the San Andreas Fault is capable of generating magnitudes much higher (7^+). This high to very high level of risk of seismic hazard is typical for Northern California, and residents assume this risk when they choose to build in this area. Earthquakes capable of causing intense ground shaking and structural damage can be expected to occur within the design life of the proposed structure (40+ years). Residents should be aware of this inherent risk, and should understand that these risks cannot be fully eliminated with engineered design. As required, all structural design should be in conformance with the 2019 CBC Seismic Design Category (SDC) E (Section 1613A, 2019 CBC). Latitude and Longitude values were taken from the Humboldt County Web GIS website (County of Humboldt, 2019). Site-specific soil parameters were calculated using the USGS Ground Motion Parameter Calculator (Table 1) (USGS, 2019):

Table 1: USGS Ground Motion Parameters

Latitude	40.0824
Longitude	-123.6730
Occupancy Category	II (normal buildings)
Importance Factor, I	1.0
Site Class	D (stiff soil) (default)
Site Coefficients	F_a=1.0
	F_v=1.5

Mapped Spectral Response Acceleration Parameters	S_s= 1.553 g (0.2-second spectral response)
	S_1= 0.806 g (1-second spectral response)
Design Spectral Response Acceleration Parameters	S_{MS}= 1.863 g (0.2-second period)
	S_{M1}= null- see section 11.4.8
Design Spectral Response Acceleration Parameters (five-percent damped design spectral response)	S_{DS}= 1.182 g (0.2-second period)
	S_{D1}= null- see section 11.4.8
Seismic Design Category (SDC)	E (S_1>0.75g)
Peak Ground Acceleration (S_S/2.5)	0.621

FLOOD HAZARDS

The site is not considered to be within a flood prone area. The hazard for flooding is considered low. It shall be noted however, that it is possible, though very unlikely that extreme flood events can alter stream courses enough to compromise nearby foundations and structures. This is considered a very low risk location.

EXISTING GRADING (CUT/FILL)

No evidence of other fill was apparent on the property during this site inspection, or is of sufficient age to be unrecognizable. The sub-soils are competent for pond berm loads.

EARTHQUAKE MOTION HAZARDS

Slope instability, liquefaction, and surface rupture due exclusively to faulting or lateral spreading are not considered consequential as to require specific analysis. Peak ground acceleration for design purposes shall be S_S/2.5 according to ASCE 7-16 Section 11.8.3 unless additional site-specific analysis is provided beyond the scope contained herein.

RECOMMENDATIONS

No expansive soils were encountered during this investigation that require specific recommendations. The undisturbed soil on this lot can support a load of 1,500 pounds per square foot (psf). The soil is suitable for grading uses for this site, and settlement is not anticipated to be detrimental provided considerations are given to the recommendations presented herein:

Monitoring and Inspection

Sites will be monitored daily during wet weather by contractor and/or owner(s). Contractor and/or owner(s) are responsible for reporting any hazardous situations to the engineer. Upon completion of the permitted grading work and at the final completion of the work for "engineered grading" or when professional inspection is performed for regular grading a final report shall be submitted by the engineer if required. The permit applicant/owner(s) shall notify the building official when the grading operation is ready for final inspection.

Cut Slopes

1. **Cut Slope.** The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than one-unit vertical in two-units horizontal (50% slope)
   - 1.1.1. **Exemptions:** cut surface shall be remitted to a max slope of one and a half units horizontal to one-unit vertical (67%) slope if all the following are met
   - 1.1.2. It is not intended to support structures or surcharges
   - 1.1.3. It is adequately protected against erosion
   - 1.1.4. It is no more than eight feet in height
   - 1.1.5. It is approved by the building code office
   - 1.1.6. Groundwater is not encountered
   - 1.1.7. A cut surface in bedrock shall be permitted to be at a slope of one unit horizontal to one unit vertical

Fill Slope and Preparation

1. **Preparation of Ground**. Fill slopes shall not be constructed on natural slopes steeper than one-unit vertical in two-units horizontal (50% slope). The ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, topsoil and other unsuitable materials scarifying to provide a bond with the new fill and, where slopes are steeper than one-unit vertical in five-units horizontal (20% slope) and the height is greater than five-feet (1.52 m), by benching unless specified in a report from this office. The bench under the toe of a fill on a slope steeper than one-unit vertical in five-units horizontal (20% slope) shall be at least ten-feet (3.05 m) wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of fill shall be at least ten feet (3.05 m) wide but the cut shall be made before placing the fill.
2. **Fill Material**. Amounts of organic material detrimental to structural integrity shall not be permitted in fills. Except as permitted by the building official, no rock or similar irreducible material with a maximum dimension greater than 12 inches (0.31 m) shall be buried or placed in fills

3. **Compaction**. All fills shall be compacted to achieve an equivalent minimum of 90 percent of maximum dry density with enough testing for documentation of compliance with this standard. Fill slops shall be placed in max 8-12" lifts and compacted. If the graded areas are attended for permanent structures requiring foundations, fill should be placed in lifts and compacted to 95% with testing.
4. **Slope**. The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than one-unit vertical in two-units horizontal (50% slope).

Setbacks

1. **General.** Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary.
2. **Top of Cut Slope**. The top of cut slopes shall not be made nearer to a site boundary line than one fifth of the vertical height of cut with a minimum of two feet (0.61 m) and a maximum of ten feet (3.05 m). The setback may need to be increased for any required interceptor drains.
3. **Toe of Fill Slope.** The toe of fill slope shall be made not nearer to the site boundary line than one half the height of the slope with a minimum of two feet (0.6 m) and a maximum of 20 feet (6.1 m). Where a fill slope is to be located near the site boundary and the adjacent offsite property is developed, special precautions shall be incorporated in the work as the building official deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to: (1) Additional setbacks. (2) Provision for retaining, or slough walls. (3) Mechanical or chemical treatment of the fill slope surface to minimize erosion. (4) Provisions for the control of surface waters.

Drainage and Terracing for Slopes Steeper Than 33%

1. **General.** Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than one-unit vertical in three-units horizontal (33.3% slope). b. Hill Terrace. Terraces at least six feet (1.83 m) in width shall be established at not more than 30-foot (9.14 m) vertical intervals on all cut or fill slopes to control surface drainage and debris except that where only one terrace is required, it shall be at mid-height. For cut or fill slopes greater than 60 feet (18.29 m) and up to 120 feet (36.58 m) in vertical height, one terrace at approximately mid-height shall be 12 feet (3.66 m) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36.58 m) in height shall be designed by the civil engineer and approved by the building official. Suitable access shall be provided to permit proper cleaning and maintenance. Swales or ditches on terraces shall have a minimum gradient of five percent and must be paved with reinforced concrete not less than three inches (76 mm) in thickness or an approved equal paving as approved by the building official. They shall have a minimum depth at the deepest point of 12 inches (305 mm) and a minimum paved width of five feet (1.52 m). A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (1254.2 m^2) (projected) without discharging into a down drain. Unless otherwise noted
2. **Drainage Across Property Line.** Drainage across property lines shall not exceed that which existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground

in the area of discharge shall be contained onsite or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices.

3. **Subsurface Drainage**. Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.
4. **Surface Drainage Disposal**. All drainage facilities shall be designed to carry waters to the nearest practicable drainageway approved by the building official or other appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices. Building pads shall have a drainage gradient of two percent toward approved drainage facilities, unless waived by the building official. The gradient from the building pad may be one percent if all the following conditions exist throughout the permit area: (1) No proposed fills are greater than 10 feet (3.05 m) in maximum depth. (2) No proposed finished cut or fill slope faces have a vertical height in excess of 10 feet (3.05 m). B - 14 (3) No existing slope faces, which have a slope face steeper than one-unit vertical in ten-units horizontal (10% slope), have a vertical height in excess of ten feet (3.05 m).

Interceptor Drains.

1. Interceptor drains shall be installed along the top of cut slopes receiving drainage from a tributary width greater than 40 feet. The 40 feet should be measured horizontally, they shall have a minimum depth of one foot and a minimum width of three feet.
2. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than 40 feet (12.19 m) measured horizontally. Interceptor drains shall be paved with a minimum of three inches (76 mm) of concrete or gunite and reinforced. They shall have a minimum depth of 12 inches (305 mm) and a minimum paved width of 30 inches (762 mm) measured horizontally across the drain. The slope of drain shall be approved by the building official.

Erosion and Sedimentation Control.

1. **General** These standards shall be incorporated into the project design and shall be adhered to during project construction:
2. Minimize soil exposure during the rainy season by proper timing of grading and construction.
3. Retain trees and natural vegetation to stabilize hillsides, retain moisture, reduce erosion, minimize siltation and nutrient runoff and preserve scenic qualities.
4. Vegetate and mulch denuded areas to protect them from winter rains.
5. Divert runoff away from steep, denuded slopes or other critical areas with barriers, berms, ditches or other facilities.
6. Design grading to be compatible with adjacent areas and result in minimal disturbance of the terrain and natural land features.
7. Limit construction, clearing of vegetation and disturbance of the soil to areas of proven stability. Mitigate geologic hazards and adverse soil conditions when they are encountered. Reduce sediment transport off the site to the maximum extent feasible using Best Management Practices (BMPs).

8. Propose a new or modified erosion and sediment control technique if the technique is preferred and meets the intent of these regulations. Obtain approval from the County prior to implementation.
9. If construction is to occur between October 15th and April 15th site inspections will be conducted by the contractor and/or owner(s) prior to a forecasted storm, after a rain even, weekly throughout the rainy season, and every two weeks throughout construction
10. Conduct frequent site inspections to ensure that control measures are working properly and to correct problems as needed.

Sediment Control

1. Use sediment basins, silt traps, or similar measure to retain sediment transported by runoff water onsite.
2. Collect and direct surface runoff at non-erosive velocities to the common natural watercourse of the drainage area.
3. Avoid concentrating surface water anywhere except swales or watercourses.
4. Prevent mud from being tracked onto the public roadway by traveling over a temporary gravel construction entrance or washing off vehicle tires before entering a public or private driveway.

Slope Construction

1. Minimize length and steepness of slopes by benching, terracing or constructing diversion structures.
2. Preserve, match, or blend cuts and fills with the natural contours and undulations of the land.
3. Round sharp angles at the top and sides of cut and fill slopes.
4. Maintain cut and fill slopes at less than two-to-one (2V:1H,) slope unless a geological and engineering analysis indicates that steeper slopes are safe, and erosion and sediment control measures can successfully prevent erosion.
5. Where a cut or fill slope occurs between two lots, make the slope a part of the downhill lot if possible.

Protection of Watercourses and Drainage Inlets

1. Prepare drainageways to handle concentrated or increased runoff from disturbed areas by using appropriate lining materials or energy absorbing devices to reduce the velocity of runoff water.
2. Trap sediment-laden runoff in basins to allow soil particles to settle out before flows are released to receiving waters, storm drains, streets or adjacent property. This standard is not mandatory for grading conducted between April 15 and October 15 and when the site is fully winterized and stabilized prior to October 15. Remove trapped sediment to a suitable location on-site or at a disposal site approved by the County.
3. Do not grade or drive equipment in a Streamside Management or Other Wet Areas except as allowed through the County Streamside Management Area Ordinance.
4. Deposit or store excavated materials away from watercourses.
5. Protect all existing or newly installed storm drainage structures from sediment clogging.

6. Use straw bales, filter fabric wraps and drainage inlet protections in a manner that does not cause additional erosion or flooding of a roadway.

Dust Control

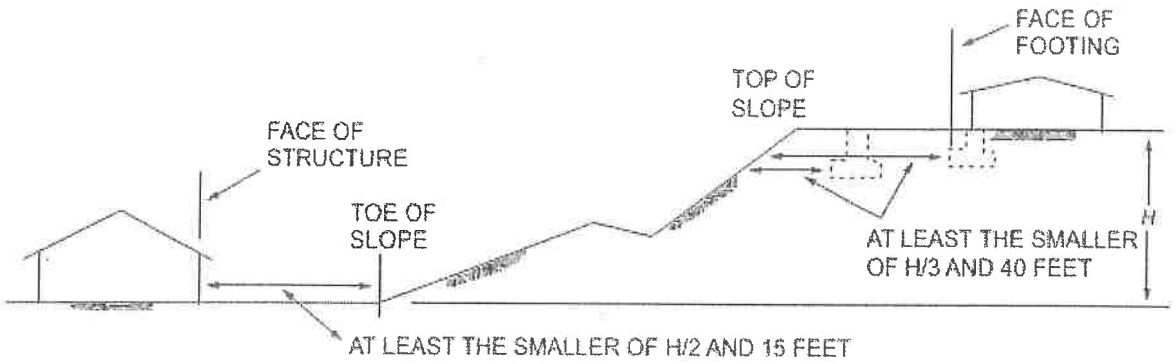
1. All construction areas, including disposal sites, shall be treated and maintained as necessary to minimize the emission of dust. Maintenance shall be conducted as necessary to prevent a nuisance to offsite properties.
2. All construction sites, including driveways, shall be maintained as necessary to minimize the emission of dust and prevent the creation of a nuisance to adjacent properties.

Revegetation

1. Apply temporary seeding and mulching to denuded areas prior to October 15 unless the project is conditioned otherwise.
2. Establish a permanent vegetative cover on denuded areas not otherwise stabilized. Permanent vegetation ground cover must control soil erosion satisfactorily and survive severe weather conditions.
3. Retain a vegetative barrier whenever possible around property boundaries.
4. Use self-sustaining, non-invasive plants that require little or no maintenance and do not create an extreme fire hazard.
5. Use native plant species whenever feasible.

FOUNDATION RECCOMMENDATIONS

1) Foundations for any residence should be reinforced and be contained in firm, undisturbed native soil. If the foundation is going to be set into fill, the full must be compacted to 95% compaction rating verified by testing. The fill must be laid in 0.5' lifts and each lift must be tested for the required compaction percentage. The subsoil seen at 1.6 feet is the target load bearing subsoil. The foundation should be extended into the load bearing soil a minimum one foot for a single story, one and a half feet for a two-story, and two feet for three-story structure. Spread footings and foundation walls should be reinforced and be at minimum 15" wide for one-story structures, 18" wide for two-story structures, and 24" for three-story structures. Foundation walls should be a minimum of seven and a half inches thick for single-story structures, a minimum of eight inches for two-story structures, and a minimum of ten inches for three-story structures. Foundation footings shall be setback a minimum of 25 feet from any slopes dropping over 50%. Foundation footings shall be setback a minimum distance of four feet from bottom of footing as measured horizontally to daylight from slopes dropping over 30%. Foundation footing setbacks to slope breaks shall comply with specifications in Section 1808.7 and Figure 1808.7.1 (shown below) of the 2019 CBC (as specified in recommendation #1).



2) All surface runoff from developed or paved areas of the lot should be controlled to flow and drain away or be routed in such a manner as to not affect slope stability or the integrity of the foundation soil. Erosion control dissipation devices shall be installed at all locations where water is discharged over slopes greater than 20%.

3) All excavation shall be completed in conformance with Section 1804 of the 2019 CBC. Additionally, earthwork grading/excavation shall be conducted during the dry season, unless constructed in conformance with a grading and erosion control plan and with Humboldt County codes and the recommendations in this report.

4) All existing and proposed fill and cut slopes are to be re-vegetated to prevent erosion. This is to be done to the satisfaction of local building officials. Existing vegetation beyond the construction area should be left undisturbed if feasible.

5) If cutting or grading is to be done at a depth greater than 5 feet, it is recommended that this office be contacted for specific comments and recommendations. Cut and fill under 5 feet should be limited to 2V:1H max slope.

6) Gutters are to extend along all rooflines and lead to down spouts. In turn, down spouts should lead to pipes carrying roof runoff away from the building site, as well as any fill or foundations that may adversely affect the site soil or adjacent slopes.

7) Floor slabs should be reinforced by #3 reinforcing bars at 18" o.c. or #4 reinforcing bars at 24" o.c. each way and be underlain by at least 4" of class 2 aggregate bases with limited fines to act as a capillary moisture break and a vapor barrier. The vapor barrier shall be in direct contact with concrete. Contractor and owner are responsible for determining the extent of waterproofing methods necessary and implementing the appropriate measures as described in recommendation #9 and shall be aware of the current recommendations and guidelines for slabs below grade according to the American Concrete Institute.

8) All foundation design and construction shall be in conformance with Chapter 18 of the 2019 CBC. All footings are to meet local requirements for seismic criteria, as required by the 2019 CBC. Seismic design parameters have been included in this report based on latitude and longitude values taken from the Humboldt County Web GIS website (County of Humboldt, 2020).

9) Any floor space at or below existing grade level that will be used as inhabitable areas or for storage shall be appropriately dampproofed or waterproofed as described in Section 1805 of the 2019 CBC. These appropriate measures at minimum will constitute installation of 6-mil vapor barrier or equivalent against the foundation or retaining wall, along with drain rock a minimum of 12" thick to the bottom of the footing and made to drain by four inch perforated pipe tight-lines to daylight away from the foundation soils. It is recommended that slabs below grade used for living space be underlain with a minimum of six inches of open graded aggregate instead of four inches as described in recommendation #7 for an increased protection from capillary water infiltration. Additional or superior measures may include installation of sub-slab drainage pipes or geo-textile membranes and should be installed according to current standards of practice.

CLOSURE

Based upon the review conducted by this office of the site and surrounding terrain no further geological evaluation is required; therefore, no geotechnical engineer consultation is warranted. This office shall be contacted if subsurface conditions differ significantly from those stated in this report, or if further investigation or inspection is requested by involved agencies.

It has been assumed that observed soils are representative of the entire subsurface conditions on the property in question. If it is found during construction that subsoil conditions differ from those described, the conclusions and recommendations of this report should be considered invalid unless the changes are reviewed and the conclusions and recommendations are modified or approved in writing. This analysis was conducted in accordance with the standards maintained by professionals in the engineering field, and the findings presented herein are reasonably representative of site conditions and probable site behavior based on this investigation. Due to the inexact nature of many engineering analyses, including those employed during the preparation of this report, there is no guarantee or warranty expressed or implied. Enclosed in this report are site maps, Assessor's Parcel Maps, and geologic maps as referenced.

If you have any questions regarding this report, or to schedule an inspection, please feel free to contact this office at (707) 725-5182.

Sincerely,

Allan M. Baird
Principal, RCE# 23681

References

American Society of Civil Engineering (ASCE). (2016). *Minimum Design Loads for Buildings and Other Structures*. ASCE/SEI 7-10.

California Department of Conservation, Division of Mines and Geology. (1998). *Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada*. International Conference of Building Officials. Whittier, CA.

County of Humboldt. (2020). *Humboldt County Web GIS Planning and Building Mapping*. Available Online [http://gis.co.humboldt.ca.us/Freeance/Client/PublicAccess1/index.html?appconfig=podgis]

Part 2. California Building Code (2019) Volume 2 (Chapters 16-34): https://codes.iccsafe.org/content/document/1007?site_type=public

United States Geological Survey (USGS). (2020). *U.S. Seismic Design Maps.* Available Online [https://earthquake.usgs.gov/designmaps/us/application.php?].

Title III, Land Use and Development Division 3. Building Regulations Section 331-12. Grading, Excavation, and Erosion Control and Sedimentation Ordinance (Humboldt County). (2020).

"U.S. Seismic Design Maps." U.S. Seismic Design Maps, SEAOC/OSHPD, 2020, seismicmaps.org/.

OSHPD

Peak Pond

Latitude, Longitude: 40.0824, -123.673

Google Map data ©2020

Date	6/25/2020, 12:09:54 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_S	1.553	MCE_R ground motion. (for 0.2 second period)
S_1	0.806	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.863	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1.242	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.715	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.859	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.881	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.055	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.553	Factored deterministic acceleration value. (0.2 second)
S1RT	0.806	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.902	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.823	Factored deterministic acceleration value. (1.0 second)
PGAd	0.715	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.916	Mapped value of the risk coefficient at short periods
C_{R1}	0.894	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

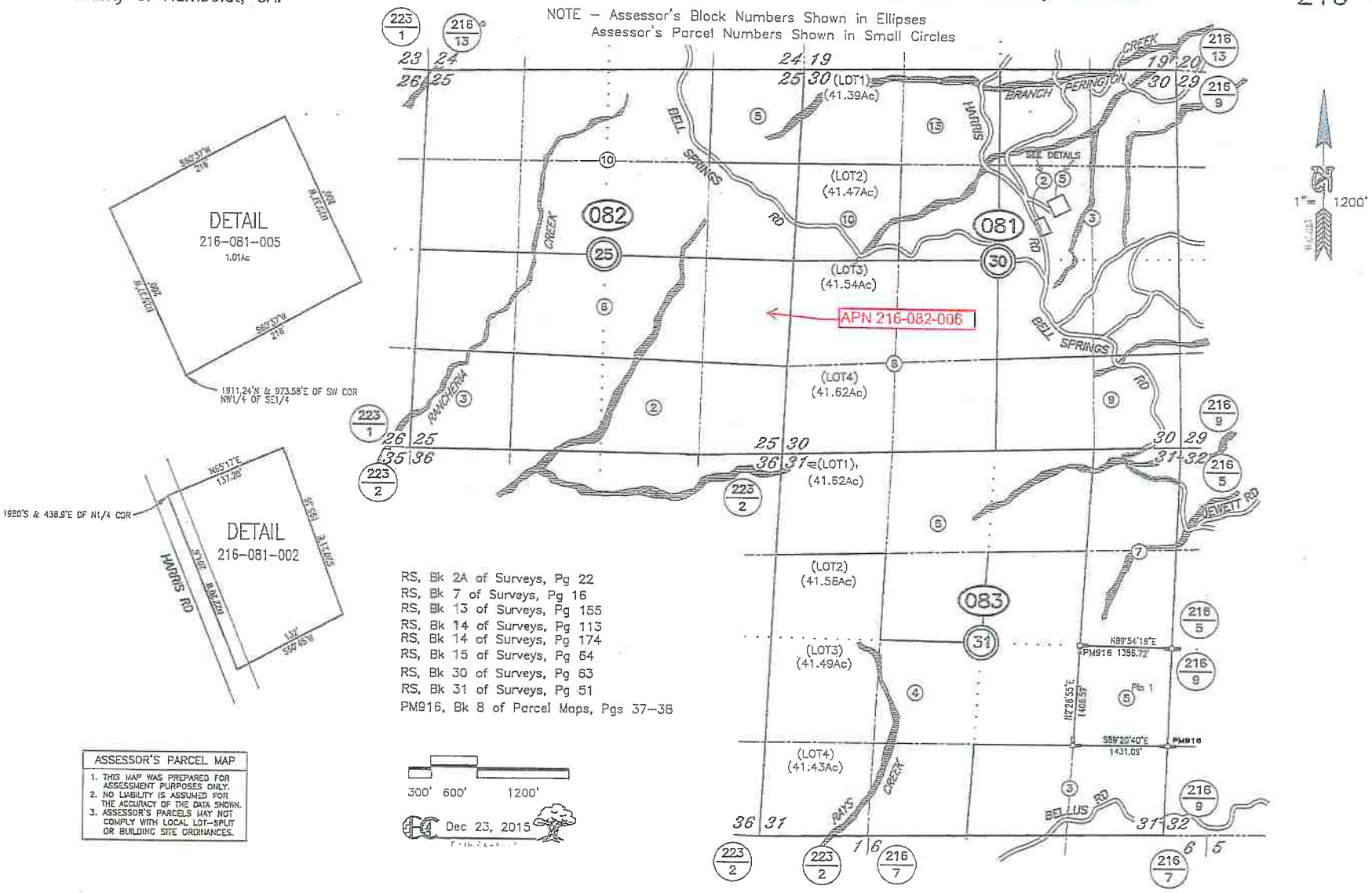
While the information presented on this website is believed to be correct, SEAOC /OSHPD and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in this web application should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. SEAOC / OSHPD do not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the seismic data provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the search results of this website.

Assessor's Map Bk. 216, Pg. 8
County of Humboldt, CA.

SEC 25, T4S R4E & SECS 30 & 31, T4S R5E, HB&M

216-08

NOTE – Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Small Circles



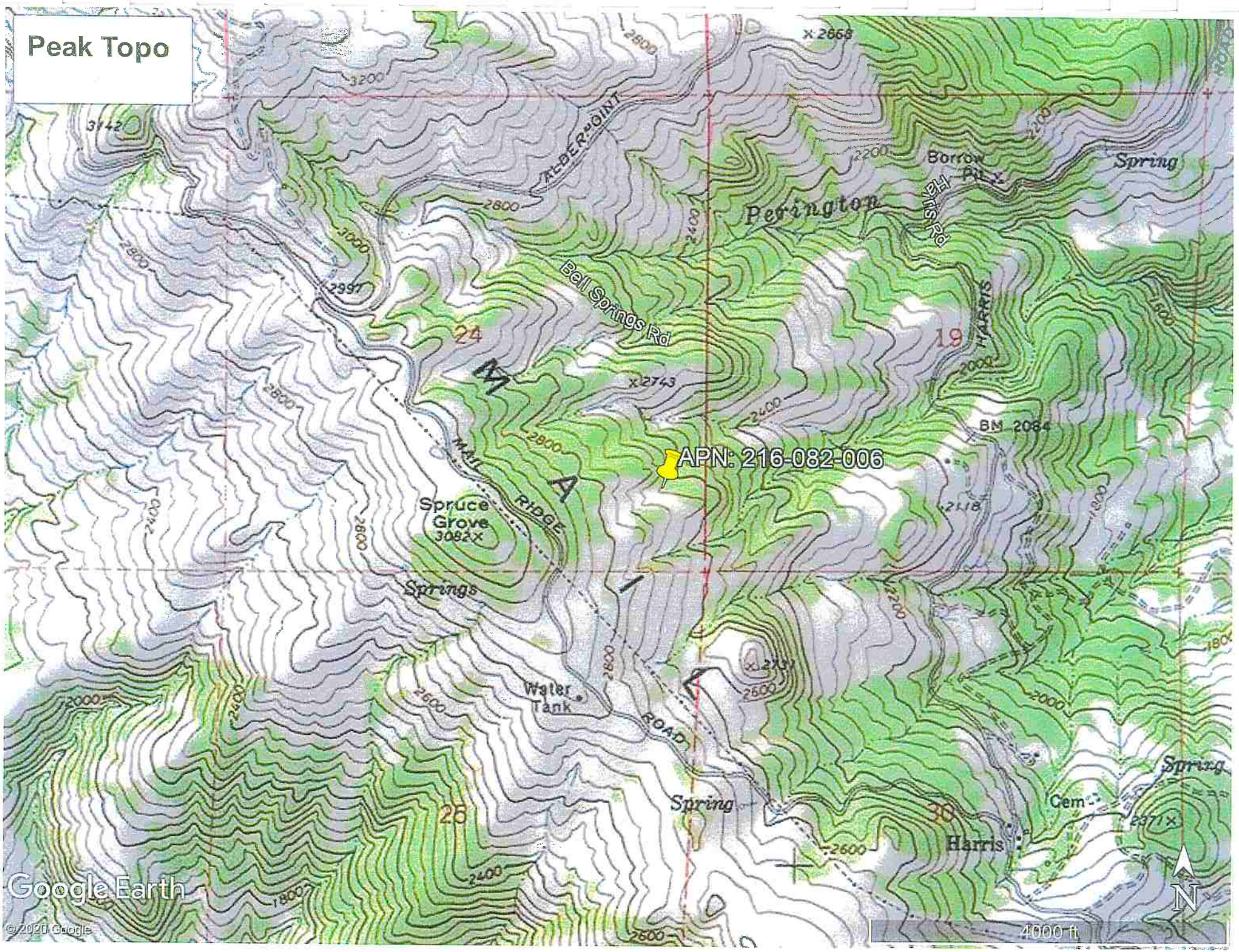
RS, Bk 2A of Surveys, Pg 22
RS, Bk 7 of Surveys, Pg 16
RS, Bk 13 of Surveys, Pg 155
RS, Bk 14 of Surveys, Pg 113
RS, Bk 14 of Surveys, Pg 174
RS, Bk 15 of Surveys, Pg 64
RS, Bk 30 of Surveys, Pg 63
RS, Bk 31 of Surveys, Pg 51
PM916, Bk 8 of Parcel Maps, Pgs 37-38

300' 600' 1200'

Dec 23, 2015

ASSESSOR'S PARCEL MAP

1. THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY.
2. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN.
3. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.


Peak Topo
APN: 216-082-006
Bell Springs Rd
Alder Point
Perington
Harris Rd
Borrow Pit
Spring
Harris
Spruce Grove
3082
Ridge
Springs
Water Tank
Road
Cem
BM 2084
Google Earth
© 2021 Google
4000 ft
N

Project:	Peak	Logged by:	mjn	Jn#	20-4905
Hole #:	1	Date:	6/4/2020	Excavation:	Back-hoe

SUBSURFACE PROFILE LOGS

	Description & Remarks	Depth (ft)	Sample	Classification
0-1.5 ft	Munsell color 10 YR 1/1 black Dark loamy topsoil	- 1 -		
	Clear boundary (<1") Munsell color 10 YR 2/2 very dark brown Gravelly: 15-35%),Birds Eye - 3/4" Structure: Massive subangular blocky Consistence: moist: firm wet: sticky No roots Pores: Common: fine (10-50), medium (1-5)	- 2 - - 3 - - 4 - - 5 - - 6 - - 7 - - 8 -		ZONE 2 Clay Loam
	NO MOTTLING NO GROUNDWATER OBSERVED End of excavation	- 9 - - 10 - - 11 -		

PROFILES LOGS SHOW SUBSURFACE CONDITIONS BY OBSERVATIONS AT THE DATES AND LOCATIONS INDICATED AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

A.M. BAIRD
ENGINEERING & SURVEYING, INC.
1257 Main Street • P.O. Box 396 • Fortuna, CA. 95540 • (707) 725-5182 • Fax (707) 725-5581

CONSULTING – LAND DEVELOPMENT – DESIGN – SURVEYING

Project: Peak
AP#: 216-082-006

by: BIV
Lab Test Date: 6/8/2020

1		SAMPLE NUMBER
1		TEST HOLE
6		Depth (ft)
883.9		TOTAL SAMPLE WEIGHT (gm)
277.5		Coarse Weight (gm)
75		A. Ovendry Weight (gm)
8:18		B. Starting Time (hr:min:sec)
69.2		C. Temp @ 40 sec. (^{o}F)
52		D. Hydrometer Reading @ 40 sec. (gm/l)
-6.26		E. Composite Correction (gm/l)
45.74		F. True Density @ 40sec. (gm/l), (D-E)
69.8		G. Temp @ 2 hrs. (^{o}F)
31		H. Hydrometer Reading @ 2hrs. (gm/l)
-6.14		I. Composite Correction (gm/l)
24.86		J. True Density @ 2 hrs. (gm/l), (H-I)
39.0		K. % Sand = 100 -[(F/A) x 100]
33.1		L. % Clay = (J/A) x 100
27.8		M. % Silt = 100 - (K +L)
Clay Loam		N. USDA Texture
3		O. Soil Percolation Suitability Chart Zone
61.0		P. Combined % Silt and Clay
31.4		Q. Coarse % by weight
4.0		R. % Coarse Adjustment*

* [(.2)(.00003Q^3+.0006Q^2+.5968Q-.0941)]

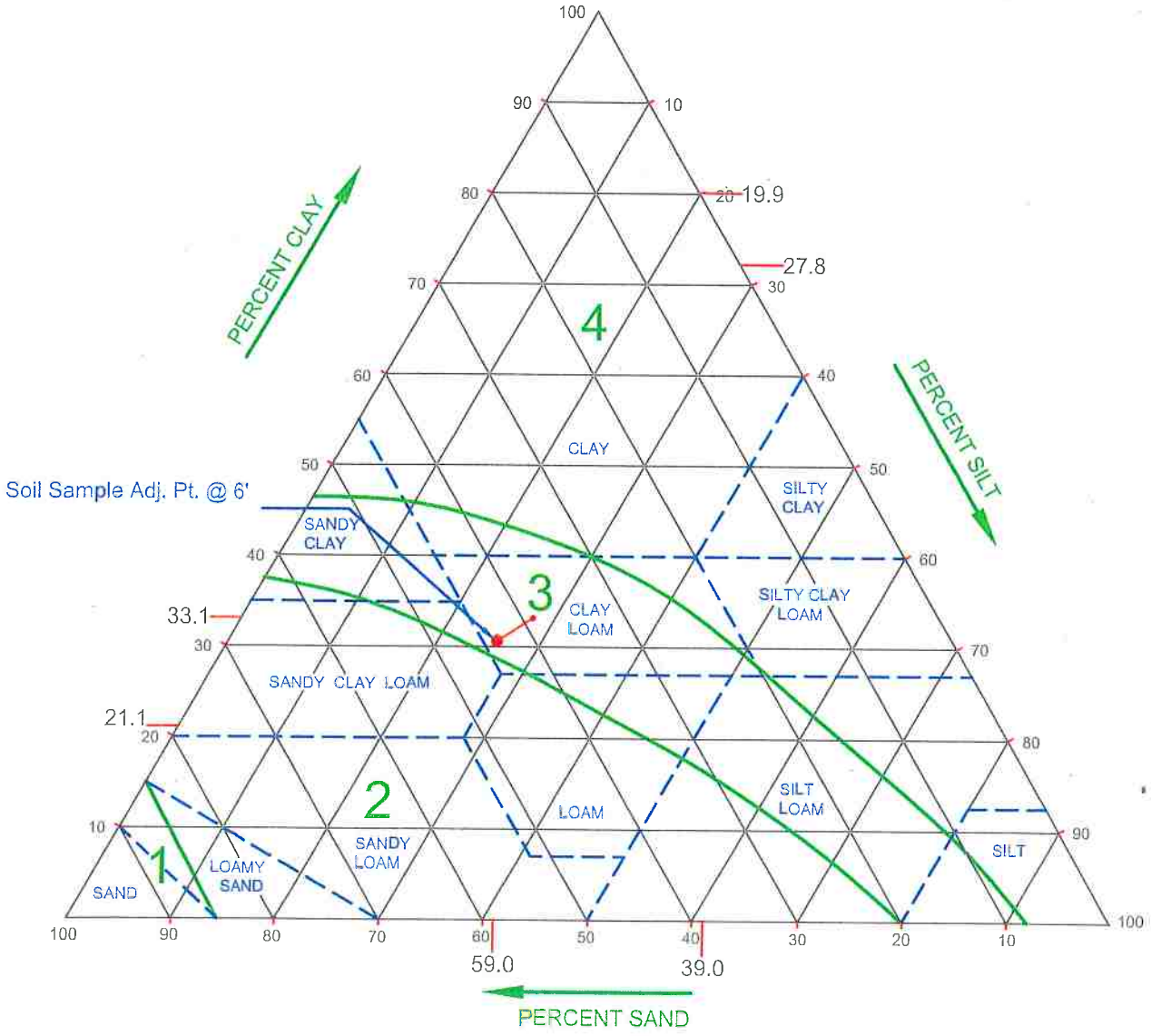
A.M. BAIRD

ENGINEERING & SURVEYING, INC.

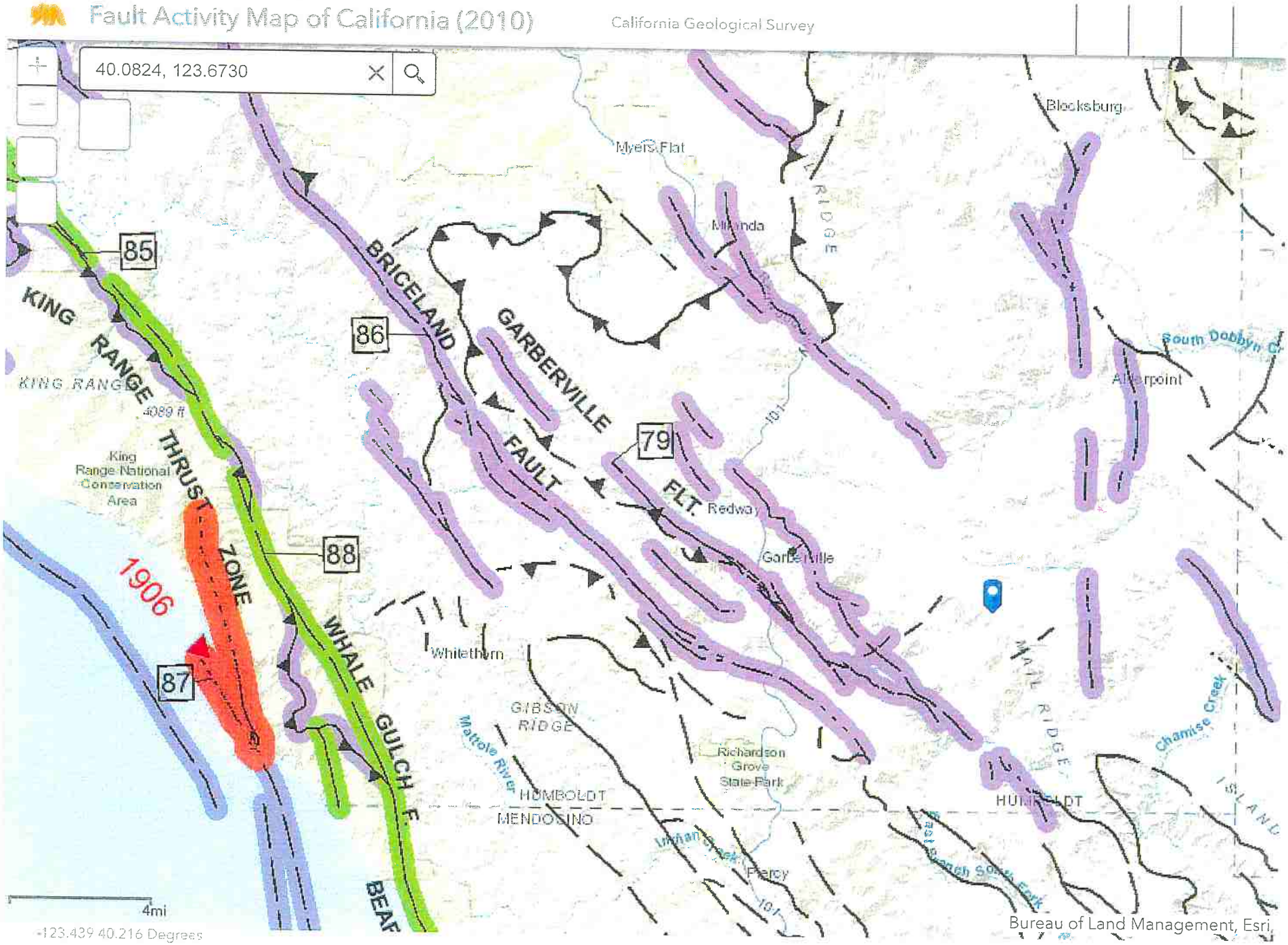
1257 Main Street • P.O. Box 396 • Fortuna, CA. 95540 • (707) 725-5182 • Fax (707) 725-5581

CONSULTING – LAND DEVELOPMENT – DESIGN – SURVEYING

APN: 216-082-006 BLOCK/LOT: NA



1. COARSE ADJUSTMENT: Soil Sample @ 6.0' = 4%


Fault Activity Map of California (2010)
California Geological Survey
40.0824, 123.6730
85
86
88
87
79
KING RANGE
KING RANGE
4089 ft
King Range National Conservation Area
THRUST
ZONE
1906
WHALE GULCH F.
BEAF
BRICELAND
GARBERVILLE
FAULT
FLT.
Myers Flat
Miranda
Blocksburg
South Dobbyn C.
Alderpoint
Redway
Garberville
Whitethorn
GIBSON RIDGE
Mattole River
HUMBOLDT
MENDOCINO
Richardson Grove State Park
Larabee Creek
Piercy
Chamise Creek
4mi
-123.439 40.216 Degrees
Bureau of Land Management, Esri,