



**R2 Soils Report**  
**For**  
**Bear Butte Farms**  
**LLC**

**A Portion of The NW ¼ Sections 6, T5S, R4E H. B. & M.**  
**200 Thistle Lane**  
**Benbow, County of**  
**Humboldt California**  
**APN 033-140-008**



<b>Date:</b>	January 21, 2020	<b>Project Number:</b>	2020_BB-1
<b>Owner:</b>	Tryphena L. Lewis	<b>Project Name:</b>	R2 Soils Report
<b>Location:</b>	200 Thistle Lane Benbow, CA 95542	<b>APN:</b>	033-140-008

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### **Introduction:**

DTN Engineering (Engineer) was secured by Bear Butte Farms (client) to evaluate the existing soil and geologic conditions for the above referenced parcel. The client is seeking to obtain a Commercial Cannabis Permit for this parcel. The following is an outline of our findings and recommendations.

### **Project Site Location:**

The project site is located on Road A, 1.7 miles southeast of Benbow Dr. (see **Exhibit A** for Location Map). Latitude and Longitude of the project site is 40.0600 N and -123.7725W. The parcel is approximately 21 acres in size and is recorded as Parcel 8 Bk. 033 Pg. 14 (**Exhibit B**). The parcel is zoned AE-P under the County of Humboldt zoning code. Surrounding the parcels are primarily developed properties. The approximate site elevation of the project site is from approximately 640' to 1220' above mean sea level. Ingress/egress is provided from Thistle Lane via Red Rock Rd.

### **Project Site Geology:**

The subject property is mostly undeveloped besides pre-existing access roads, landings, and agricultural structures. Slopes on site in general are slightly inclined (approximately less than 10% to greater than 25%) with a westerly aspect towards the Eel River. Geologically, the site lies within Central Belt of the Franciscan Complex apart of the greater Coast Range Physiographic Province (McLaughlin and others, 2000). The existing development primarily lies atop of early Tertiary to Late Cretaceous-age mélangé of the Central Belt (cm2). The cm2 portion of the assemblage is described as predominately subequal amounts of metasandstone and meta-argillite. The geomorphology exhibited by this portion of the Franciscan assemblage is irregular topography that lacks well incised sidehill drainages but is less lumpy than cm1 (mélangé unit). No active sliding or faulting was observed during the site visit within and outside of the graded areas.

There is the Garberville Briceland Fault Zone earthquake fault approximately .5 miles to the southwest and northwest of the parcel and it is not within a hazard zone according to the

Humboldt County GIS system (**Exhibit D**).

**Proposed Project:**

The proposed project for this site is to perform a general soils investigation as needed to provide an engineering assessment for grading, excavation and building foundations.

**Soil Conditions:**

A field investigation was conducted by the Engineer at this site on September 20, 2019. This investigation consisted of site observations and general observations of the area of the existing development. The soil conditions observed on site were that of a sandy clay loam.

**Site Soil Evaluation:**

Conservatively, site soils will yield a bearing pressure of fifteen hundred (1500) psf for vertical bearing and one hundred and one hundred (100) psf for lateral bearing (2016 California Building Code, Table 1806.2).

**Liquefaction Potential**

Liquefaction is the loss of soil strength, resulting in fluid mobility through the soil. Liquefaction typically occurs when uniformly sized, loose, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 50 feet below the surface. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking must be sufficient, for liquefaction to occur. The probability of liquefaction is considered to be low at the present building site because the bearing soils are not saturated and do not consist of poorly graded sands or other soil types typically considered liquefiable

**Seismic Considerations and Flood Considerations:**

There are no active faults nearby and the site does not lie within an Alquist-Priolo zone. The following coefficients shall be used for seismic design (See **Exhibit C** for USGS Seismic Hazard Data):

<u>Situs Information:</u> APN 221-230-003	Latitude / Longitude	40.0600/ -123.7725
	Risk/Occupancy Category	I
	Seismic Design Category	E
	Site Class	D
Spectral Accelerations	S <sub>s</sub> (Site Class D)	1.837
	S <sub>1</sub> (Site Class D)	.814

Site Coefficients	$F_a / F_v$	1.2/NA
Response Accelerations (g)	$S_{MS}$	2.205
	$S_{M1}$	NA
	$S_{DS}$	1.47
	$S_{D1}$	NA

The project site is listed to be in an area that has *high instability* by the County of Humboldt GIS mapping.

Based on the location and geographical setting, the project site lies outside any flood prone areas.

Due to the site soils, depth to groundwater, distance to the nearest known quaternary fault, and distance to descending slopes, the potential for liquefaction, surface rupture, soil strength loss, or faulting at this site is moderate, and no special mitigation hazards are necessary.

**Conclusion:**

This report documents the history, present conditions and subsurface materials, as well as the geologic hazards associated with the site. Included in this report are design and construction recommendations based on the site conditions encountered, the requirements of the 2016 CBC and County of Humboldt grading ordinance.

**Recommendations:**

The following recommendations are general recommendations for any future grading activities to be performed and for the foundation of the existing building:

**Setback Recommendations:**

From an engineering geologic viewpoint, we have no setback recommendations to mitigate the potential geologic hazards. Slope setbacks are neither relevant nor necessary for the proposed project. Zoning setbacks remain applicable.

**Site Preparation:**

Earthwork (grading and excavations) should be undertaken only during the dry season. All debris and vegetation should be removed from within 2 feet of the footprint of the proposed earthwork and disposed of or recycled appropriately. Topsoil should be removed and should be stockpiled on-site for later use as landscaping material and non-structural fill. Following the work, topsoil should be replaced or used as landscaping fill, and seeded to establish vegetation prior to the

winter wet season.

### **Subgrade Preparation:**

Segregate and stockpile topsoil for later use as non-structural or landscaping fill. Alternately, dispose of these materials at an appropriate location. If the native soils exposed below the topsoil are loose or disturbed, they should be further excavated to expose more-competent native soils consisting of grayish brown, dense well-graded sandy gravel with clay (GW).

### **Temporary Excavations:**

Temporary construction slopes are anticipated for this project as currently proposed. Temporary construction slopes are proposed, they should be designed and excavated in strict compliance with applicable local, state, and Federal safety regulations including the current OSHA Excavation and Trench Safety Standards.

Construction equipment, building materials, excavated soil, vehicular traffic, and other similar loads should not be allowed near the top of any unshored or unbraced excavation greater than four feet in height. Where the stability of adjoining buildings, wall, pavements, utilities, or other similar improvements is, or may be endangered by excavation operations, support systems such as shoring, bracing, or underpinning, may be required to provide structural stability and to protect personnel.

Excavation operations are dependent on construction methods and scheduling; therefore, the owner, designer, and contractor share responsibility for the design, installation, maintenance, and performance of all shoring, bracing, underpinning, and other similar systems.

### **Cut and Fill Slopes**

Fill embankments should be constructed with slopes not exceeding 2:1 horizontal to vertical (50% slope), maximum. Any new permanent cut slopes should also be limited to a maximum slope of 2:1. Construction (temporary) slopes may be steeper. Slope grades may be modified only if previously reviewed and approved in writing by the geotechnical engineer or his designated representative. All new cut slopes, fill embankments and bare soil areas created in this development work should be re-vegetated promptly to minimize the potential for erosion.

### **Fill Materials:**

All structural fill materials should be suitable granular native material or well-graded imported granular material such as crushed quarry rock or river-run gravels (100 percent passing 3-inch sieve).



Fill materials should be reviewed and approved for use by the project engineer prior to importing it to the site. Fill should be placed in loose lifts not exceeding 8 inches, on a suitably-prepared (flat) surface, and should be compacted mechanically so that no settlement will occur. A suitably-prepared surface should consist of native soil material scarified and compacted in-place. We recommend compaction to a minimum of 90 percent relative compaction (RC) under driveways, sidewalks and landscaped areas. Fill materials should be placed at a uniform moisture content, at or near optimum.

**Aggregate Base:**

Aggregate base material may be used for pavement subgrade, placed beneath footings or floor slabs, or used as trench backfill. This material should be compacted mechanically and should meet the requirements in the Caltrans Standard Specifications for Class 2 Aggregate Base; 1.5 inch maximum particle size.

**Select Fill:**

In the case of new construction requiring select fill, that select fill should consist of granular material that may be used as non-expansive fill beneath floor slabs. Select fill should be a well-graded soil/rock mixture free of organics and other deleterious material; on-site native soils may not be suitable for use as select fill.

Select fill material should contain low plasticity clay, well-graded sand, and/or gravel. The material should contain no more than three percent by weight of rocks larger than 3 inches in greatest dimension, or more than 15 percent larger than 2-inches. Additionally, the material should meet the following specifications:

Plasticity index (PI):	<12
Liquid Limit (LL):	<30
Percent passing No. 200 sieve:	50 maximum, 5 minimum

**Compaction Standard**

Where compacted fill is required, that structural fill should be compacted in accordance with the specifications listed in the table below. Place material in horizontal lifts not exceeding 8-inches in loose thickness. A qualified field technician should be present to observe fill placement and to perform field density tests at random locations throughout each lift to verify that the specified compaction is being achieved by the contractor. Where trenches closely parallel a footing and the trench bottom is within a two horizontal to one vertical plane, projected outward and downward from any structural element, concrete slurry should be utilized to backfill that portion of the trench below

this plane. The use of slurry backfill is not required where a narrow trench crosses a footing at or near a right angle.

<b>TABLE 2 - STRUCTURAL FILL PLACEMENT SPECIFICATIONS</b>		
<b>Fill Placement Location</b>	<b>Compaction (ASTM D 1557)</b>	<b>Moisture % Optimum</b>
Roadways within 2.0' of Base of Pavement	95%	-1 to +3 percent
Fill below Base of Pavement Subgrade	90%	-1 to +3 percent
Utility trenches: Building/Pavement areas	95%	-1 to +3 percent
Utility trenches: Landscape Areas	90%	-1 to +3 percent

**Settlement:**

The settlement which may occur on these parcels is a function of the foundation and earthquake loading, and the competence of the bearing soils. Settlement is expected to be minimal for foundation elements bearing on firm, undisturbed native soils and embedded as recommended. Settlement should be expected to occur closely with the application of structural loads. If our recommendations are adhered to, settlement is not anticipated to have detrimental effects on the structure. Foundation elements on this site should never be placed on non-engineered fill or on engineered fills which have not been tested and approved by a qualified professional.

**Foundation Design Criteria:**

The foundation system for the existing greenhouses consists of perimeter and isolated concrete piers poured in Sono Tubes and anchored with anchored bolts at placed 10 feet segment of the greenhouse.

As iterated above, for design purposes, a soil bearing capacity of 1,500 pounds per square foot (pst) for dead load plus long-term live load should be used. This foundation is adequate for the existing building and use.

**Drainage and Landscaping:**

Ground surfaces surrounding the proposed residence should be graded such that rain, irrigation and roof runoff water is directed away from any structure foundations. Drainage should be further controlled to prevent concentrated runoff from flowing down the hill slope. Runoff from private access road, the parking areas, roofs, and any other impermeable surfaces associated with this development should be tight lined or otherwise contained. The outlet point of any storm drainage systems constructed in conjunction with this project should include energy dissipation structures to control potential erosion.

Any grading or landscaping design and construction should be such that no water is allowed to pond anywhere on the site, nor to migrate beneath the structure. All roof storm drainage should be controlled with the installation of gutters and downspouts. Downspouts should be connected to tight lines to convey roof storm runoff away from the structure to suitable outlet points as detailed above.

### **Erosion Control:**

Site-specific erosion/sediment control and stabilization recommendations are presented in the bulleted list below. As used herein, *exposed soil areas* and *disturbed areas* include all grading and excavation work performed in connection with the proposed project.

- Storm water erosion and pollution prevention measures should be taken as soon as possible prior to the onset of the winter rains.
- Humboldt County Erosion Control Standards should be viewed as *minimum* standards for erosion and sediment control at this site.
- Revegetate all disturbed areas immediately by seeding with Caltrans erosion control mix (or equivalent).
- To protect against erosion, heavily mulch all exposed soil areas with straw, or an approved alternate material.
- Poke the straw mulch into the upper 2 inches of the soil to limit loss of straw.
- Stake straw wattles parallel to slope contours into any side cast fills.
- Install silt fencing at toes of any new side cast fill slopes.
- Replant the site with trees and shrubs native to the area.
- Cover any soil stockpiles with 6-mil (min) plastic sheeting, securely anchored to prevent wind disturbance.
- Native gravel-surfaced roadways to the proposed ponds and other areas where vehicle traffic may occur; should be maintained in good condition.
- Drive and park vehicles only on gravel-paved areas during wet weather.
- Monitor the site before and after runoff-generating rainfall events to verify suitable and appropriate functioning of all erosion-control measures.
- Promptly repair all erosion-control measures as needed.



# **Exhibit A**

# Location Map - Bear Butte Farms

200 Thistle Lane  
Benbow, California  
APN 033-140-008

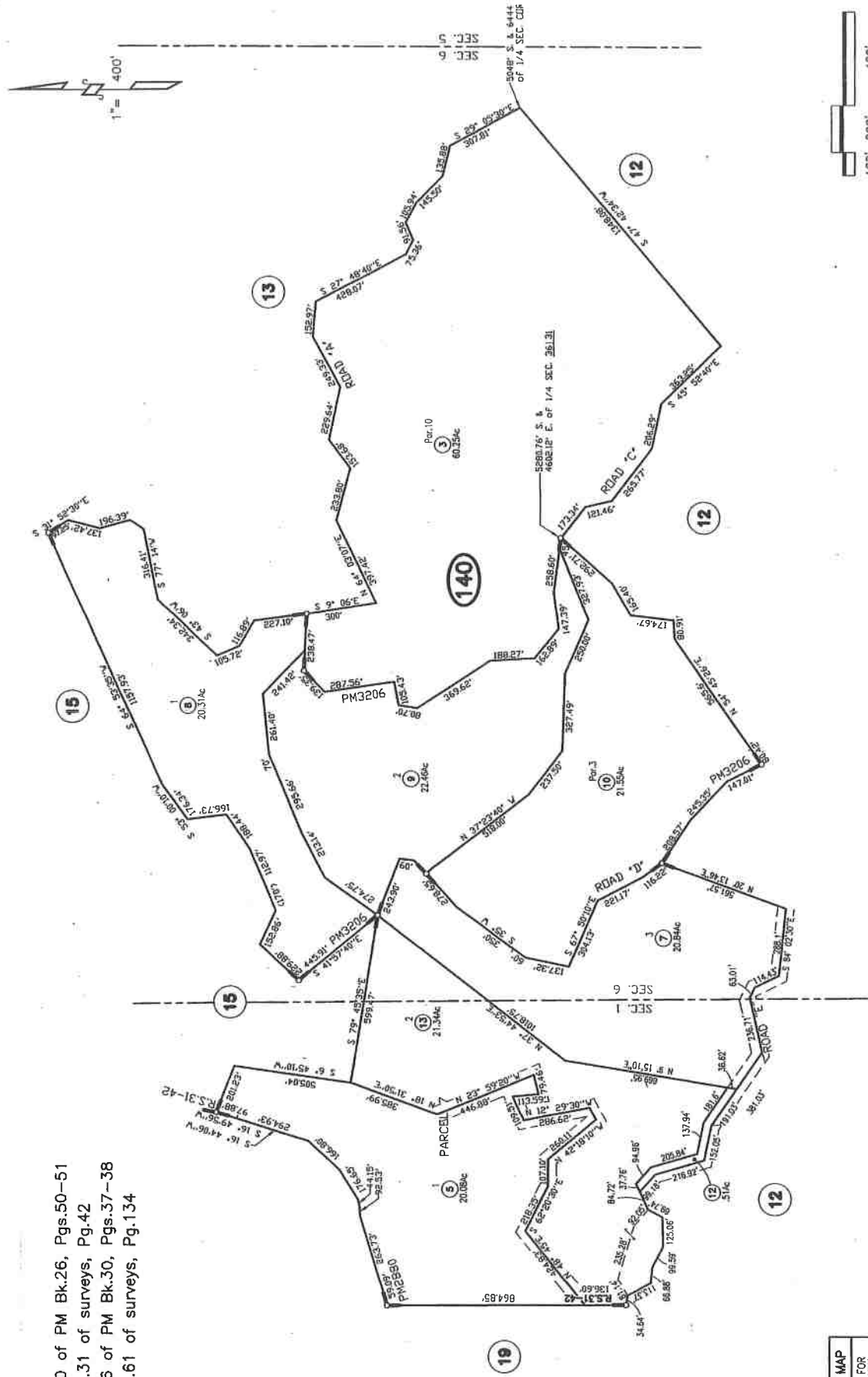


Google Earth

© 2019 Google

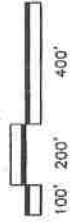
# **Exhibit B**

PM2880 of PM Bk.26, Pgs.50-51  
 RS, Bk.31 of surveys, Pg.42  
 PM3206 of PM Bk.30, Pgs.37-38  
 RS, Bk.61 of surveys, Pg.134



**ASSESSOR'S PARCEL MAP**  
 1. THIS MAP WAS PREPARED FOR THE PURPOSES OF ASSESSING AND APPROPRIATION, AND NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN.  
 2. THE ACCURACY OF THE DATA SHOWN, COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

NOTE -- Assessor's Block Numbers Shown in Ellipses  
 Assessor's Parcel Numbers Shown in Circles.



4 Jun 24, 2003

Assessor's Map Bk.33, Pg.14  
 County of Humboldt, CA.



# **Exhibit C**



# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** I  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 1019.54 ft (NAVD 88)  
**Latitude:** 40.06  
**Longitude:** -123.7725



## Seismic

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**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

$S_s$ :	1.837	$S_{D1}$ :	N/A
$S_i$ :	0.814	$T_L$ :	12
$F_a$ :	1.2	PGA :	0.737
$F_v$ :	N/A	PGA <sub>M</sub> :	0.884
$S_{MS}$ :	2.205	$F_{PGA}$ :	1.2
$S_{M1}$ :	N/A	$I_e$ :	1
$S_{D8}$ :	1.47	$C_v$ :	1.467

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

**Data Accessed:** Wed Jan 22 2020

**Date Source:** [USGS Seismic Design Maps](#)

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



# Exhibit D



Sources: NRCS  
 Humboldt County GIS  
 Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community  
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community  
 FRAP, FEMA, USGS

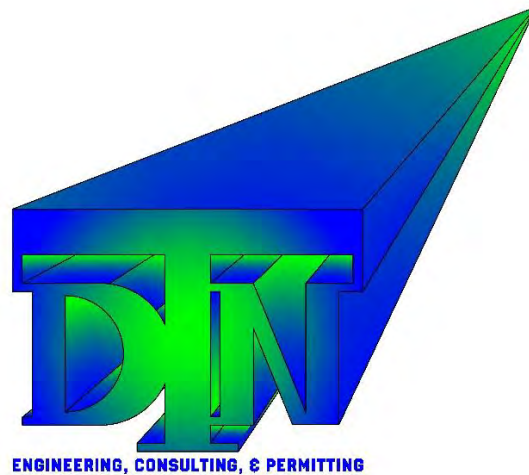
- Topographic Contours 40ft**
- Minor Interval
  - Major Interval
- Highways and Roads**
- Private or Unclassified
  - Principal Arterials
  - Minor Arterials
  - Major Collectors
  - Minor Collectors
  - Local Roads
- Blue Line Streams**
- Major River or Stream
  - Perennial 1-3
  - Perennial >4
  - Intermittent
- Subsurface**
- City Boundary
  - Counties
  - Parcels
  - Parcels (no APN labels)
  - Historic Landslides

**ArcGIS Web Map**  
 Humboldt County Planning and Building Department  
 Printed: January 22, 2020  
 Web AppBuilder 2.0 for ArcGIS  
 Map Disclaimer:  
 While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.



**R2 Soils Report**  
**For**  
**Bear Butte Farms**  
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**A Portion of The NW ¼ Sections 6, T5S, R4E H. B. & M.**  
**200 Thistle Lane**  
**Benbow, County of**  
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**APN 033-140-008**



<b>Date:</b>	January 21, 2020	<b>Project Number:</b>	2020_BB-1
<b>Owner:</b>	Erdo Dogan	<b>Project Name:</b>	R2 Soils Report
<b>Location:</b>	200 Thistle Lane Benbow, CA 95542	<b>APN:</b>	033-140-008

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### **Introduction:**

DTN Engineering (Engineer) was secured by Bear Butte Farms (client) to evaluate the existing soil and geologic conditions for a processing building and a nursery for the above referenced parcel. The client is seeking to obtain a Commercial Cannabis Permit for this parcel. The following is an outline of our findings and recommendations.

### **Project Site Location:**

The project site is located on Road A, 1.7 miles southeast of Benbow Dr. (see **Exhibit A** for Location Map). Latitude and Longitude of the project site is 40.0600 N and -123.7725W. The parcel is approximately 21 acres in size and is recorded as Parcel 8 Bk. 033 Pg. 14 (**Exhibit B**). The parcel is zoned AE-P under the County of Humboldt zoning code. Surrounding the parcels are primarily developed properties. The approximate site elevation of the project site is from approximately 640' to 1220' above mean sea level. Ingress/egress is provided from Thistle Lane via Red Rock Rd.

### **Project Site Geology:**

The subject property is mostly undeveloped besides pre-existing access roads, landings, and agricultural structures. Slopes on site in general are slightly inclined (approximately less than 10% to greater than 25%) with a westerly aspect towards the Eel River. Geologically, the site lies within Central Belt of the Franciscan Complex apart of the greater Coast Range Physiographic Province (McLaughlin and others, 2000). The existing development primarily lies atop of early Tertiary to Late Cretaceous-age mélangé of the Central Belt (cm2). The cm2 portion of the assemblage is described as predominately subequal amounts of metasandstone and meta-argillite. The geomorphology exhibited by this portion of the Franciscan assemblage is irregular topography that lacks well incised sidehill drainages but is less lumpy than cm1 (mélangé unit). No active sliding or faulting was observed during the site visit within and outside of the graded areas.

There is the Garberville Briceland Fault Zone earthquake fault approximately .5 miles to the southwest and northwest of the parcel and it is not within a hazard zone according to the



Humboldt County GIS system (**Exhibit D**).

**Proposed Project:**

The proposed project for this site is to perform a general soils investigation as needed to provide an engineering assessment for grading, excavation and building foundations.

**Soil Conditions:**

A field investigation was conducted by the Engineer at this site on September 20, 2019. This investigation consisted of site observations and general observations of the area of the existing development. The soil conditions observed on site were that of a sandy clay loam.

**Site Soil Evaluation:**

Conservatively, site soils will yield a bearing pressure of fifteen hundred (1500) psf for vertical bearing and one hundred and one hundred (100) psf for lateral bearing (2019 California Building Code, Table 1806.2).

**Liquefaction Potential**

Liquefaction is the loss of soil strength, resulting in fluid mobility through the soil. Liquefaction typically occurs when uniformly sized, loose, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 50 feet below the surface. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking must be sufficient, for liquefaction to occur. The probability of liquefaction is considered to be low at the present building site because the bearing soils are not saturated and do not consist of poorly graded sands or other soil types typically considered liquefiable

**Seismic Considerations and Flood Considerations:**

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<b>TABLE 3-SPECTRAL RESPONSE ACCELERATIONS</b>		
<u>Situs Information:</u> APN 221-230-003	Latitude / Longitude	40.0600/ -123.7725
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	Site Class	D
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**Conclusion:**

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**Recommendations:**

The following recommendations are general recommendations for any future grading activities to be performed and for the foundation of the existing building:

**Setback Recommendations:**

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**Site Preparation:**

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### **Select Fill:**

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**Settlement:**

The settlement which may occur on these parcels is a function of the foundation and earthquake loading, and the competence of the bearing soils. Settlement is expected to be minimal for foundation elements bearing on firm, undisturbed native soils and embedded as recommended. Settlement should be expected to occur closely with the application of structural loads. If our recommendations are adhered to, settlement is not anticipated to have detrimental effects on the structure. Foundation elements on this site should never be placed on non-engineered fill or on engineered fills which have not been tested and approved by a qualified professional.

**Foundation Design Criteria:**

We understand that a two-story metal processing facility and a small nursery that will be of wood frame construction is proposed for this site. The recommended foundation system for the proposed processing facility will consist of perimeter and isolated spread footings. The spread footings will be bedded against firm soil a minimum of 3' below final grade. The spread footing stem wall will be 8" thick minimum the heel and toe of the spread footing will be 18" respectively. The slab for the building will be a 6" thick concrete slab with 3" of Class 2 AB placed over a non-woven geotextile fabric.

The recommended foundation system for the proposed nursery will consist of perimeter and isolated spread footings. The spread footings will be bedded against firm soil a minimum of 2' below final grade. The spread footing stem wall will be 8" thick minimum the heel and toe of the spread footing will be 12" respectively. The slab for the building will be a 4" thick concrete slab with 2" of Class 2 AB placed over a non-woven geotextile fabric.

As iterated above, for design purposes, a soil bearing capacity of 1,000 pounds per square foot (pst) for dead load plus long-term live load should be used. For short-term live loads (wind and



seismic) the bearing capacity may be increased to 1,300 psf.

### **Drainage and Landscaping:**

Ground surfaces surrounding the proposed residence should be graded such that rain, irrigation and roof runoff water is directed away from any structure foundations. Drainage should be further controlled to prevent concentrated runoff from flowing down the hill slope. Runoff from private access road, the parking areas, roofs, and any other impermeable surfaces associated with this development should be tight lined or otherwise contained. The outlet point of any storm drainage systems constructed in conjunction with this project should include energy dissipation structures to control potential erosion.

Any grading or landscaping design and construction should be such that no water is allowed to pond anywhere on the site, nor to migrate beneath the structure. All roof storm drainage should be controlled with the installation of gutters and downspouts. Downspouts should be connected to tight lines to convey roof storm runoff away from the structure to suitable outlet points as detailed above.

### **Erosion Control:**

Site-specific erosion/sediment control and stabilization recommendations are presented in the bulleted list below. As used herein, *exposed soil areas* and *disturbed areas* include all grading and excavation work performed in connection with the proposed project.

- Storm water erosion and pollution prevention measures should be taken as soon as possible prior to the onset of the winter rains.
- Humboldt County Erosion Control Standards should be viewed as *minimum* standards for erosion and sediment control at this site.
- Revegetate all disturbed areas immediately by seeding with Caltrans erosion control mix (or equivalent).
- To protect against erosion, heavily mulch all exposed soil areas with straw, or an approved alternate material.
- Poke the straw mulch into the upper 2 inches of the soil to limit loss of straw.
- Stake straw wattles parallel to slope contours into any side cast fills.
- Install silt fencing at toes of any new side cast fill slopes.
- Replant the site with trees and shrubs native to the area.
- Cover any soil stockpiles with 6-mil (min) plastic sheeting, securely anchored to prevent wind disturbance.
- Native gravel-surfaced roadways to the proposed ponds and other areas where vehicle traffic may occur; should be maintained in good condition.
- Drive and park vehicles only on gravel-paved areas during wet weather.

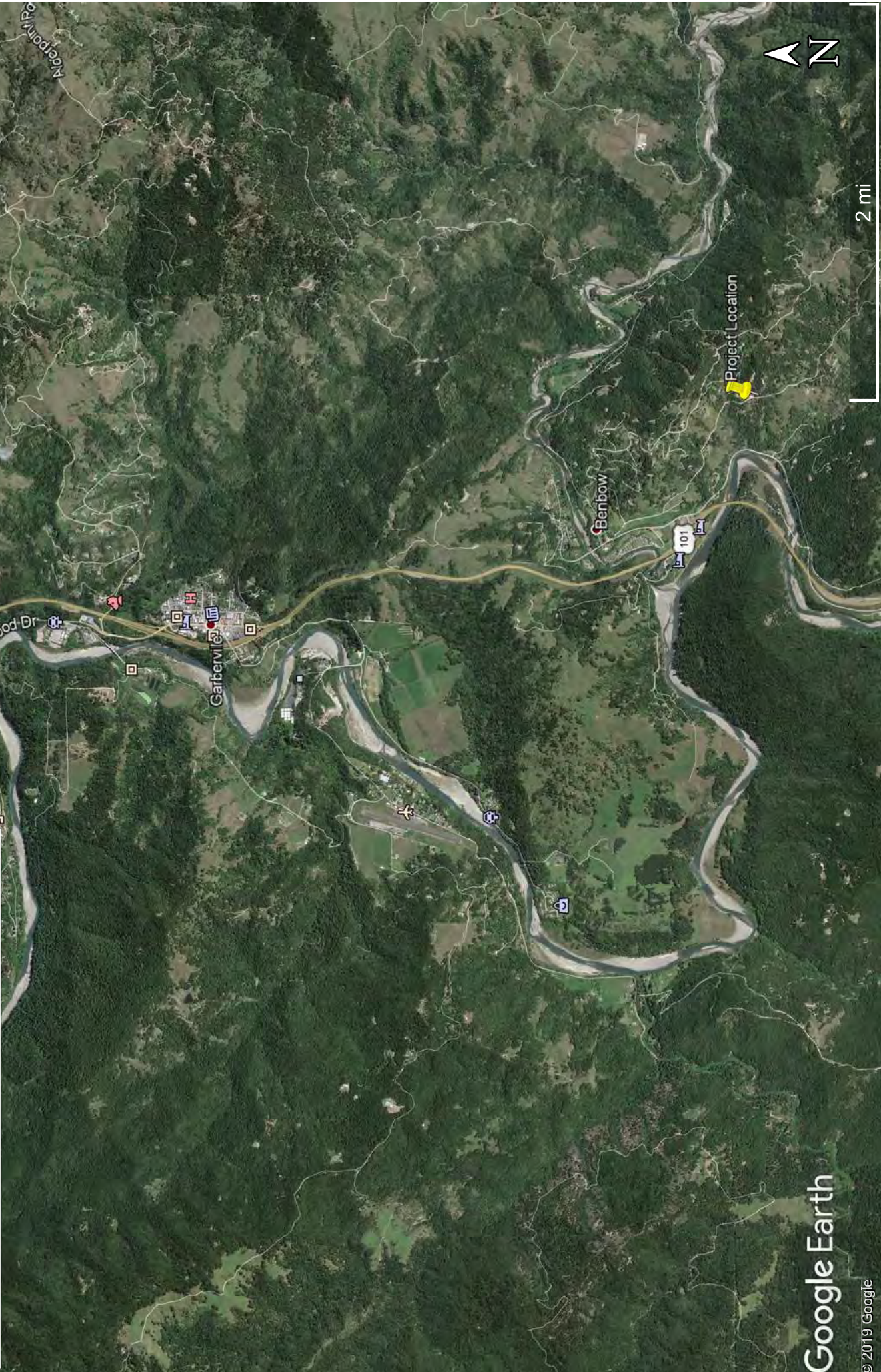
- Monitor the site before and after runoff-generating rainfall events to verify suitable and appropriate functioning of all erosion-control measures.
- Promptly repair all erosion-control measures as needed.

# Exhibit A



# Location Map - Bear Butte Farms

200 Thisle Lane  
Benbow, California  
APN 033-140-008

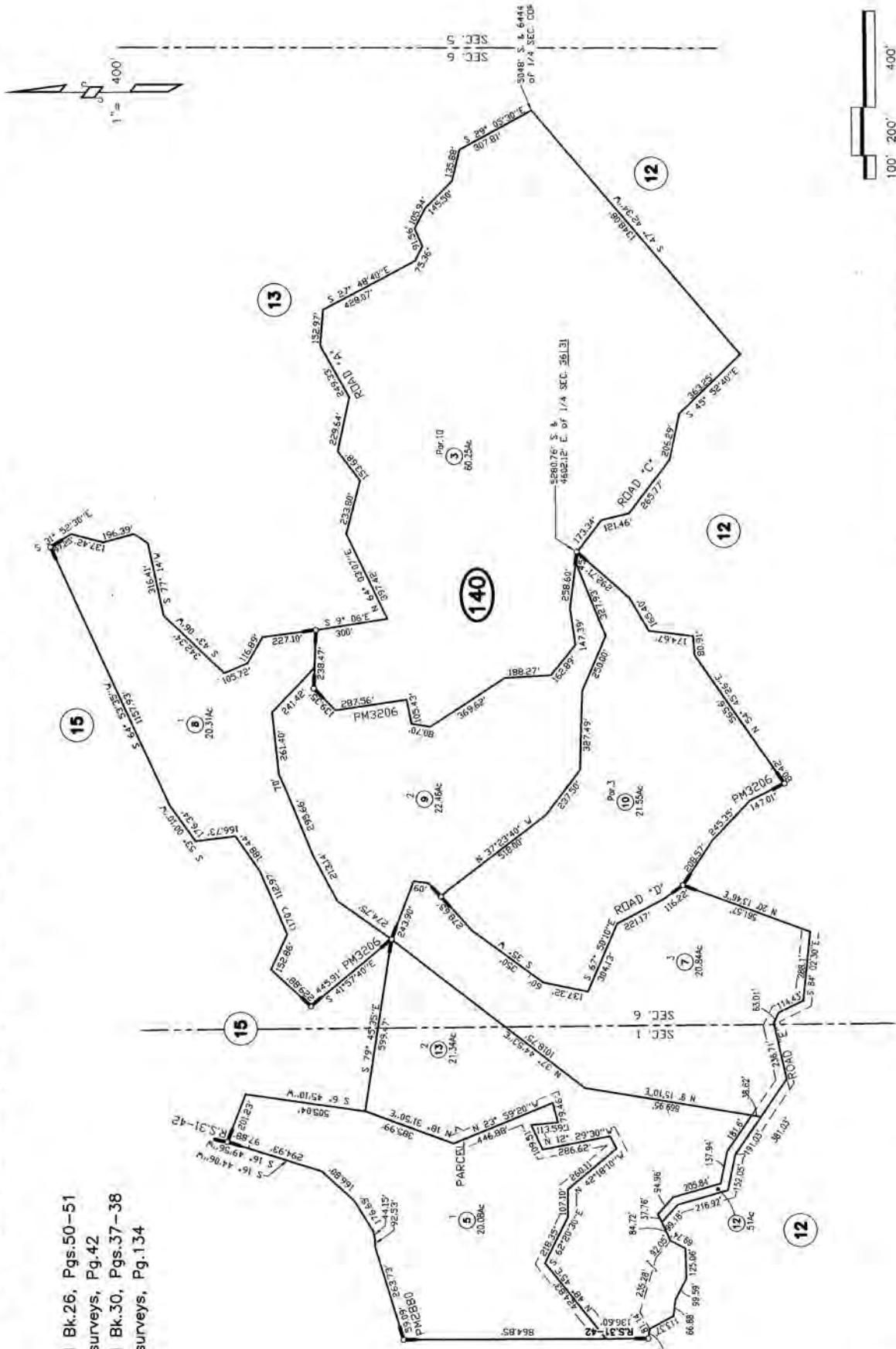




# Exhibit B

PTN OF SECS.1, T5S, R3E & SEC.6, T5S, R4E H.B.& M.

PM2880 of PM Bk.26, Pgs.50-51  
RS, Bk.31 of surveys, Pg.42  
PM3206 of PM Bk.30, Pgs.37-38  
RS, Bk.61 of surveys, Pg.134

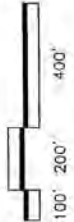


**ASSESSOR'S PARCEL MAP**

1. THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY.
2. THE ACCURACY OF THE DATA SHOWN, AS ASSUMED FOR THIS MAP, IS NOT GUARANTEED.
3. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

NOTE - Assessor's Black Numbers Shown in Ellipses  
Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Bk.33, Pg.14  
County of Humboldt, CA.



4

Jun 24, 2003

# Exhibit C

# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** I  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 1019.54 ft (NAVD 88)  
**Latitude:** 40.06  
**Longitude:** -123.7725





## Seismic

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**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

$S_s$ :	1.837	$S_{D1}$ :	N/A
$S_1$ :	0.814	$T_L$ :	12
$F_a$ :	1.2	PGA :	0.737
$F_v$ :	N/A	PGA <sub>M</sub> :	0.884
$S_{MS}$ :	2.205	$F_{PGA}$ :	1.2
$S_{M1}$ :	N/A	$I_e$ :	1
$S_{DS}$ :	1.47	$C_v$ :	1.467

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

**Data Accessed:** Wed Jan 22 2020

**Date Source:** [USGS Seismic Design Maps](#)



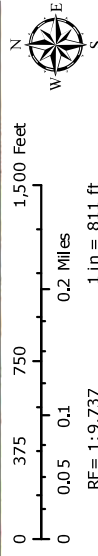
The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

# Exhibit D





- Highways and Roads**
- Principal Arterials
  - Minor Arterials
  - Major Collectors
  - Minor Collectors
  - Local Roads
- Blue Line Streams**
- Perennial 1-3
  - Perennial >4
  - Intermittent
- Topographic Contours 40ft**
- Minor Interval
  - Major Interval
- Subsurface**
- Private or Unclassified
  - Major River or Stream
  - City Boundary
  - Counties
  - Parcels
  - Parcels (no APN labels)
  - Historic Landslides

**ArcGIS Web Map**

Humboldt County Planning and Building Department

Printed: January 22, 2020      Web AppBuilder 2.0 for ArcGIS

Sources: NRCs, Humboldt County GIS, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FRAP, FEMA, USGS

Map Disclaimer: While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.