



**CASE:** CDP 2023-0040  
**OWNER:** WEINTRAUB, Jeremy & Miranda  
**APN:** 027-361-15  
**APLCT:** Jeremy & Miranda Weintraub  
**AGENT:** Wynn Coastal Planning  
**ADDRESS:** 45400 Bill Owens Rd.

Coastal Zone Boundary  
 Highways  
 Major Roads

0 2,800 5,600 Feet  
 0 0.5 1 Miles  
 1:63,360  
 N  
 W E  
 S

LOCATION

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027-361-30  
FISHER LINDSEY A  
21.27 A±

027-361-28  
SIMONI STEPHEN D AND JACKIE  
29.26 A±

027-361-04  
DEWITT DAVID  
33.7 A±

027-361-05  
EATON JOSEPH H  
24.23 A±

027-361-07  
MARTIN KELLE 2/3  
38.62 A±

027-361-31  
MARTIN KELLE  
20.99 A±

027-361-32  
FORDHAM MICHAEL J  
20.18 A±

027-361-08  
HUNTER ROBERT E II AND JILL  
19.54 A±

027-361-34  
LEE RHONDA 1/4  
5.16 A±

027-361-35  
ALVAREZ TTEE PAMELA FAITH  
33.92 A±

027-361-12  
OWENS WILLIAM L JR AND MARGA  
38.78 A±

027-361-13  
SEXTON DANIEL J  
9.57 A±

027-361-16  
BROWNING KENNETH TTEE /  
9.84 A±

027-361-17  
RICCI MARK N 1/2  
9.84 A±

027-361-14  
SEXTON DANIEL J  
9.57 A±

027-361-15  
WEINTRAUB TTEE JEREMY  
19.14 A±

027-361-18  
HENDERSON TTEE MICHAEL HOLLIDAY  
9.84 A±

027-361-21  
ABRAMS GEORGE MICHAEL 1/2  
9.84 A±

LIFE E

027-361-23  
BAKER JOHN A AND GLORIA T  
5.53 A±

027-443-01  
OWENS WILLIAM L JR AND MARGA  
37.8 A±

027-443-02  
WORTHEN BEATRICE  
37.45 A±

027-443-03  
PETERS AARON AND THERESA HEATH  
38.8 A±

027-443-04  
BAKER JOHN A AND GLORIA T  
38.4 A±

027-443-05  
BOLLOCK MAX TTEE  
29.4 A±

027-443-06  
WHITESIDE HERON FOX AND MARY  
9.1 A±

027-443-30  
ROMICK TTEE CARL M  
20 A±

027-443-31  
REIMULLER PETER D TTEE /  
20 A±

027-443-32  
REIMULLER PETER D TTEE /  
20.67 A±

027-443-RW  
0 A±

0 270 540 Feet  
0 0.05 0.1 Miles  
1:6,000  
N  
W E  
S

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Assessors Parcels

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ADJACENT PARCELS



Source: Esri, Maxar, Earthstar Geographies, IGN, and the GIS User Community

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— Public Roads  
- - - Private Roads  
- - - - Driveways/Unnamed Roads

0 450 900 Feet  
0 0.075 0.15 Miles  
1:10,000

AERIAL IMAGERY

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Source: Esri, Maxar, Earthstar Geographies, IGN, and the GIS User Community

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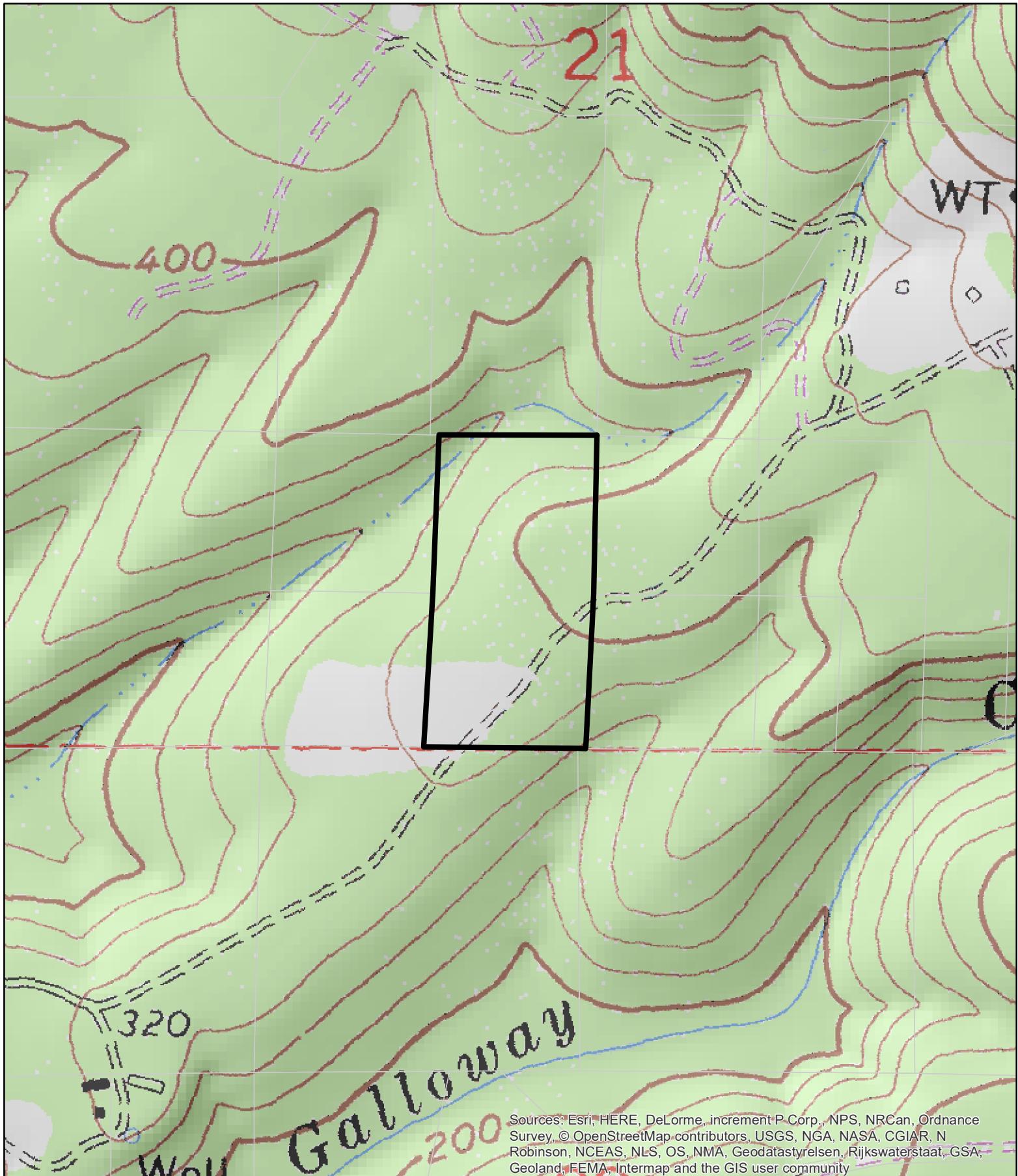
— = — Private Roads

— · · · · Driveways/Unnamed Roads

0 75 150 Feet  
0 0.0125 0.025 Miles  
1:1,754.49  
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AERIAL IMAGERY

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ADDRESS: 45400 Bill Owens Rd.

0 270 540 Feet  
0 0.05 0.1 Miles



1:6,000

TOPOGRAPHIC MAP  
CONTOUR INTERVAL IS 40 FEET

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Zoning Districts



Assessors Parcels

— Public Roads

- - - - Private Roads

0

270

540

Feet

0

0.05

0.1

Miles

1:6,000



**ZONING**

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**RMR 20**

**RR 10**

**FL 160**

*BILL OWENS ROAD*

*SCHOONER-GULCH ROAD*

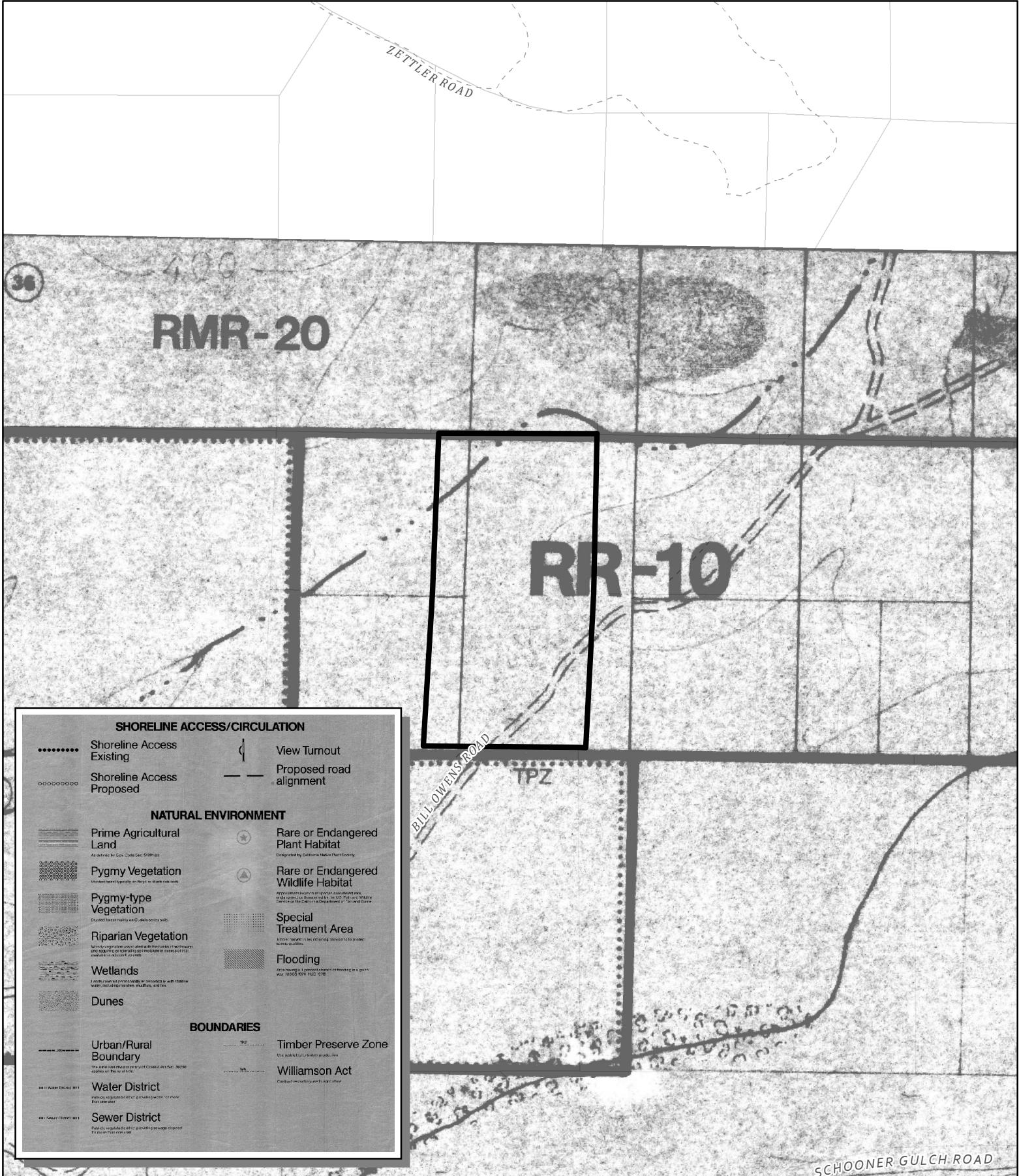
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**ADDRESS: 45400 Bill Owens Rd.**

— Public Roads  
- - - Private Roads  
■ Assessors Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
1:6,000  
N  
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**GENERAL PLAN**

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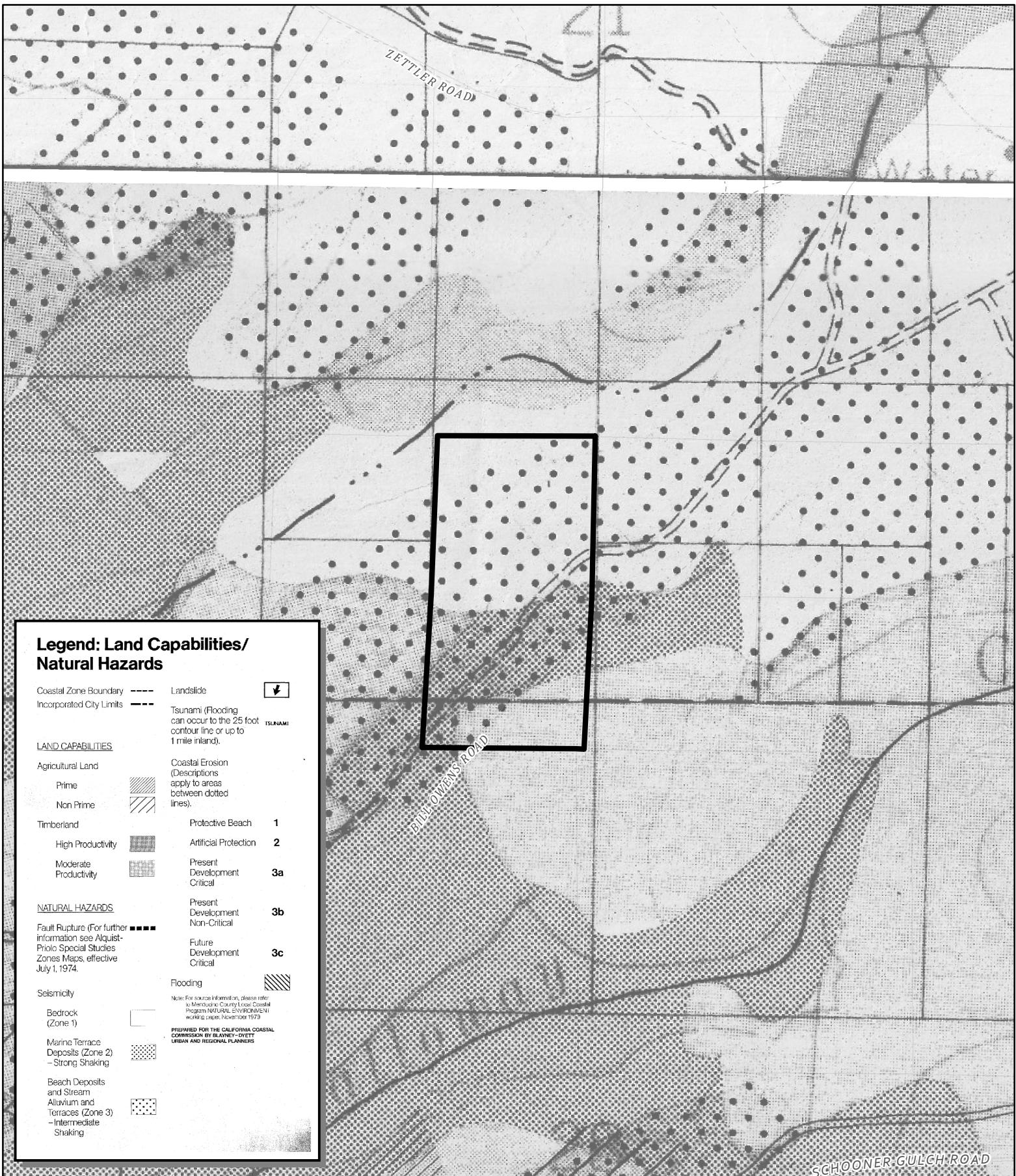
**CASE: CDP 2023-0040**  
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**APLCT: Jeremy & Miranda Weintraub**  
**AGENT: Wynn Coastal Planning**  
**ADDRESS: 45400 Bill Owens Rd.**

— Public Roads  
 - - - Private Roads  
 □ Assessors Parcels

0 270 540 Feet  
 0 0.05 0.1 Miles  
 N E  
 S W  
 1:6,000

LCP LAND USE MAP 31: GULCH

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**CASE: CDP 2023-0040**

**OWNER: WEINTRAUB, Jeremy & Miranda**

**APN: 027-361-15**

**APLCT: Jeremy & Miranda Weintraub**

**AGENT: Wynn Coastal Planning**

**ADDRESS: 45400 Bill Owens Rd.**

Public Roads

Private Roads

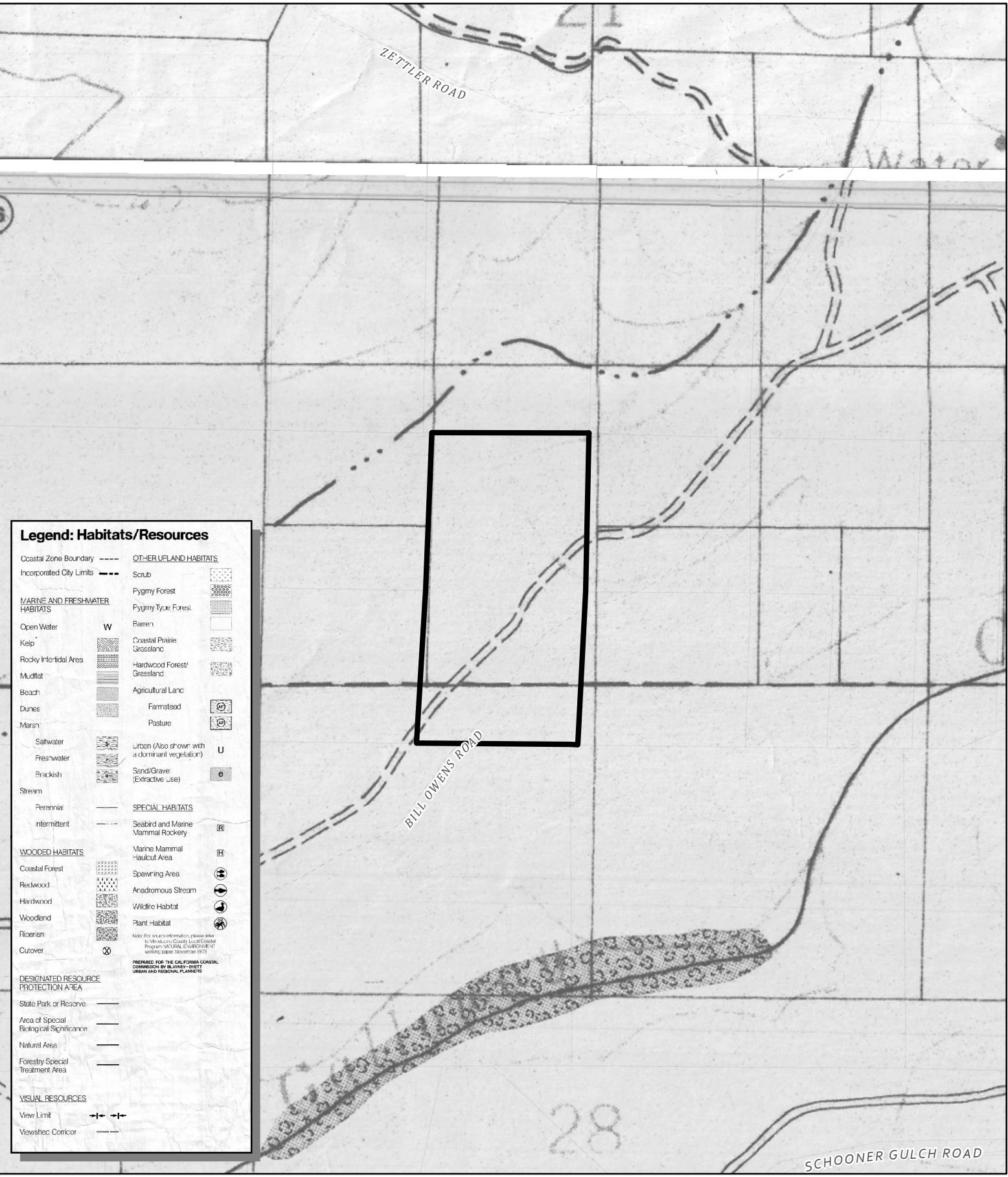
Assessor's Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
N E  
W S  
1:6,000

**LCP LAND CAPABILITIES & NATURAL HAZARDS**

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CASE: CDP 2023-0040

OWNER: WEINTRAUB, Jeremy & Miranda

APN: 027-361-15

APN: 027-381-15  
APLCT: **Jeremy & Miranda Weintraub**

**AGENT: Wynn Coastal Planning**

**ADDRESS: 45400 Bill Owens Rd.**

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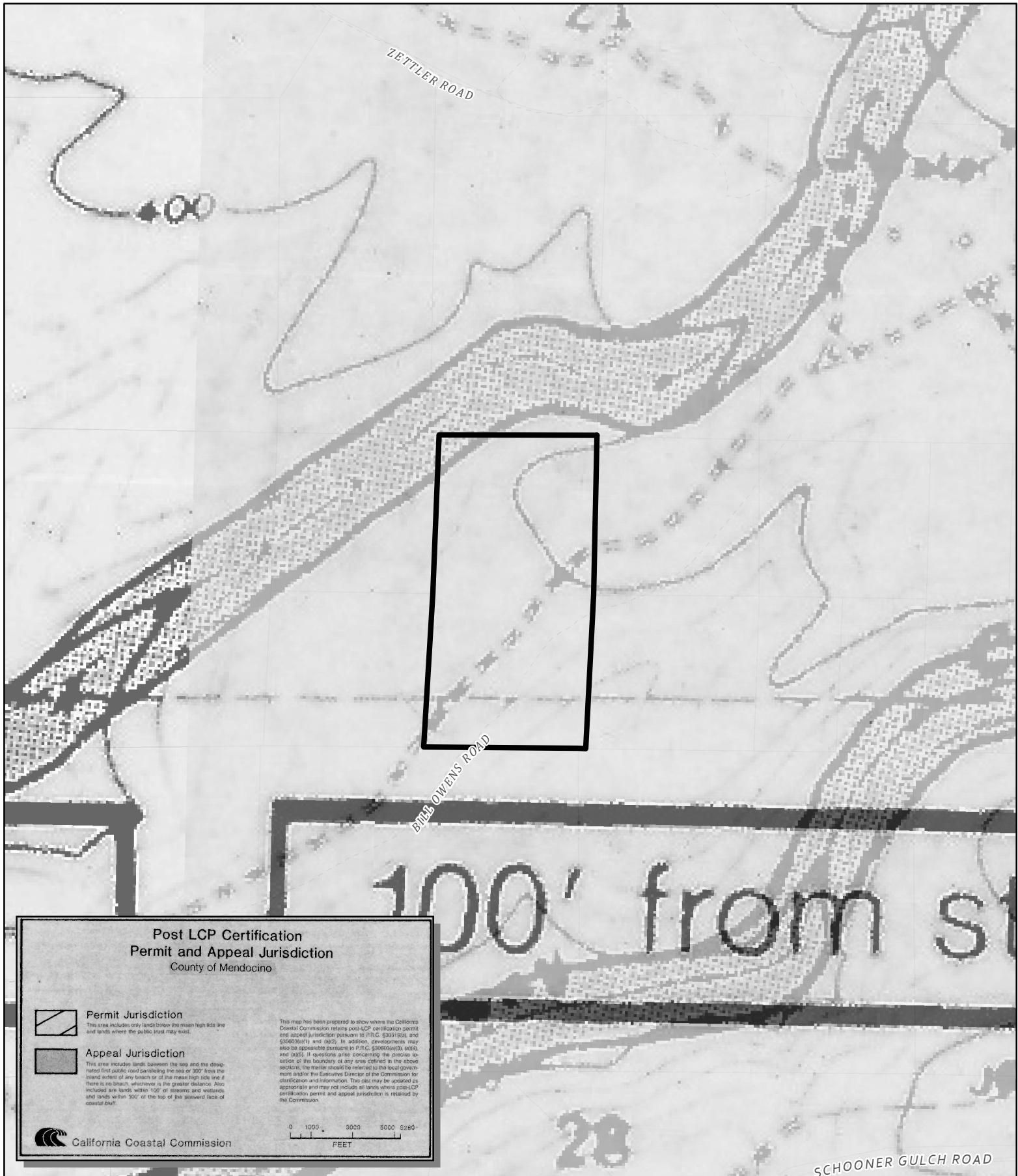
## Public Roads

## Private Roads

## Assessors Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
N  
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1:6,000

## LCP HABITATS & RESOURCES



**CASE: CDP 2023-0040**  
**OWNER: WEINTRAUB, Jeremy & Miranda**  
**APN: 027-361-15**  
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**AGENT: Wynn Coastal Planning**  
**ADDRESS: 45400 Bill Owens Rd.**

— Public Roads  
 - - - Private Roads  
 □ Assessors Parcels

**POST LCP CERTIFICATION & APPEAL JURISDICTION**

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REDWOOD COAST FIRE PROTECTION DISTRICT



**CASE: CDP 2023-0040**

**OWNER: WEINTRAUB, Jeremy & Miranda**

**APN: 027-361-15**

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**AGENT: Wynn Coastal Planning**

**ADDRESS: 45400 Bill Owens Rd.**



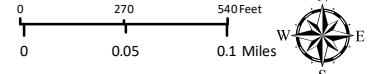
High Fire Hazard



County Fire Districts



Assessors Parcels

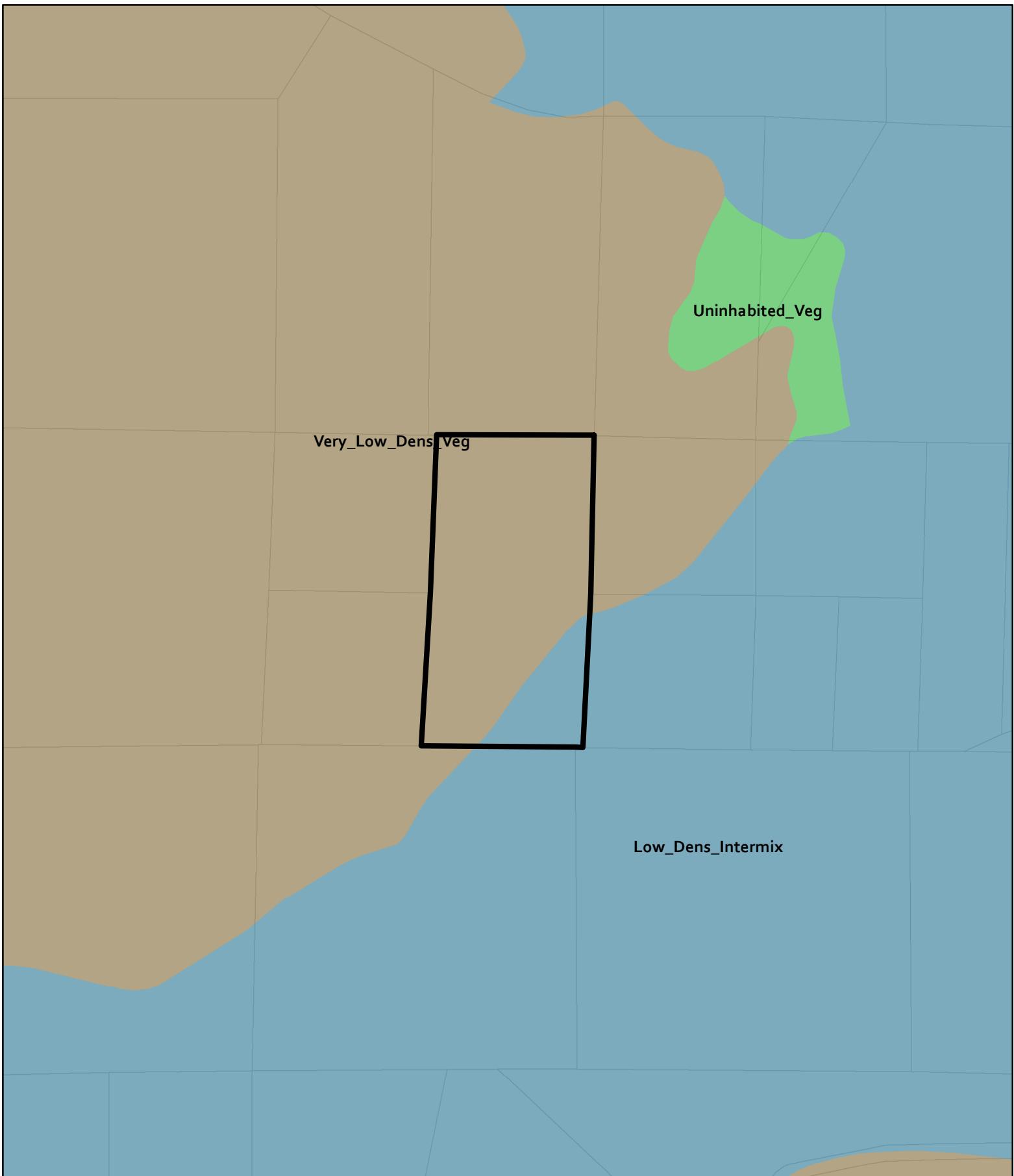


**FIRE HAZARD ZONES & RESPONSIBILITY AREAS**  
STATE RESPONSIBILITY AREA

1:6,000

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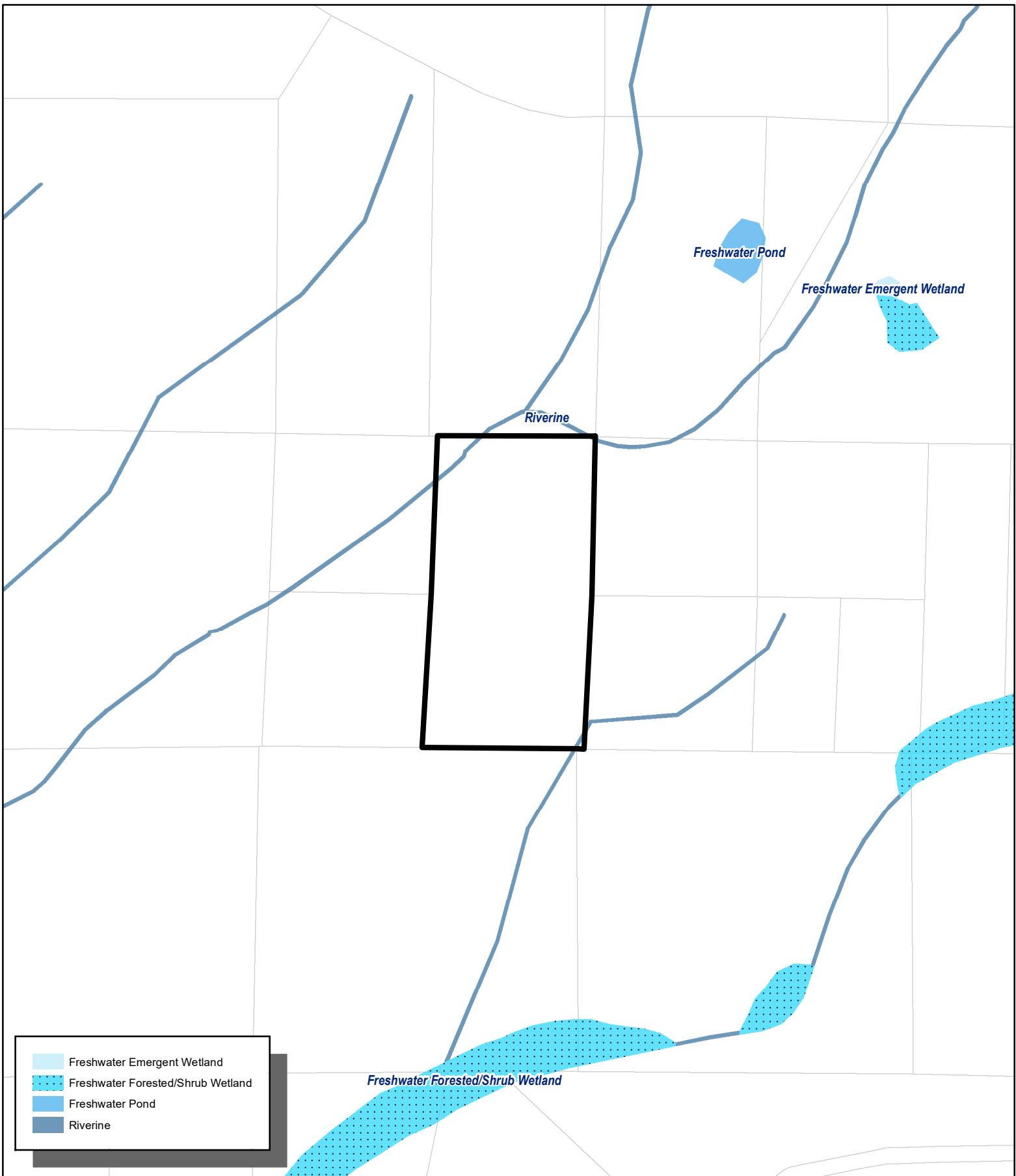
Assessor's Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
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WILDLAND-URBAN INTERFACE

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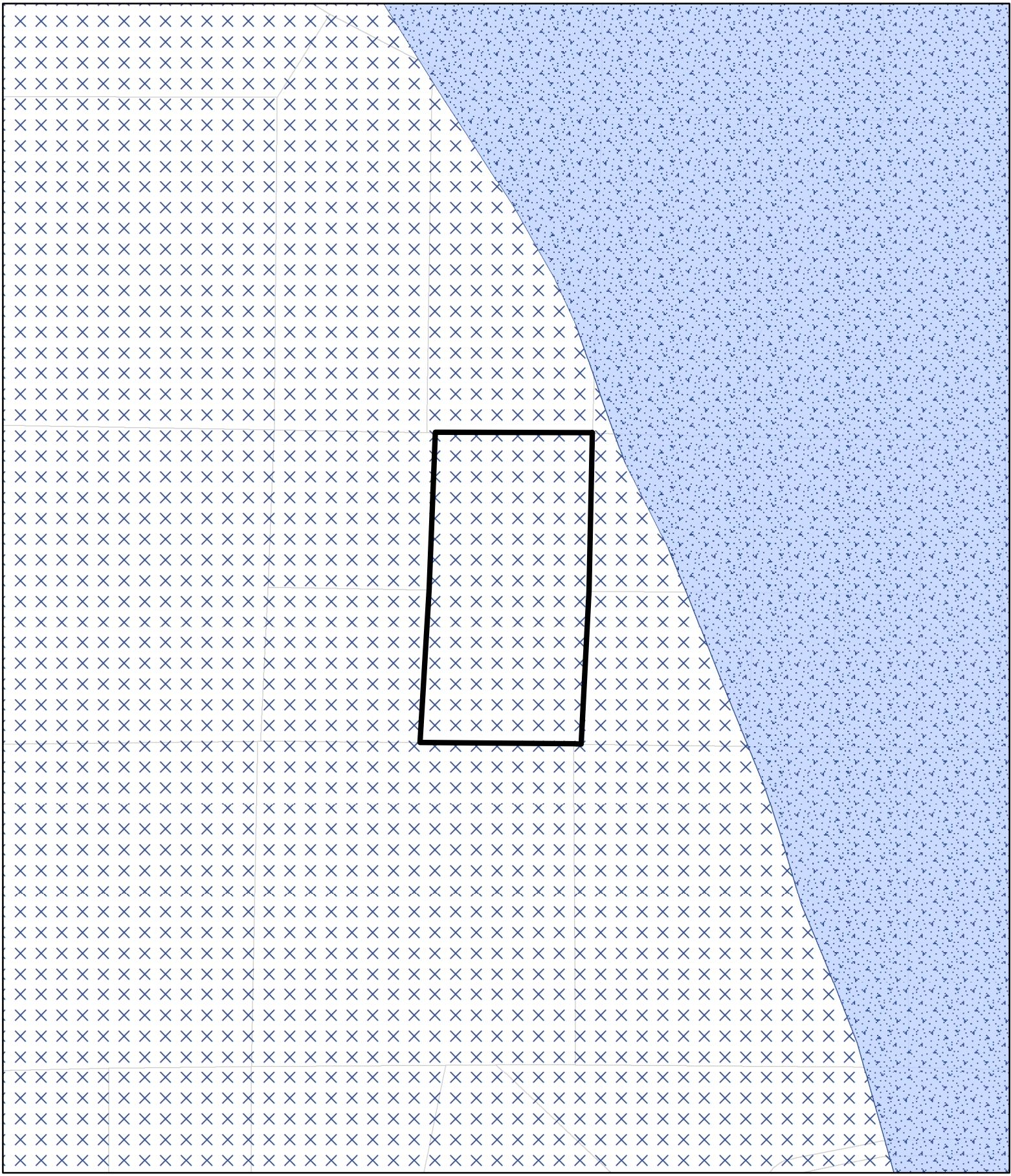


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Assessors Parcels

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**WETLANDS**



**CASE: CDP 2023-0040**

**OWNER: WEINTRAUB, Jeremy & Miranda**

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**AGENT: Wynn Coastal Planning**

**ADDRESS: 45400 Bill Owens Rd.**



Critical Water Resources



Critical Water Resources Bedrock



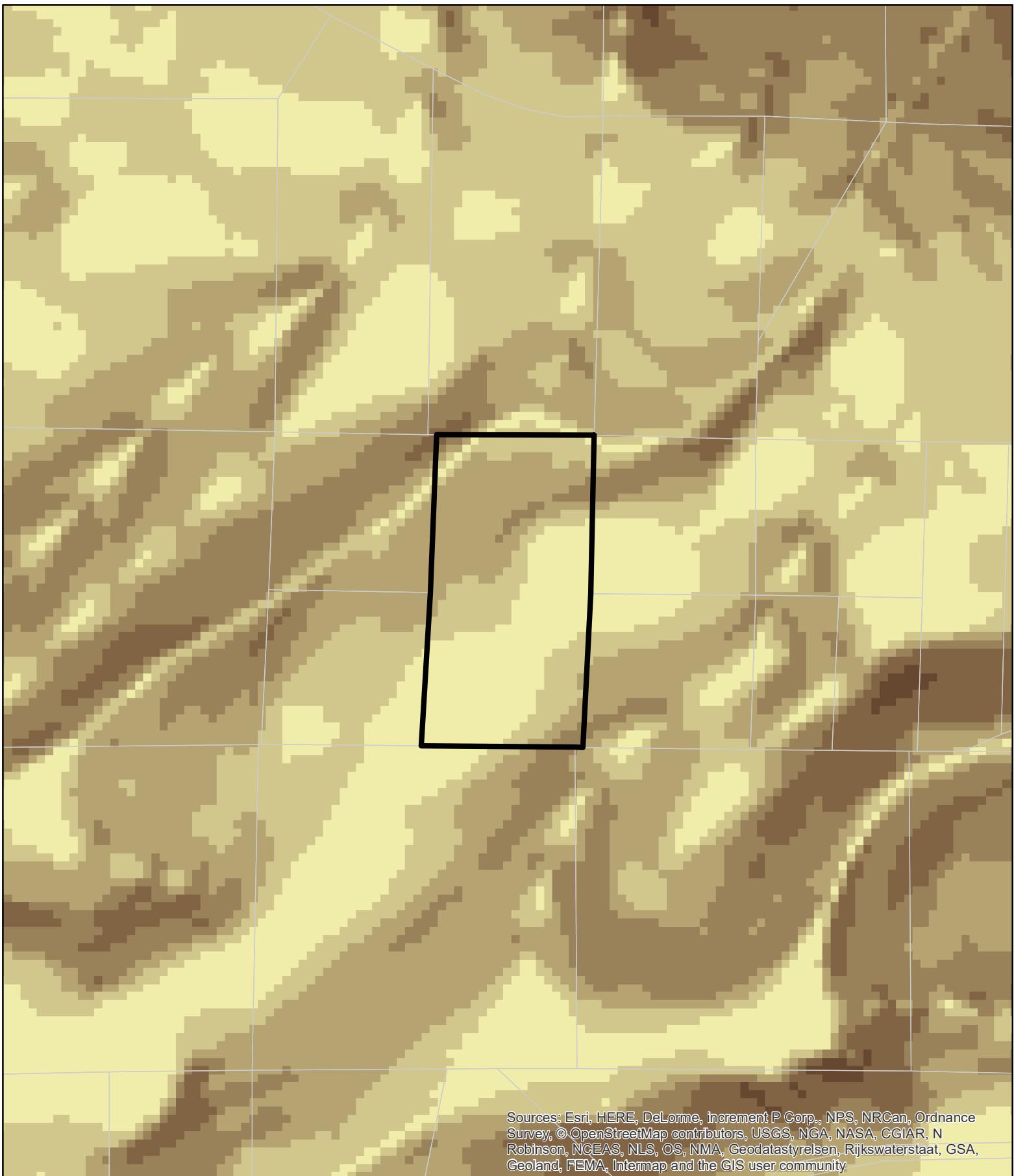
Assessors Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
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COASTAL GROUND WATER RESOURCES

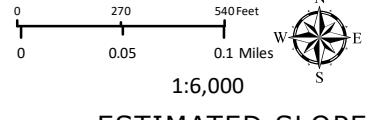
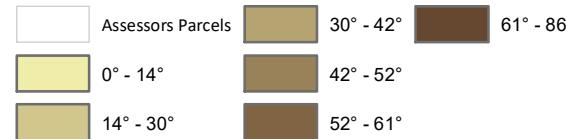
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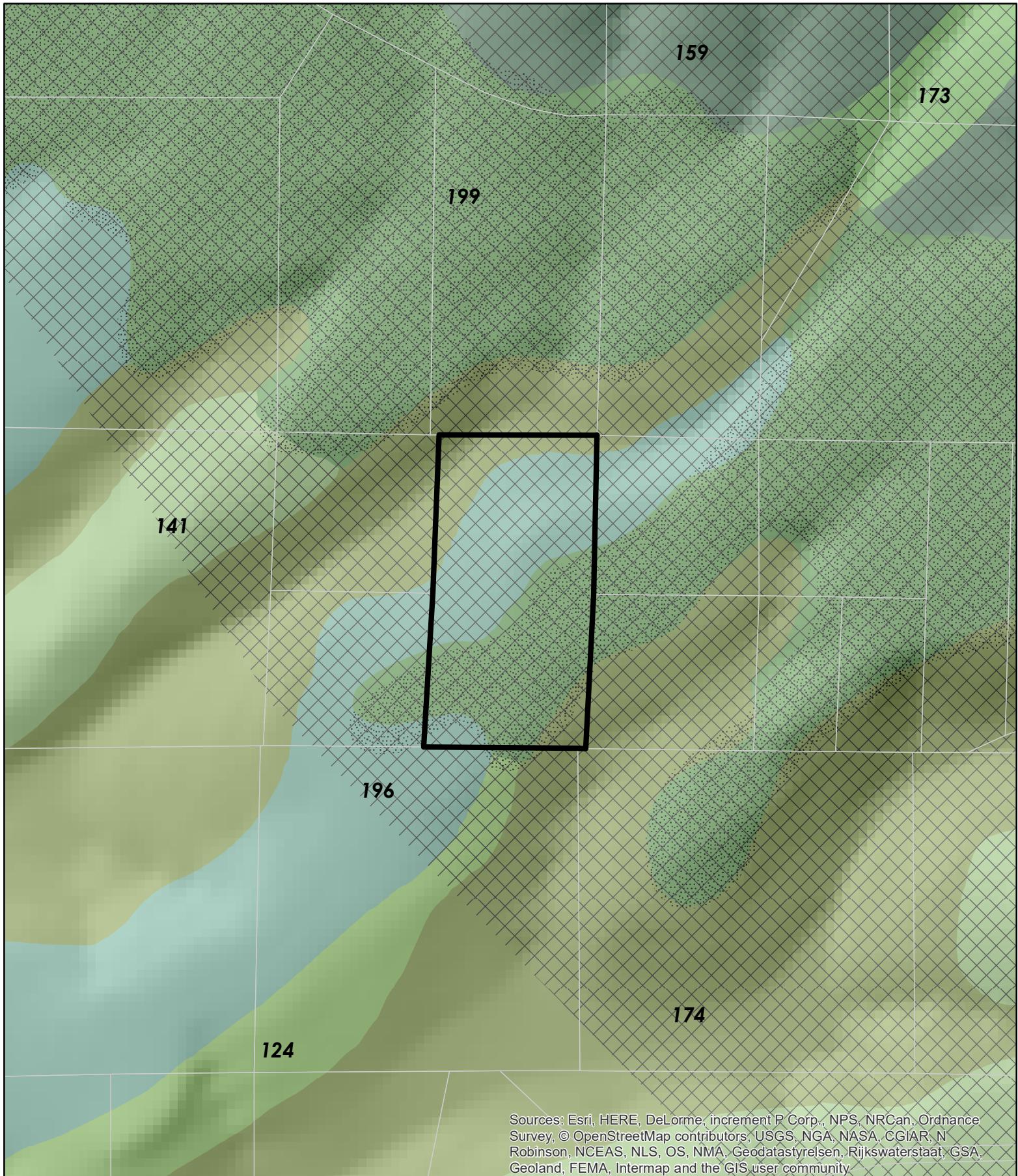
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ESTIMATED SLOPE

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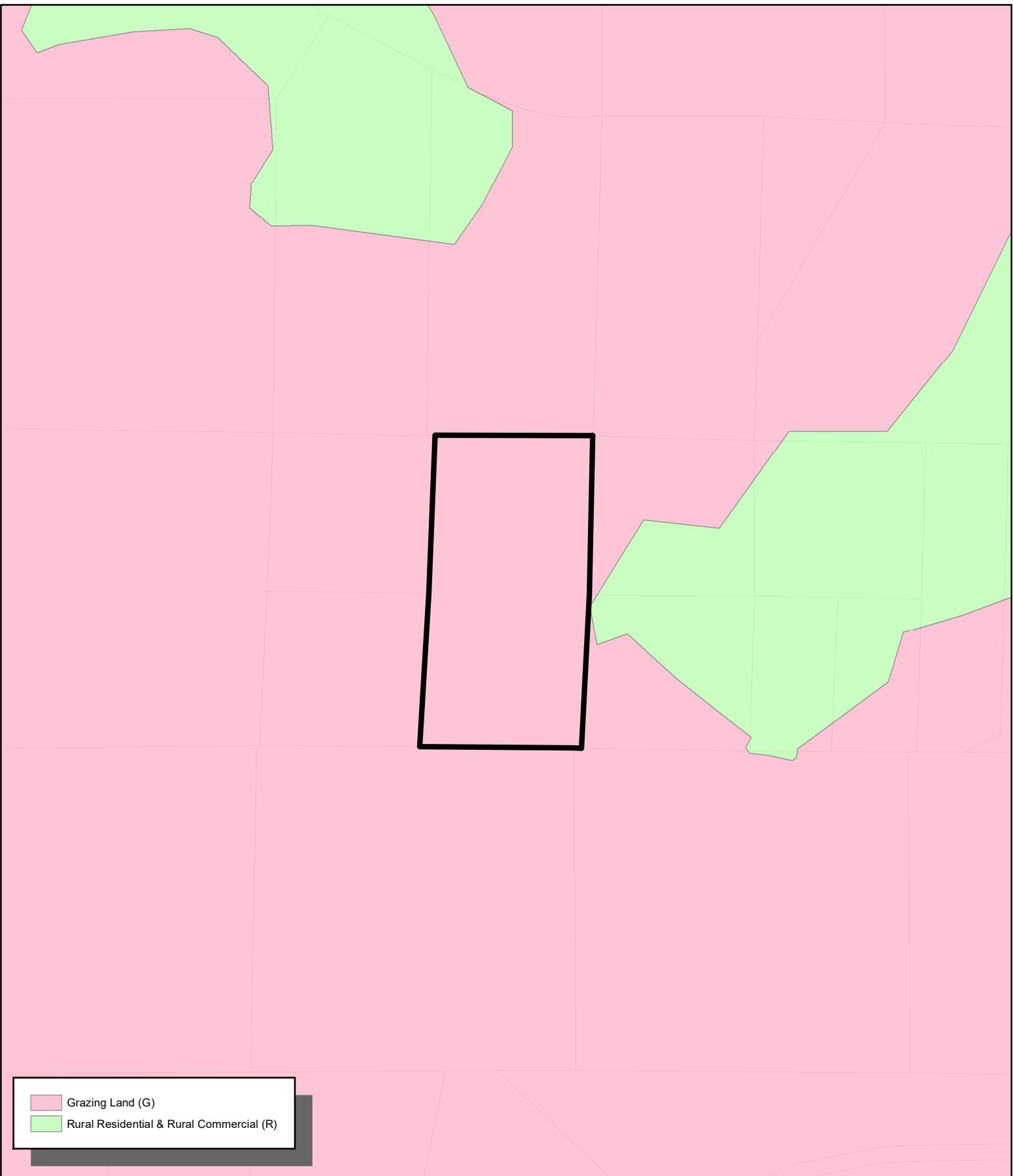
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 ADDRESS: 45400 Bill Owens Rd.

Assessor's Parcels  
 Shinglemill-Gibney Complex  
 Bishop Pine

0 270 540 Feet  
 0 0.05 0.1 Miles  
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WESTERN SOIL CLASSIFICATIONS

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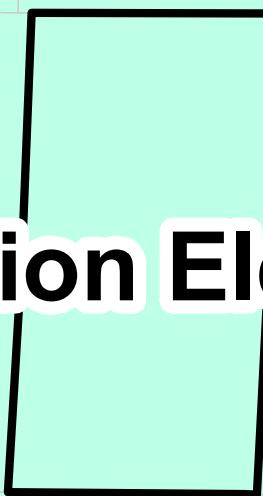


Assessors Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
N E  
W S  
1:6,000

**IMPORTANT FARMLANDS**

# Arena Union Elementary



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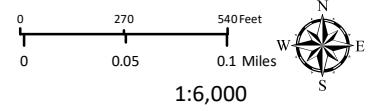
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AGENT: Wynn Coastal Planning

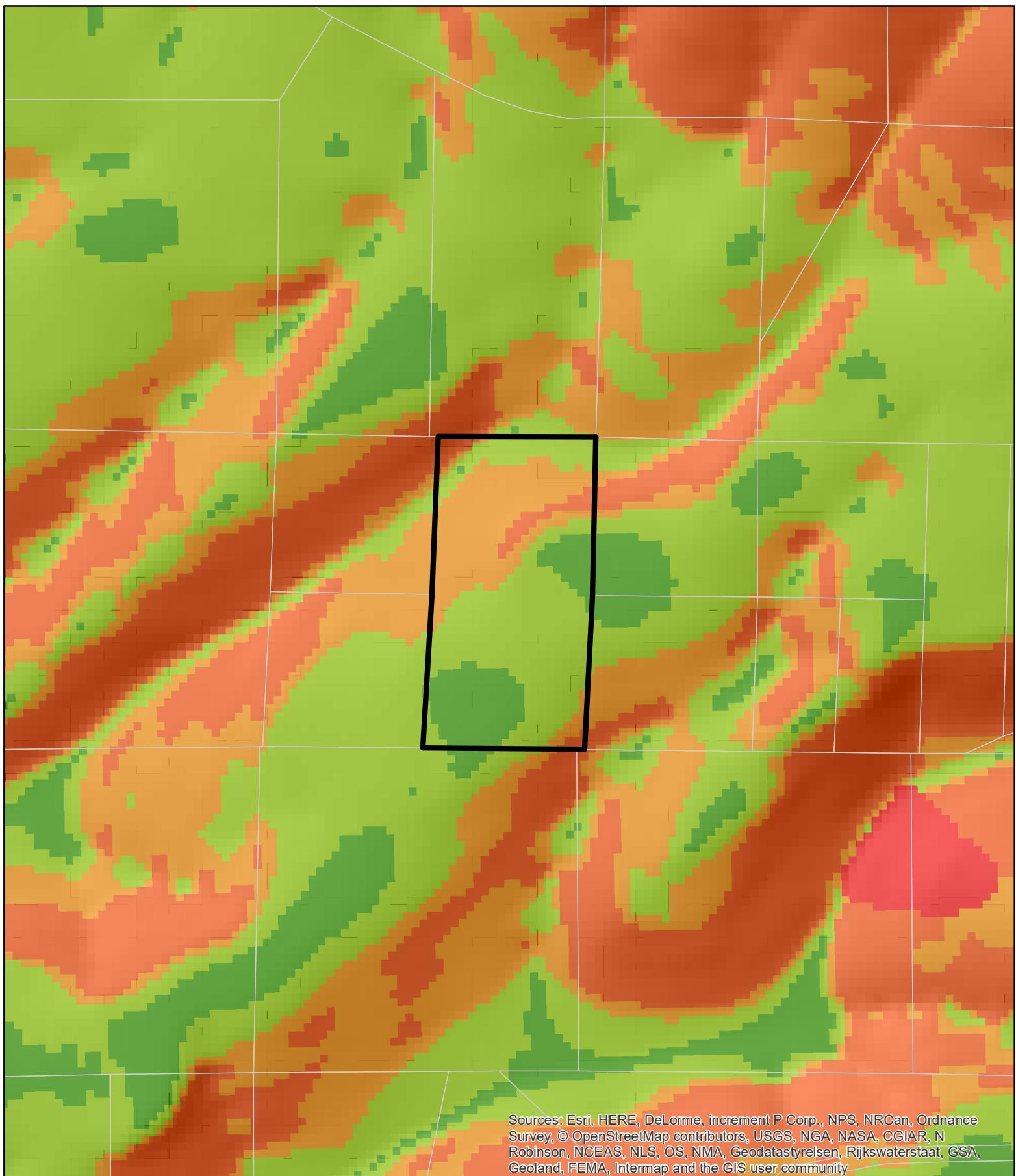
ADDRESS: 45400 Bill Owens Rd.



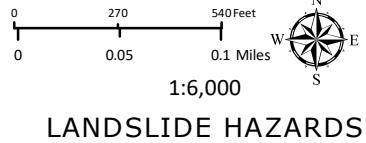
Assessor's Parcels

SCHOOL DISTRICT

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**BOTANICAL SCOPING, WETLAND DELINEATION, AND BIOLOGICAL SCOPING SURVEY REPORT**

FOR

45400 BILL OWENS ROAD  
POINT ARENA, CA  
MENDOCINO COUNTY  
APN 027-361-15



*prepared for:*  
Jeremy and Miranda Weintraub

*prepared by:*  
Spade Natural Resources Consulting  
Teresa R Spade, AICP  
611 Albion Street  
PO Box 1503  
Mendocino, CA 95460  
(707) 397-1802  
spadenrc@gmail.com

January 25, 2021

## TABLE OF CONTENTS

### Contents

1.0 Summary and Background.....	3
2.0 Project Site Description .....	4
3.0 Methods.....	5
<b>3.2 WILDLIFE SCOPING SURVEY .....</b>	<b>5</b>
<b>3.2 BOTANICAL SURVEY .....</b>	<b>5</b>
<b>3.3 WETLAND DELINEATION.....</b>	<b>8</b>
4.0 Survey Results .....	13
5.0 Discussion.....	27

### FIGURES

Figure 1. Project location.....	4
Figure 2. USFWS NWI wetland map in project area. ....	12
Figure 3. Save the Redwoods League redwood forest distribution map. ....	15
Figure 4. California Department of Fish and Wildlife National Vegetation Classification System Map of California.....	15
Figure 5. Male and female lotis blue butterflies .....	16
Figure 6. Male and female Behren's silverspot butterflies (photo credit SpadeNRC). ....	16
Figure 7. Northern spotted owl (Photo credit: US Fish and Wildlife Service file photograph. ....	20
Figure 8. Map of Northern spotted owl sightings near project area. ....	21
Figure 9. Stream and wetland data point locations. ....	24
Figure 10. Vegetation alliance map with streams.....	26

### APPENDICES

Appendix A. Scoping Tables
Appendix B. References
Appendix C. Soil Report
Appendix D. Wetland Data Sheets

## 1.0 Summary and Background

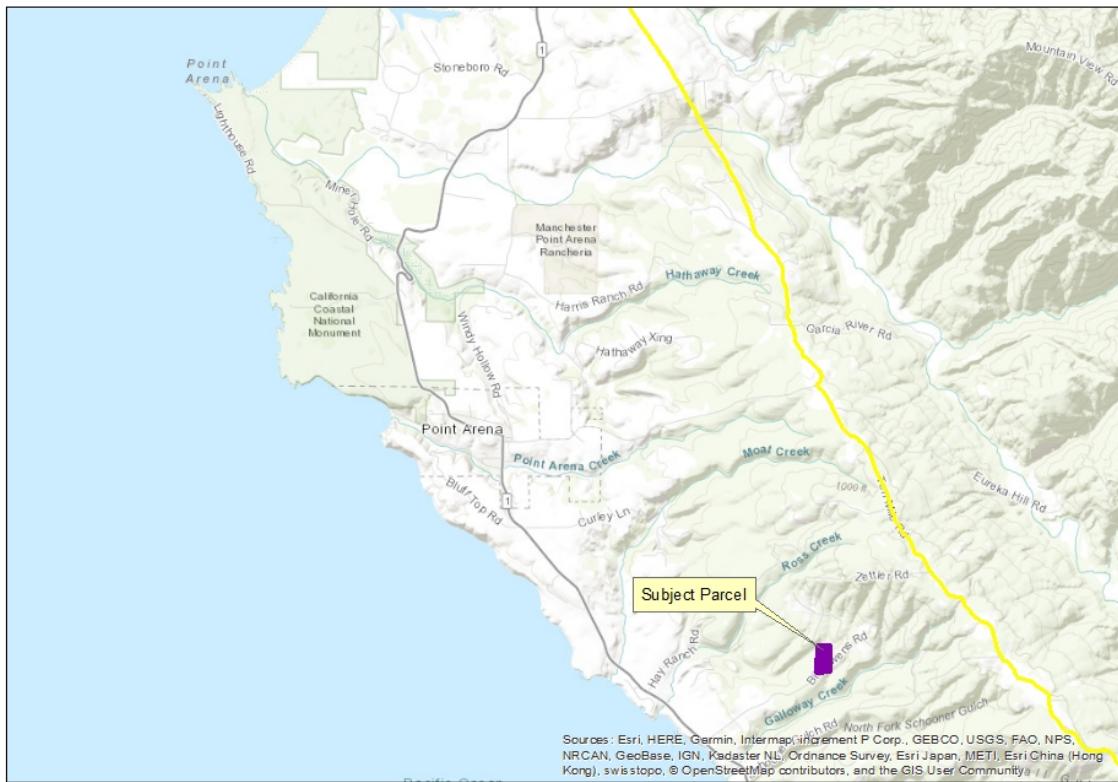
On November 6 and November 20, 2020, botanical and biological scoping surveys occurred at 45400 Bill Owens Road in Point Arena (APN 027-361-15). A wetland delineation occurred on November 20, 2020. The survey was conducted in areas within 100 feet of the development area as shown on the site plan. The purpose of the survey effort was to determine whether any natural resource constraints were present at the property that may impact proposed development, which consists of a proposed single-family residence and associated development.

The property is located in the Coastal Zone, east of Highway 1, and is undeveloped.

The property is vegetated by redwood forest. No special status plants were found within 100 feet of the proposed project area during scoping efforts, however additional botanical surveys are still needed in May and June of 2021. Special status wildlife habitat within 100 feet of the project area includes migrating habitat for California red legged frog, red bellied newt, California giant salamander, nesting birds, Townsend's big-eared bat and other special status bats. A buffer area of 100 feet is recommended to the streams on the property.

The biological scoping survey and wetland delineation has been conducted to facilitate the issuance of a permit to build within the Coastal Zone in Mendocino County. Mapping locations are approximate and a professional survey is recommended for accuracy. The determinations outlined in this study reflect the professional opinion of Spade Natural Resources Consulting. Agencies may need to be consulted to determine if they are in agreement.

## Weintraub Location Map 45400 Bill Owens Road



### Legend

- Subject Parcel (purple square)
- Coastal Zone Boundary (yellow line)

0 0.5 1 2 3 4 Miles



**Figure 1. Project location.**

## 2.0 Project Site Description

### 2.1 GENERAL SITE DESCRIPTION

The 19.14-acre property is located in the Coastal Zone, east of Highway 1, and is undeveloped. The property is about 4.5 miles south of Point Arena and about 1.5 miles east of Highway One on Bill Owens Road. Bill Owens Road runs through the flat portion of the property. On both the northwest and southeast sides of the property, the property slopes downward towards streams.

### 2.2 VEGETATION, HYDROLOGY, AND SOILS

In the vicinity of the building envelope, the property is forested with redwood forest. A tributary to Galloway Creek is present just southeast of the property, and a tributary to Ross Creek is present in the northwest corner of the property. Soils are mapped as Shinglemill-Gibney Complex, 2 to 9 percent slopes, and Quinliven-Ferncreek Complex, 2 to 15 percent slopes in the vicinity of the project area as shown in the NRCS Custom Soil Resource Report, included as Appendix E. Some soils within the Shinglemill-Gibney Complex are considered hydric soils, including Shinglemill (45%), Tregoning (5%), and Tropaquepts (5%).

## 3.0 Methods

### 3.1 WILDLIFE SCOPING SURVEY

Wildlife scoping surveys were based on the scoping lists in Tables 1-3 in Appendix A, and were conducted within the building envelope. The investigator, Teresa R. Spade, has a Bachelor's Degree in Natural Resources Planning and Interpretation.

Surveys were conducted by walking the project area and areas within 100 feet, and documenting all observed habitat for special status wildlife species.

### 3.2 BOTANICAL SURVEY

Survey methodology was informed by guidance provided in the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018).

Per the CDFW 2018 protocol, special status plants, for the purposes of this document, include all plants that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under the Endangered Species Act (ESA) or candidates for possible future listing as threatened or endangered under the ESA (50 C.F.R., § 17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). In CESA, “endangered species” means a native species or subspecies of plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish & G. Code, § 2062). “Threatened species” means a native species or subspecies of plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). “Candidate species” means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).
- Listed as rare under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish & G. Code, § 1901).

- Meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d), including:
  - Plants considered by CDFW to be “rare, threatened or endangered in California.” This includes plants tracked by the California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1 or 2;
  - Plants that may warrant consideration on the basis of declining trends, recent taxonomic information, or other factors. This may include plants tracked by the CNDDB and CNPS as CRPR 3 or 4.
- Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include plants that are at the outer limits of their known geographic range or plants occurring on an atypical soil type.

To the extent possible, natural communities or vegetation alliances are described and mapped based on the online Manual of California Vegetation (Sawyer and Keeler Wolf, 2009). Sensitive natural communities are determined by the most current version of the California Department of Fish and Wildlife’s List of California Terrestrial Natural Communities found online at the VegCamp website.

Surveys were based on the scoping lists in Tables 1-3 in Appendix A, and were conducted in the areas of the proposed development and areas within 100 feet. The investigator was Teresa R. Spade, AICP. Teresa R. Spade has a BS degree in Natural Resources Planning and Interpretation. She has 15 years of experience working in land use planning and natural resources, and is a certified planner per the American Institute of Certified Planners. She has contributed to hundreds of coastal development projects in Mendocino County. She has been trained in Army Corps wetland delineation by Richard Chinn Environmental Training in Sacramento, CA. She is on the Fish and Wildlife Service approved list for Point Arena mountain beaver surveys and has surveyed for the Federally Endangered Behren’s silverspot butterfly.

### **3.2.1 Botanical Survey Literature Review**

Existing records of special-status plant and animal species occurrences were reviewed to determine which special-status species have the potential to occur in the project vicinity. The following sources were consulted:

- California Native Plant Society (CNPS) Electronic Inventory occurrence records, nine-quad search centering in the Point Arena USGS 7.5 minute quadrangle.

- California Natural Diversity Data Base (CNDDDB) occurrence records for Point Arena 7.5 minute quadrangle.
- Aerial imagery and topographic maps analysis, to gather baseline info regarding habitat in the project area.

### 3.2.2 Botanical Survey Field Methods

The surveys were conducted on November 6 and November 20, 2020, using as guidance the floristic survey protocol recommended in CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (March 20, 2018). **Follow up surveys are expected to occur in May and June of 2021 in order to assure that bloom windows for special status plants with potential for presence have been met.** Field survey schedules to identify special status plants were determined based on the known blooming periods of these species, the geographic location, the natural communities present, and the weather patterns of the year in which the surveys were conducted. Plant species are identified to the taxonomic level necessary to determine rarity and listing status. Nearby accessible known occurrences of sensitive plant species are expected to be observed to determine that the plants are identifiable at the time of the survey.

Botanical surveys are conducted by field observers walking throughout the project area, and areas within 100 feet, in a systematic method sufficient to ensure thorough coverage. All plant species detected within the project area are recorded. The location of any found special status plant or plant community was recorded using a Global Positioning System (GPS) where available, or by use of a detailed map (1:24,000 or larger) showing the locations and boundaries of each special status plant community and population in relation to the project area, with occurrences and boundaries marked as accurately as possible. In areas under the forest canopy, GPS is less accurate. A professional survey by a land surveyor is recommended for a greater degree of accuracy, where special status plants or habitats are found within 100 feet of the project area. Where the number of individual species is small, that number is counted. Where large populations are observed, the number of individuals is estimated. A meter by meter population estimating square is used to estimate larger populations. To the extent possible, information is provided on the percentage of each special status plant in each life stage observed such as seeding, vegetative, flowering, and fruiting. The density of populations is provided, describing whether special status plants are present in a relatively low, medium or high density. Photographs are also taken of special status plants and vegetation alliances, showing identifying features.

For known occurrences, any adverse conditions, such as disease, drought, predation, fire, herbivory or other disturbances that may preclude the presence or identification of potentially present special status plants or vegetation alliances are considered when making a negative finding. If adverse conditions exist during survey efforts, the known occurrence is considered still potentially present until surveys are repeated during

appropriate times of the year for proper identification, when normal conditions are present and known reference sites are consulted to verify that blooms or other identifying features should be visible.

### **3.3 WETLAND DELINEATION**

Surveys were conducted to identify the presence, extent, and quality of waters, including wetlands that may be considered jurisdictional by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act, and areas considered by the California Coastal Commission as Coastal Act wetlands.

This report summarizes the results of the wetland investigation and provides technical documentation for all delineated wetlands. Included in this report are the wetland delineation data necessary for a jurisdictional determination by the Corps, Regional Water Quality Control Board, (RWQCB, or Water Board), California Department of Fish and Wildlife (CDFW), and the California Coastal Commission (CCC). The wetland methodology used in this report is consistent with methods described in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE, 2008) and the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987). This wetland delineation is subject to review and approval by the RWQCB, USACE, CDFW, CCC, and Mendocino County Department of Building and Planning. The maps included in this report were generated from field measurements, aerial photography, Global Positioning System (GPS) data, and existing geospatial datasets.

#### **3.3.1 Wetland Delineation Literature Review**

Imagery - Aerial photographs or satellite imagery can be particularly useful for the identification of saturated soils where plant cover is sparse and ponding or where drainage patterns become evident. Particularly, a comparison of the same site over time and at different times during the year can show areas of inundation or saturation or patterns of vegetation reflecting hydric conditions. Numerous sources of imagery are available such as National Agriculture Imagery Program (NAIP), Land Satellite (LANDSAT), Digital Orthophoto Quadrangles (DOQ), and Google Earth. These types of images are also useful in the identification of riparian vegetation and prominent wetland features that are not accessible or that occur adjacent to but offsite the project area.

The ArcGIS world imagery service layer was used in aerial photo mapping.

Saturation visible on aerial imagery is considered by the Army Corps as a secondary indicator for the presence of hydrology in a study area. These signatures of wetland hydrology can be examined in the office and then confirmed during a field site visit. Prior to the wetland delineation site visit, aerial imagery from GoogleEarth was used to determine any visible saturation in the project area. No visible saturation was observed.

National Wetland Inventory Maps - The USFWS produces wetland maps and geospatial wetland data for the United States and makes these data available to the public (USFWS 2018). Wetlands are primarily mapped by identifying them from aerial imagery and then classified using the Cowardin system (FGDC 2009). These maps are a supplemental tool for onsite wetland investigations and should be used with caution as all wetlands have not been mapped and the maps can be limited by scale.

A USFWS NWI map was created by using the web application (Figure 2) to show its relation to the Study Area.

Soil Survey - NRCS maintains published soil surveys for counties across the United States that provide information on the origin of soils, their composition and texture, and their use for agriculture. Additionally, NRCS maintains the “Hydric Soils List of California,” which lists soils from county soil surveys that are sufficiently wet in the upper part to develop anaerobic conditions during the growing season.

The online database for the national list of hydric soils was reviewed prior to the wetland delineation field visits, and a soil map and report were produced using NRCS’s online Web Soil Survey (NRCS 2020). These reports are useful in determining the composition of the soil map units, which are rarely comprised of entirely the same soil.

A custom soil report for the project area was created using NRCS’s online Web Soil Survey (Appendix E).

### **3.3.2 Wetland Delineation Field Methods**

Section Potential 404 Jurisdictional Wetlands - This delineation study has been conducted in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual (Corps Manual) (Environmental Laboratory 1987) and the Western Mountains, Valleys, and Coast Region (Version 2.0) Regional Supplement (USACE 2010). This study evaluated the presence or absence of indicators of three wetlands parameters described in the Corps Manual. The three parameters used to determine the presence of wetlands are (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. According to the Corps Manual (1987):  
“...[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation.”

Sample points in the study area were established to collect data on vegetation, hydrology, and soils and reported on Western Mountains, Valleys, and Coast Region Corps data forms included in Appendix D. A description of these three indicators is summarized below. The location of these sample points and the extent

of the wetland boundary were recorded using a Wide Area Augmentation System (WAAS) corrected GPS receiver and the area of the delineated wetland was calculated using GIS software.

Hydrophytic Vegetation - The indicator status assigned to a species designates the probability of that species occurring in a wetland. A species with an indicator of OBL, FACW, or FAC is considered to be typically adapted for life in a wetland (hydrophytic vegetation). A species indicator of, FACU and UPL determines an upland species. The wetland occurrence probability and abbreviations utilized in the lists are presented below.

**Table 1. Wetland Indicator Status Groups**

Wetland Indicator Status	Definition
Obligate Wetland (OBL)	Almost always occur in wetlands
Facultative Wetland (FACW)	Usually occur in wetlands, but may occur in non-wetlands
Facultative (FAC)	Occur in wetlands or non-wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland (UPL)	Almost never occur in wetlands

The vegetation at each sampling point was recorded and evaluated for prevalence of hydrophytes using the most recent list of hydrophytic plants (Lichvar 2016).

Hydric Soils - The Natural Resource Conservation Service defines a hydric soil as: “A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.” (Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.) Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils. In each pit distinct soil layer depths were noted and their matrix and mottle colors (if present) were compared to the Munsell soil color chart (GretagMacbeth 2000) for color appearance (hue), intensity (value), and shade (chroma). Redoximorphic features and soil texture were noted.

Wetland Hydrology - Wetland hydrology is a term which encompasses hydrologic characteristics of areas that are periodically inundated or saturated within 12 inches of the surface at some time during the growing season. Recorded data can be used when available to determine wetland hydrology. Recorded data showing inundation or saturation within 12 inches of the surface for a minimum of five percent of the growing season (approximately 14 days) is considered evidence of wetland hydrology. When studies are conducted at a time of year when surface water, ground water, or saturated soils cannot be observed, evidence of wetland hydrology is based on observation of the hydrologic indicators described in the 1987 Corps Manual. Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, and drift lines, or indirect indicators (secondary indicators), such as oxidized root channels and algal mats. If indirect or secondary indicators are used, at least two secondary

indicators must be present to conclude that an area has wetland hydrology. The wet areas in the study area were examined for these hydrologic indicators. The presence of any primary or secondary wetland hydrologic indicators was noted at each sampling point.

Potential Section 404 Jurisdictional “Other Waters” - Non-wetland non-tidal waters are those bodies of water that convey water such as perennial, intermittent and ephemeral streams, or bodies of water such as lakes and ponds that are deep enough to exclude the growth of hydrophytic vegetation. Typically, these are hydrological features with a defined stream channel, bed, and bank.

All of these types of features that were present, were documented within the project area and mapped in the field with a GPS or also with the aid of georeferenced aerial photography in GIS.

Potential Section 401 Jurisdictional Waters - Some water bodies, such as isolated wetlands that the Corps would not regulate, fall under the jurisdiction of the SWRCB if there is discharge involved. However, if the Corps determines that a water body is not subject to regulation under Section 404, then no 401 certification is required by the State *if* there is no discharge into waters of the State. Because “waters of the State” is a much more encompassing term than “waters of the United States,” it can be used to regulate isolated wetlands and wetlands not otherwise under federal jurisdiction.

Wetlands and other waters were delineated using the same methods for determining presence of wetland indicators: hydrophytic vegetation, hydric soils, and hydrology.

Potential Section 1602 Jurisdictional Waters- Riparian vegetation often includes vegetation beyond that growing in the active channel or floodplain. The measurement of riparian vegetation can extend to a point where vegetation provides shade for plants and wildlife as well as to a point where vegetation contributes large woody debris (LWD) or fine litter to the watercourse. This can be above the floodplain and even above the terrace on to the hillslope. Generally, CDFW’s jurisdiction over lakes and streams is measured from channel to the top of the bank or edge of the riparian as determined by the upland side of the dripline, whichever is greater.

Potential California Coastal Act Jurisdictional Wetlands and Waters- All wetlands and waters that can be considered 404 and 401 jurisdictionally regulated, including one and two parameter wetlands and riparian vegetation and watercourses regulated under 1602 can be considered for regulation by the California Coastal Commission (CCC). Essentially, the CCC can regulate any and all wetlands and waters regulated or not regulated by ACOE, RWQCB, and CDFW. Therefore all methods for identifying federal and state waters and wetlands and riparian vegetation are used for identifying the same features regulated by the CCC.



U.S. Fish and Wildlife Service  
National Wetlands Inventory

Weintraub USFWS Wetlands Map



December 3, 2020

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
This page was produced by the NWI mapper

Figure 2. USFWS NWI wetland map in project area.

## 4.0 Survey Results

### 4.1 SPECIAL STATUS PLANTS

Site visits occurred on November 6 and November 20, 2020. Areas surveyed included areas where development is proposed and areas within 100 feet. No special status plant species were observed during scoping survey efforts. **Additional botanical surveys need to occur in May and June of 2021 in order to meet bloom windows for special status species and those that are larval food plants for special status butterflies that are potentially present.**

**An addendum to this study will be submitted after the May and June surveys occur, including the results of those surveys and a plant list of species observed.**

### 4.2 VEGETATION ALLIANCES/ASSOCIATIONS

Vegetation alliances/Associations observed in the project area are described below.

#### 4.2.1 Redwood Forest and Woodland

##### *Sequoia sempervirens* Forest and Woodland Alliance (G3 S3)

##### **86.100.16 *Sequoia sempervirens* – *Notholithocarpus densiflorus* – *Vaccinium ovatum* association (G3 S3)**

Coast redwood (*Sequoia sempervirens*) dominates the overstory, with tanoak (*Notholithocarpus densiflorus*) prominent in the understory, and Douglas fir (*Pseudotsuga menziesii*) also present. In general, the forest floor is littered with redwood needles, with little vegetation under the thick canopy of redwood, tanoak and Douglas fir. Other overstory trees present include bishop pine (*Pinus muricata*) and madrone (*Arbutus menziesii*). Understory species that are typically associated with this alliance that are present include bracken (*Pteridium aquilinum* var. *pubescens*) and huckleberry (*Vaccinium ovatum*) most prominent, with manzanita (*Arctostaphylos columbiana*), wax myrtle (*Morella californica*), salal (*Gaultheria shallon*), redwood violet (*Viola sempervirens*), sword fern (*Polystichum munitum*), California blackberry (*Rubus ursinus*), wood strawberry (*Fragaria vesca*), and Douglas iris (*Iris douglasiana*).

The G3 S3 ranking indicates this vegetation alliance is considered special status according to the California Department of Fish and Wildlife. This alliance has recently been divided into 29 associations. The Global ranking of G3 and State ranking of S3 indicates that the alliance is vulnerable on a global and

state level - at moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

The Manual of California Vegetation Online indicates that the ranking system can be quantified as follows:

### Global and State Ranks

- G1 S1: *Fewer than 6 viable occurrences worldwide/ statewide, and/ or up to 518 hectares*
- G2 S2: *6-20 viable occurrences worldwide/ statewide, and/ or more than 518-2,590 hectares*
- G3 S3: *21-100 viable occurrences worldwide/ statewide, and/ or more than 2,590-12,950 hectares*
- G4 S4: *Greater than 100 viable occurrences worldwide/ statewide, and/ or more than 12,950 hectares*
- G5 S5: *Demonstrably secure because of its worldwide/ statewide abundance*

A hectare is 2.47105 acres. According to the Manual of California Vegetation Online, a G4S4 (secure) alliance would be one in which there is more than 32,000 acres. According to [Save the Redwoods League](#), there are 382,000 acres of protected redwood forest, and 1.2 million acres of privately owned redwood forest. Old growth redwood forest is estimated by Save the Redwoods League at 110,000 acres.

The *Sequoia sempervirens – Notholithocarpus densiflorus – Vaccinium ovatum* association (G3 S3) is known from surveys in Sonoma County as being limited in range.

Although it is known that a significant amount of redwood forest is present in Mendocino County, much of that forest has not been surveyed and classified into vegetation alliances and associations, so the acreage of this association is not quantified in Mendocino County at this time. Figure 3 shows the distribution of redwood forest in California according to Save the Redwoods League mapping. Figure 4 shows the area where vegetation mapping has been conducted which contributes towards the data that is used by CDFW. Accordingly, less than 1/3 of the distribution area for redwood forest has been classified by CDFW, meaning that more than 2/3 of the redwood forest has not been classified nor does it contribute towards rankings data. Most of Mendocino County has not been classified for redwood forest. For this reason, the CDFW rankings and associated rarity status data are inaccurate relative to redwood forest in Mendocino County.

It is the professional opinion of Spade Natural Resources Consulting that the redwood forest association type found at the site is common in Mendocino County and should not be considered special status.



Figure 3. Save the Redwoods League redwood forest distribution map.

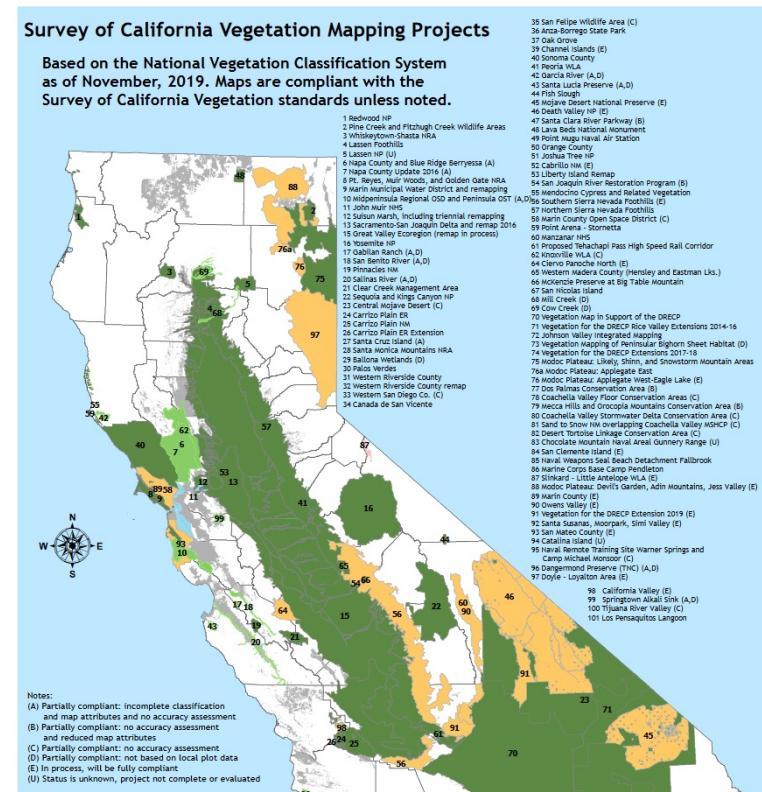


Figure 4. California Department of Fish and Wildlife National Vegetation Classification System Map of California.

## 4.3 SPECIAL STATUS WILDLIFE HABITAT

### 4.3.1 Invertebrates

#### Lotis blue butterfly



Figure 5. Male and female lotis blue butterflies (photo credit USFWS File Photograph)

The Lotis blue (*Lycaeides argyrogynomon lotis* [aka *Lycaeides idas lotis*]) was first recognized as a Federally Endangered species in 1976. At that time, it was sighted at a single location in a sphagnum bog, approximately two miles north of the town of Mendocino. It was last observed there in 1983.

Little is known of the Lotis blue butterfly's habitat requirements and ecology, however other northern California *Lycaeides idas* typically occur in wet meadows, bogs, seeps, springs, and along the shorelines of streams. Coastal lotus (*Hosackia gracilis*) is a presumed larval food plant.

**Follow up surveys need to occur during the bloom time for coastal lotus (March-July). An addendum to this study will need to be provided by a qualified botanist outlining the bloom window site visit and the results of that survey.**

#### Behren's silverspot butterfly



Figure 6. Male and female Behren's silverspot butterflies (photo credit SpadeNRC).

The Behren's silverspot (*Speyeria zerene behrensi*) is Federally Endangered, listed December 5, 1997. The known historic range is along the coast from near the Town of Mendocino in Mendocino County to Salt Point State Park in Sonoma County. The larval food plant is currently thought to be early blue violet (*Viola adunca*), based on studies of the closely related coastal subspecies, Oregon silverspot butterfly (*Speyeria zerene hoppolyta*). It inhabits coastal terrace prairie habitat in areas with a strong ocean influence.

The project area is within the range of this species. **Follow up surveys need to occur during the bloom time for early blue violet (April-August). An addendum to this study will need to be provided by a qualified botanist outlining the bloom window site visit and the results of that survey.**

### **Monarch butterfly**

Monarch butterfly (*Danaus plexippus*) overwinters in coastal forests within 1.5 miles of the Pacific Ocean. Tree species preferred include eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*). Clusters can also be found on red gum eucalyptus (*Eucalyptus camadulensis*), sycamore (*Platanus racemosa*), coast redwood (*Sequoia sempervirens*), coast live oak (*Quercus agrifolia*) and other tree species. Monarchs begin arriving at overwintering sites in September and the first half of October, and by mid-November have formed more stable aggregations that are present through January or February (Western Monarch Milkweed Mapper 2020). The Anchor Bay area is the northernmost point of the monarch overwintering range on the Mendocino Coast. The forested areas of the property are potential habitat areas for overwintering monarch butterflies, however no monarchs were observed at or near the site during the survey effort.

### **Obscure bumblebee**

Obscure bumblebee (*Bombus caliginosus*) is an IUCN vulnerable ranked species in decline along the west coast of the United States, which is its native range. This species is very similar to the common yellow-faced bumblebee (*Bombus vosnesenskii*), differentiated by the structure of the male genitalia. The obscure bumblebee tends to have longer hairs, however, and yellow hairs are found on the underside of the abdomen.

This species is found in open, grassy, coastal prairies and coast range meadows. The Mendocino Coast is within the historic range for obscure bumblebee. The property does not contain adequate habitat for this species.

### **4.3.2 Fish**

The project is not expected to detrimentally impact special status fish, as the project area is not near any fish habitat. CalFish data was used to locate fish habitat.

**Coho salmon** (*Oncorhynchus kisutch* pop. 4) Central California Coast (Federal and State Endangered) Coho salmon require beds of loose, silt-free, coarse gravel for spawning. They also need cover, cool water, and sufficient dissolved oxygen. Galloway Creek, which is south of the project area, is considered a spawning area for Central California Coast Coho Salmon.

**Steelhead** (*Oncorhynchus mykiss irideus* pop. 16) Northern California DPS (Federally Threatened) Adult steelhead require high flows with at least 18 cm deep water for passage. They may leap up to ~3 meters for spawning. They need sufficient streamflow over clean gravel, cool water temperature, depth, and cover for escape (a deep pool with cover). The project is within the winter range for steelhead.

#### **Gualala Roach** (*Lavinia symmetricus parvipinnis*) Species of Special Concern

Gualala Roach is found from Roseman Creek (south of Point Arena) to around Fort Ross in Sonoma County. They are usually found in small, warm streams but are adaptable to a variety of habitats including coastal streams and mountain foothill streams. Gualala roach breed in gravel beds or riffles, March through early July. The Gualala Roach is limited to the Gualala River and its tributaries (CDFW 2010). The property is not within the range of this species.

### **4.3.3 Amphibians**

#### **California Red Legged Frog**

California red-legged frog (*Rana draytonii*) is listed as Federally Threatened. Their known range extends from central Mendocino County southward to Riverside County. California red legged frogs can be found in many habitat types during wet weather but require ponds or pools within slow moving streams in which to lay their eggs. Suitable breeding habitat must include vegetation on which to anchor their egg masses and must hold water long enough for tadpoles to develop. The drainages to the north and south of the project area may be potential breeding habitat however these are located more than 100 feet from the project. California red-legged frogs are known to travel over land up to a mile between breeding locations. For this reason, northern red-legged frog may be present in upland areas during dispersal periods.

There is no breeding habitat in the study area, however there is a possibility that California red-legged frogs may be present in the study area during seasonal migration.

#### **Pacific Tailed Frog**

Pacific tailed frog (*Ascaphus truei*) is not a Federal or State protected species but is a California State Species of Concern. Their known range is coastal from Anchor Bay, Mendocino County, north to the Oregon border. They inhabit cold, clear, rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for cover for adults, eggs, and larvae. After heavy rains, adults may be

found in the woods away from the stream. There are no watercourses on or within 100 feet of the subject project. No habitat is present for this species.

### **Foothill Yellow-Legged Frog**

Foothill yellow-legged frog (*Rana boylii*) is listed as an Endangered Species under the California Endangered Species Act. This frog species is present year-round along most of the coast of California, in northwestern California, and in the western Sierra Foothills. This frog species is found in or near rocky streams in many habitat types, including but not limited to mixed coniferous forest, coastal scrub, and wet meadows. Foothill yellow-legged frog is rarely found away from permanent water. There are no watercourses on or within 100 feet of the subject project. No habitat is present for this species.

### **California Giant Salamander**

California giant salamander (*Dicamptodon ensatus*) is present in cool, damp redwood forests, near streams, on the south coast. There is a low potential for presence in the project area since the project area is not near a stream.

### **Red-bellied newt**

Red-bellied newts (*Taricha rivularis*) are a California Department of Fish and Wildlife Species of Special Concern that are found in cool, damp redwood forests. The study area is habitat for red-bellied newt.

## **4.3.4 Birds**

### **Nesting Birds and Special Status Birds**

Special status and nesting birds protected under the Migratory Bird Treaty Act may be present on or near the property. Nesting habitats can include trees, brush, grassy areas, and sometimes man-made structures, burrows, or on the ground. While no nests or nesting activity were observed during the survey effort, there is a potential for presence for nesting birds in the study area during the nesting season.

### **Tufted puffin**

The tufted puffin (*Fratercula cirrhata*) is sparsely found along the Mendocino coast year-round. They nest on islands and occasionally on coastal cliffs, in burrows on island cliffs, grassy island slopes, or in loose rock. Most breeding occurs in Del Norte and Humboldt County. Tufted puffins feed on medium sized fish such as smelt, herring, and perch, and also eat some crustaceans and squid. The property is east of the highway and does not provide habitat for this species.

## Rhinoceros auklet

The rhinoceros auklet (*Cerorhinca monocerata*) is found off the Mendocino coast in winter. They can be found in subtidal waters of the ocean, and feed mainly on small fish, sometimes on crustaceans and cephalopods. Nesting occurs in a burrow on undisturbed forests or forested islands. This species is not known to nest in Mendocino County.

## Northern spotted owl



**Figure 7. Northern spotted owl**  
(Photo credit: US Fish and Wildlife Service file photograph.)

The northern spotted owl (*Strix occidentalis caurina*) (Fig. 8) is listed as Federally Threatened under the Endangered Species Act, since June 26, 1990. The range for this subspecies is from southwestern British Columbia to Marin County. The eastern boundary is the Pit River area of Shasta County.

A couple limited sightings of northern spotted owl have been documented within a couple miles of the property. The closest documented sighting according to the California Department of Fish and Wildlife BIOS Spotted

Owl observations map (v5.94.01), is in the gulch located about 1000 feet east of the property.

Northern spotted owls nest in forests with a multi-layered, multi-species canopy with moderate to high canopy closure. Features generally found within appropriate habitat include large cavities and other types of deformities, large snags, an abundance of dead wood on the forest floor, and open areas within and below the upper canopy of sufficient size for flying.

The forest on the property in the project area is not old growth. The redwood forest in the project area has a moderately multi-layered canopy. There is not an abundance of large cavities, large snags or dead wood on the forest floor. The property does not contain adequate nesting habitat for northern spotted owl. According to the California Department of Fish and Wildlife BIOS viewer (version 5.94.01), there are spotted owl sightings near the project area along Bill Owens Road, which appear to correspond to a nesting site roughly a mile south of the property near Schooner Gulch.

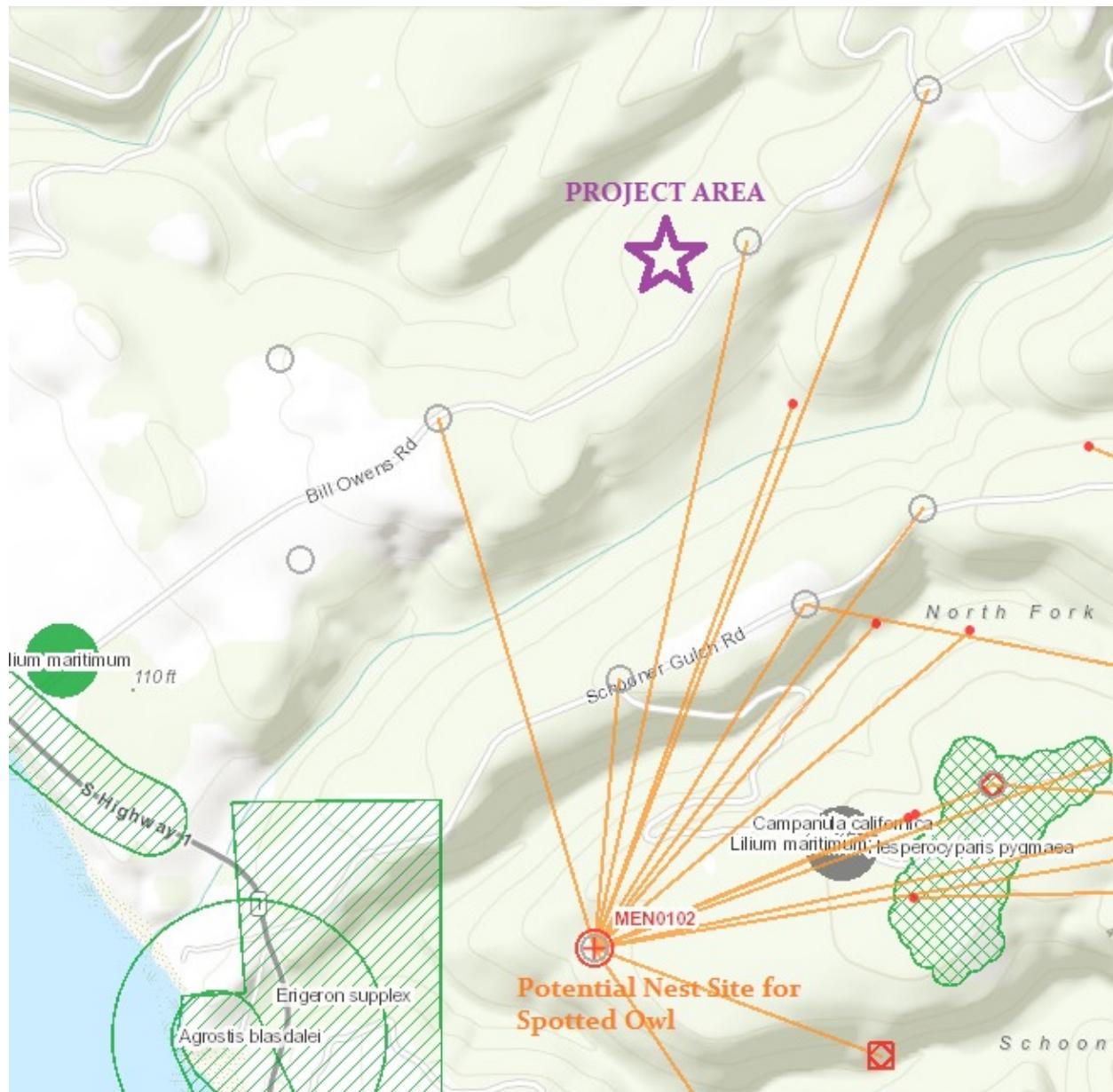


Figure 8. Map of Northern spotted owl sightings near project area.

#### 4.3.5 Mammals

##### Special Status Bats

###### Special Status Bats in General

Many species of bats roost in hollowed areas, crevices, or under bark of trees in forested areas near water, and, several special status species require a nearby fresh water source for feeding over and for drinking, because they do not have a good urine concentrating ability. There is a potential for presence of special status bats within the wooded areas of the property.

### Townsend's Big Eared Bat

Townsends big-eared bat (*Corynorhinus townsendii*) is a California Department of Fish and Wildlife Species of Special Concern. Mesic habitats are preferred. This species requires caves, mines, tunnels, buildings or other human-made structures for roosting. No such structures are found at the site.

Hibernation occurs individually or in small clusters in a variety of locations including buildings, rocky crevices, caves, tunnels, hollow trees, and spaces under loose bark. Habitat for hibernating Townsend's big eared bat may be found in redwoods on the property. Hibernation occurs from October to April.

### North American Porcupine

North American porcupine (*Erethizon dorsatum*) is found year round throughout Mendocino County, according to the [California Department of Fish and Wildlife Habitat Relationship System range map](#). In spring and summer it is found in meadows, riparian areas and brushy areas as well as forests. In winter it is restricted to forests, and prefers conifers. Habitat quality at the site is low, as firs, pines, oaks, maples, cottonwoods, willow, and elderberry are preferred and the site is dominated by redwoods.

### Point Arena Mountain Beaver

Point Arena mountain beaver (*Aplodontia rufa nigra*) is a Federally Endangered species, protected by the federal Endangered Species Act of 1973. The US Fish and Wildlife is the agency responsible reviewing projects to assure protection of PAMB under the Endangered Species Act. The subject habitat assessment was conducted by a US Fish and Wildlife Service approved surveyor and follows the protocols outlined in the October 25, 2017 US Fish and Wildlife Draft Guidelines for Project-Related Habitat Assessments and Presence-Absence Surveys for the Point Arena Mountain Beaver.

Roughly two hours was spent on November 6, 2020 conducting the habitat assessment in the project area as mapped on the site plan (Figure 11). The UTM of the project area is 10S 444388 4304063.

There is no mapped known PAMB habitat in the project area according to the CNDDB map. The closest location is roughly 3.75 miles north of the property.

The vegetation in the project area consists of redwood forest. Coast redwood (*Sequoia sempervirens*) dominates the overstory, with tanoak (*Notholithocarpus densiflorus*) prominent in the understory, and Douglas fir (*Pseudotsuga menziesii*) also present. In general, the forest floor is littered

with redwood needles, with little vegetation under the thick canopy of redwood, tanoak and Douglas fir. Other overstory trees present include bishop pine (*Pinus muricata*) and madrone (*Arbutus menziesii*). Understory species that are typically associated with this alliance that are present include bracken (*Pteridium aquilinum* var. *pubescens*) and huckleberry (*Vaccinium ovatum*) most prominent, with manzanita (*Arctostaphylos columbiana*), wax myrtle (*Morella californica*), salal (*Gaultheria shallon*), redwood violet (*Viola sempervirens*), sword fern (*Polystichum munitum*), California blackberry (*Rubus ursinus*), wood strawberry (*Fragaria vesca*), and Douglas iris (*Iris douglasiana*).

Streams are present near the northwest and southeast property corners, and the associated riparian areas may be habitat for Point Arena mountain beaver. The areas in the vicinity of the streams are more than 500 feet from the project area, and are down steep slopes. These areas were not surveyed and were not included in the habitat assessment.

Areas included in the habitat assessment include the mapped project area and areas within 100 feet. No Point Arena mountain beaver habitat was observed in the habitat assessment area, and no potential habitat was identified, based on aerial photo remote sensing and topographic map analysis, within 500 feet of the project area. The project is not expected to result in detrimental impacts to Point Arena mountain beaver.

### **Sonoma Tree Vole**

Sonoma tree vole (*Arborimus pomoe*) is listed as a G3 S3 Species of Special Concern. The state listing indicates the species is considered vulnerable in its range due to a restricted range, relatively few populations, recent and widespread declines or other factors.

The Sonoma tree vole range is located along the coast from Sonoma County through Mendocino, Humboldt, and Trinity County. The total population is unknown but is estimated at over 10,000. Preferred habitat is considered mesic old growth Douglas Fir Forest; however Sonoma tree voles are known to live in other coniferous forests. They are known to eat primarily Douglas fir (*Pseudotsuga menziesii*) needles but eat other conifer needles as well. They may also eat the inner bark of twigs. Sonoma tree voles live in the tree canopy and are thought to have limited dispersal capabilities, and so are threatened by canopy removal and fragmentation (Blois and Natureserve 2008).

Although some conifers are present in the project area, it is dominated by redwoods in the overstory. No nests or other sign of tree vole was observed. It is unlikely that Sonoma tree vole is present on the site.

## 4.4 WETLANDS AND WATERCOURSES

A tributary to Galloway Creek is present just southeast of the property, and a tributary to Ross Creek is present in the northwest corner of the property. The project area portion of the property is relatively flat. A potential wetland was observed in the project area as indicated by the presence of common rush (*Juncus patens*), which is a facultative wet plant, meaning that it can live in both upland and wet conditions but is more often found in wetlands. A wetland delineation was performed, and the area was determined to be upland, as outlined in Section 4.4.1 below.

#### 4.4.1 Wetlands

A wetland delineation was performed on November 20, 2020. Wetland data point locations are shown in Figure 10 and discussed in this section. Wetland data sheets are attached as Appendix D.



**Figure 9. Stream and wetland data point locations.**

### **Wetland Data Point SP 01**

Rush was observed, which may be an indication of a wetland, so a soil pit was dug in this location.

Vegetation observed in the tree stratum included Douglas fir (*Pseudotsuga menziesii*) with an estimated 20% cover within the 30' radius. In the shrub stratum, black huckleberry (*Vaccinium ovatum*) was observed with a 10% cover, coyote brush (*Baccharis pilularis*) with a 2% cover, and sapling Douglas fir with a 7% cover in the 20' radius. In the herbaceous stratum, common rush (*Juncus patens*) was observed with an estimated cover of 10%, pink honeysuckle (*Lonicera hispidula*) with a 5% cover, purple velvet grass with a 5% cover, modesty (*Whipplea modesta*) with a 4% cover, wood strawberry (*Fragaria vesca*) with a 2% cover, and bracken (*Pteridium aquilinum*) with an estimated cover of 3% in the 10' radius. California blackberry (*Rubus ursinus*) was present at 7% cover in the woody vine stratum. Dominant vegetation in the area was determined to be upland.

A soil pit was dug to 17 inches. The soil did not show any indicators of hydric soils. Although the soil was damp throughout due to recent rains, there was no surface water, water table, or saturation present. This test location was determined to be in an upland area.

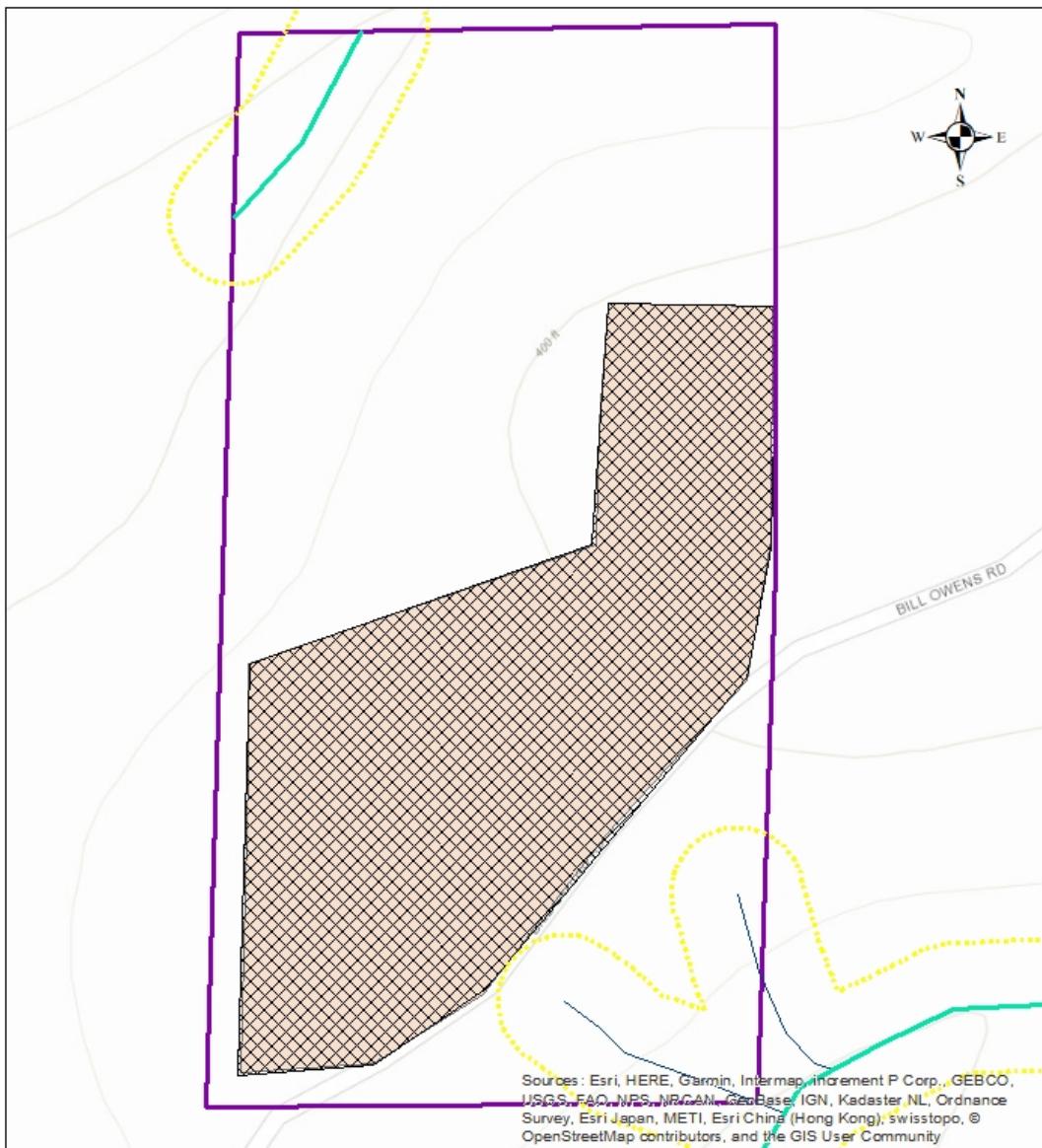
### **Wetland Data Point SP 02**

Data Point SP 02 was taken northeast of the first data point, at the other side of the area where rush was observed. This data point was taken in order to see if this side of the rush area showed any wetland presence data.

Vegetation observed in the tree stratum included Douglas fir (*Pseudotsuga menziesii*) with an estimated 20% cover, and tanoak (*Notholithocarpus densiflorus*) with an estimated 5% cover within the 30' radius. In the shrub stratum, Douglas fir saplings were observed with an estimated cover of 15%. In the herbaceous stratum, common rush (*Juncus patens*) pink honeysuckle (*Lonicera hispidula*) with an estimated cover of 15%, purple velvet grass (*Holcus lanatus*) at 2% cover, and hairy wood rush (*Luzula comosa*) with a 4% cover in the 10' radius. California blackberry was present in the woody vine layer with a cover of 17%. Dominant vegetation in the area was determined to be upland.

A soil pit was dug to 15 inches and no wetland soil or hydrology features were observed. Although the soil was moist from recent rains, no saturation or water table was observed. The data point was determined to be in an upland area.

Weintraub  
APN 027-361-15



**Legend**

- Watercourse
- Ephemeral Watercourse
- 100 Foot Buffer
- Subject Parcel
- Rough Building Area
- Redwood Forest

0 100 200 400 600 800 Feet

Figure 10. Vegetation alliance map with streams.

## 5.0 Discussion

**Follow up botanical site visits need to occur in May and June in order to meet bloom windows for special status plants with a potential for presence, and bloom windows for larval food plants for special status butterflies.**

The property contains upland migrating habitat for California red-legged frog, habitat for red-bellied newt, and marginal habitat for California giant salamander. Nesting birds, and roosting and hibernating bats may also be present. Avoidance measures and next steps are listed below.

### 5.1 AVOIDANCE MEASURES AND NEXT STEPS

#### 5.1.1 Follow-Up Botanical Visits

Follow-up botanical visits should occur in May and June of 2021. A summary of the results of those visits, and a full plant list, should be included as an addendum to this report. The follow up information will address the potential presence of special status butterflies as well as special status plants.

#### 5.1.2 Special Status Birds and Bats

The bird breeding season typically extends from February to August. Ideally, the clearing of vegetation and the initiation of construction or demolition can be done in the non-breeding season between September and January. If these activities cannot be done in the non-breeding season, a qualified biologist shall perform preconstruction breeding bird surveys within 14 days of the onset of construction or clearing of vegetation. If active breeding bird nests are observed, no ground disturbance activities shall occur within a minimum 100-foot exclusion zone. These exclusion zones may vary depending on species, habitat and level of disturbance. The exclusion zone shall remain in place around the active nest until all young are no longer dependent upon the nest. A biologist should monitor the nest site weekly during the breeding season to ensure the buffer is sufficient to protect the nest site from potential disturbances.

As with birds, bat roost and hibernation sites can change from year to year, so pre-construction or demolition surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat surveys do not need to be performed if work or vegetation removal is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be conducted. Pre-construction bat surveys involve surveying trees, rock outcrops, and buildings subject to removal or demolition for evidence of bat use (guano

accumulation, or acoustic or visual detections). If evidence of bat use is found, then biologists shall conduct acoustic surveys under appropriate conditions using an acoustic detector, to determine whether a site is occupied. If bats are found, a minimum 50-foot buffer should be implemented around the roost tree. Removal of roost trees should occur in September and October, or after the bats have left the roost. In summary, no impacts would be expected and therefore no preconstruction surveys would be required for the species above if vegetation removal (including standing dead trees) is scheduled for the months of September or October. The months of November through August would require a bird and/or bat survey dependent on the time of year.

### **5.1.2 Special Status Amphibian Avoidance**

Within two weeks prior to construction or demolition, project contractors will be trained by a qualified biologist in the identification of the California red-legged frog, red-bellied newt, and California giant salamander (special status amphibians). Construction crews will begin each day with a visual search around all stacked or stored materials, as well as along any silt fences to detect the presence of special status amphibians. If a special status amphibian is detected, construction or demolition crews will contact the US Fish and Wildlife (for California red-legged frog) and/or California Department of Fish and Wildlife or a qualified biologist (red-bellied newt or California giant salamander), and gain clearance prior to re-initiating work.

If a rain event occurs during the construction period, all construction-related activities will cease for a period of 48 hours after the rain stops. Prior to resuming construction or demolition activities, trained construction crew member(s) will examine the site for the presence of special status amphibians. If no special status amphibians are found, construction activities may resume.

## Appendix A. Scoping Tables

### Table 1. CNPS Nine Quad Search

CNPS Inventory Results

<http://www.rareplants.cnps.org/result.html?adv=t&cnps=1A:1B:2A:2B:...>



\*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

### Plant List

19 matches found. Click on scientific name for details

#### Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3912316, 3912315, 3812386, 3812385, 3812376 and 3812375; Community = North Coast coniferous forest

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
<a href="#">Astragalus agnicidus</a>	Humboldt County milk-vetch	Fabaceae	perennial herb	Apr-Sep	1B.1	S2	G2
<a href="#">Bryoria pseudocapillaris</a>	false gray horsehair lichen	Parmeliaceae	fruticose lichen (epiphytic)		3.2	S2	G3
<a href="#">Calamagrostis bolanderi</a>	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	4.2	S4	G4
<a href="#">Calystegia pumulata ssp. <i>saxicola</i></a>	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	1B.2	S2S3	G4T2T3
<a href="#">Campanula californica</a>	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	S3	G3
<a href="#">Coptis laciniata</a>	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May (Sep-Nov)	4.2	S3?	G4?
<a href="#">Erigeron biolettii</a>	streamside daisy	Asteraceae	perennial herb	Jun-Oct	3	S3?	G3?
<a href="#">Erythronium revolutum</a>	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	2B.2	S3	G4G5
<a href="#">Hosackia gracilis</a>	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.2	S3	G3G4
<a href="#">Kopsiopsis hookeri</a>	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	2B.3	S1S2	G4?
<a href="#">Lathyrus palustris</a>	marsh pea	Fabaceae	perennial herb	Mar-Aug	2B.2	S2	G5
<a href="#">Lilium maritimum</a>	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	1B.1	S2	G2
<a href="#">Lycopodium clavatum</a>	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	4.1	S3	G5
<a href="#">Mitellastra caulescens</a>	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	4.2	S4	G5

<u><a href="#">Piperia candida</a></u>	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	1B.2	S3	G3
<u><a href="#">Pleuropogon refractus</a></u>	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	4.2	S4	G4
<u><a href="#">Sidalcea malachroides</a></u>	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	4.2	S3	G3
<u><a href="#">Usnea longissima</a></u>	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		4.2	S4	G4
<u><a href="#">Veratrum fimbriatum</a></u>	fringed false-hellebore	Melanthiaceae	perennial herb	Jul-Sep	4.3	S3	G3

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## Appendix A – Scoping Tables

### Table 2. CNDDB Search Point Arena Quad



**Selected Elements by Common Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Query Criteria: Quad

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American manna grass <i>Glyceria grandis</i>	PMPOA2Y080	None	None	G5	S3	2B.3
Baker's goldfields <i>Lasthenia californica</i> ssp. <i>bakeri</i>	PDAST5L0C4	None	None	G3T1	S1	1B.2
Behren's silverspot butterfly <i>Speyeria zerene behrensi</i>	IILEPJ6088	Endangered	None	G5T1	S1	
Blasdale's bent grass <i>Agrostis blasdalei</i>	PMPOA04060	None	None	G2	S2	1B.2
California red-legged frog <i>Rana draytonii</i>	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California sedge <i>Carex californica</i>	PMCYP032D0	None	None	G5	S2	2B.2
coast lily <i>Lilium maritimum</i>	PMLIL1A0C0	None	None	G2	S2	1B.1
Coastal and Valley Freshwater Marsh <i>Coastal and Valley Freshwater Marsh</i>	CTT52410CA	None	None	G3	S2.1	
coastal bluff morning-glory <i>Calystegia purpurata</i> ssp. <i>saxicola</i>	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
Coastal Brackish Marsh <i>Coastal Brackish Marsh</i>	CTT52200CA	None	None	G2	S2.1	
Coastal Terrace Prairie <i>Coastal Terrace Prairie</i>	CTT41100CA	None	None	G2	S2.1	
Contra Costa goldfields <i>Lasthenia conjugens</i>	PDAST5L040	Endangered	None	G1	S1	1B.1
deceiving sedge <i>Carex saliniformis</i>	PMCYP03BY0	None	None	G2	S2	1B.2
foothill yellow-legged frog <i>Rana boylii</i>	AAABH01050	None	Endangered	G3	S3	SSC
Humboldt Bay owl's-clover <i>Castilleja ambigua</i> var. <i>humboldtiensis</i>	PDSCR0D402	None	None	G4T2	S2	1B.2
island tube lichen <i>Hypogymnia schizidiate</i>	NLT0032640	None	None	G2G3	S2	1B.3
Lyngbye's sedge <i>Carex lyngbyei</i>	PMCYP037Y0	None	None	G5	S3	2B.2
maple-leaved checkerbloom <i>Sidalcea malachroides</i>	PDMAL110E0	None	None	G3	S3	4.2
marsh microseris <i>Microseris paludosa</i>	PDAST6E0D0	None	None	G2	S2	1B.2
Mendocino Coast paintbrush <i>Castilleja mendocinensis</i>	PDSCR0D3N0	None	None	G2	S2	1B.2

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Page 1 of 3  
Information Expires 4/2/2021



**Selected Elements by Common Name**  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>Mendocino dodder</b> <i>Cuscuta pacifica</i> var. <i>papillata</i>	PDCUS011A2	None	None	G5T1	S1	1B.2
<b>Monterey clover</b> <i>Trifolium trichocalyx</i>	PDFAB402J0	Endangered	Endangered	G1	S1	1B.1
<b>Northern Coastal Bluff Scrub</b> <i>Northern Coastal Bluff Scrub</i>	CTT31100CA	None	None	G2	S2.2	
<b>Northern Coastal Salt Marsh</b> <i>Northern Coastal Salt Marsh</i>	CTT52110CA	None	None	G3	S3.2	
<b>Nuttall's ribbon-leaved pondweed</b> <i>Potamogeton epihydrus</i>	PMPOT03080	None	None	G5	S2S3	2B.2
<b>obscure bumble bee</b> <i>Bombus caliginosus</i>	IIHYM24380	None	None	G4?	S1S2	
<b>Oregon goldthread</b> <i>Coptis laciniata</i>	PDRAN0A020	None	None	G4?	S3?	4.2
<b>Pacific gilia</b> <i>Gilia capitata</i> ssp. <i>pacifica</i>	PDPLM040B6	None	None	G5T3	S2	1B.2
<b>Pacific tailed frog</b> <i>Ascaphus truei</i>	AAABA01010	None	None	G4	S3S4	SSC
<b>perennial goldfields</b> <i>Lasthenia californica</i> ssp. <i>macrantha</i>	PDAST5L0C5	None	None	G3T2	S2	1B.2
<b>pink salmon</b> <i>Oncorhynchus gorbuscha</i>	AFCHA02010	None	None	G5	S1	
<b>pink sand-verbena</b> <i>Abronia umbellata</i> var. <i>breviflora</i>	PDNYC010N4	None	None	G4G5T2	S2	1B.1
<b>Point Arena mountain beaver</b> <i>Apodemus rufa nigra</i>	AMAFA01011	Endangered	None	G5T1	S1	SSC
<b>purple-stemmed checkerblooms</b> <i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	PDMAL110FL	None	None	G5T1	S1	1B.2
<b>pygmy cypress</b> <i>Hesperocyparis pygmaea</i>	PGCUP04032	None	None	G1	S1	1B.2
<b>Roderick's fritillary</b> <i>Fritillaria roderickii</i>	PMLIL0V0M0	None	Endangered	G1Q	S1	1B.1
<b>short-leaved evax</b> <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	PDASTE5011	None	None	G4T3	S3	1B.2
<b>Sonoma tree vole</b> <i>Arborimus pomoe</i>	AMAFF23030	None	None	G3	S3	SSC
<b>southern torrent salamander</b> <i>Rhyacotriton variegatus</i>	AAAAJ01020	None	None	G3G4	S2S3	SSC
<b>steelhead - northern California DPS</b> <i>Oncorhynchus mykiss</i> <i>irideus</i> pop. 16	AFCHA0209Q	Threatened	None	G5T2T3Q	S2S3	
<b>Steller (=northern) sea-lion</b> <i>Eumetopias jubatus</i>	AMAJC03010	Delisted	None	G3	S2	

## Appendix A. – Scoping Tables

**Table 3. California Sensitive Natural Communities** A partial list of vegetation alliances occurring in coastal Mendocino County, is derived from the California Department of Fish and Wildlife's "Sensitive Natural Communities," (2019) (<https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>).

Scientific Name	Common Name	Global & State Rank
<b>Woodland and Forest Alliances and Stands</b>		
<i>Abies grandis</i> Alliance	Grand fir forest	G4 S2
<i>Abies grandis</i> – <i>Picea sitchensis</i> / <i>Gaultheria shallon</i> / <i>Polystichum munitum</i> Association	Grand fir forest	G1 S1
<i>Abies grandis</i> – <i>Tsuga heterophylla</i> / <i>Polystichum munitum</i> Association	Grand fir forest	G2 S1
<i>Acer macrophyllum</i> Alliance	Bigleaf maple forest	G4 S3
<i>Alnus rubra</i> Alliance	Red alder forest	G5 S4
<i>Arbutus menziesii</i> Alliance	Madrone forest	G4 S3
<i>Arbutus menziesii</i> – <i>Umbellularia californica</i> – ( <i>Notholithocarpus densiflorus</i> ) Association	Madrone forest	G3 S3?
<i>Eucalyptus</i> spp – <i>Ailanthus altissima</i> – <i>Robinia pseudoacacia</i> Association	Eucalyptus – tree of heaven – black locust groves semi natural	GNA SNA
<i>Hesperocyparis macrocarpa</i> Provisional Alliance	Monterey cypress semi-natural assn.	GNA SNA
<i>Hesperocyparis pygmaea</i> Alliance	Mendocino pygmy cypress woodland	G1 S1
<i>Hesperocyparis sargentii</i> Alliance	Sargent cypress woodland	G3 S3
<i>Notholithocarpus densiflorus</i> Alliance	Tanoak forest	G4 S3
<i>Picea sitchensis</i> Alliance	Sitka spruce forest	G5 S2
<i>Pinus attenuata</i> Alliance	Knobcone pine forest	G4 S4
<i>Pinus contorta</i> ssp. <i>contorta</i> Alliance	Beach pine forest	G5 S3
<i>Pinus muricata</i> Alliance	Bishop pine – Monterey pine forest	G3? S3?
<i>Pinus muricata</i> – ( <i>Arbutus menziesii</i> ) / <i>Vaccinium ovatum</i> Association	Bishop pine – Monterey pine forest	G2 S2
<i>Pinus muricata</i> – <i>Chrysolepis chrysophylla</i> / <i>Arctostaphylos nummularia</i> Association	Bishop pine – Monterey pine forest	G2 S2
<i>Pinus muricata</i> – <i>Notholithocarpus densiflorus</i> Association	Bishop pine – Monterey pine forest	G3 S3
<i>Pinus muricata</i> / <i>Arctostaphylos glandulosa</i> Association	Bishop pine – Monterey pine forest	G2 S2
<i>Pinus radiata</i> plantations	Bishop pine – Monterey pine forest	GNR SNR
<i>Pseudotsuga menziesii</i> Alliance	Douglas fir forest	G5 S4
<i>Pseudotsuga menziesii</i> – <i>Chrysolepis chrysophylla</i> – <i>Notholithocarpus densiflorus</i> Association	Douglas fir forest	G3 S3
<i>Pseudotsuga menziesii</i> / <i>Baccharis pilularis</i> Association	Douglas fir forest	G4 S4?
<i>Pseudotsuga menziesii</i> - <i>Notholithocarpus densiflorus</i> Association	Douglas fir - tanoak forest	G3 S3
<i>Pseudotsuga menziesii</i> – <i>Notholithocarpus densiflorus</i> / <i>Rhododendron macrophyllum</i> Association	Douglas fir - tanoak forest	G2 S2
<i>Salix laevigata</i> Alliance	Red willow thickets	G3 S3
<i>Salix lucida</i> Alliance	Shining willow groves	G4 S3
<i>Sequoia sempervirens</i> Alliance	Redwood forest	G3 S3
<i>Sequoia sempervirens</i> – <i>Chrysolepis chrysophylla</i> / <i>Arctostaphylos glandulosa</i>	Redwood forest	G2 S2?
<i>Sequoia sempervirens</i> – <i>Hesperocyparis pygmaea</i>	Redwood forest	G1 S1
<i>Tsuga heterophylla</i> Alliance	Western hemlock forest	G5 S2
<i>Umbellularia californica</i> Alliance	California bay forest	G3 S3
<b>Shrubland Alliances and Stands</b>		
<i>Arctostaphylos</i> ( <i>canescens</i> , <i>manzanita</i> , <i>stanfordiana</i> ) Alliance	Hoary, common and Stanford manzanita chaparral	G3 S3
<i>Arctostaphylos nummularia</i> Alliance	Glossy leaf manzanita chaparral	G2G3 S2S3
<i>Arctostaphylos</i> ( <i>sensitive</i> , <i>glandulosa</i> ) Alliance	Glossy leaf manzanita chaparral	G2G3 S2S3
<i>Arctostaphylos glandulosa</i> Alliance	Eastwood manzanita chaparral	G4 S4
<i>Baccharis pilularis</i> Alliance	Coyote brush scrub	G5 S5
<i>Baccharis pilularis</i> – <i>Ceanothus thyrsiflorus</i>	Coyote brush scrub	G3 S3?
<i>Baccharis pilularis</i> – <i>Frangula californica</i> – <i>Rubus</i> spp.	Coyote brush scrub	G2 S2
<i>Baccharis pilularis</i> – <i>Holodiscus discolor</i>	Coyote brush scrub	G3 S3?

Scientific Name	Common Name	Global & State Rank
<i>Baccharis pilularis</i> – <i>Lupinus arboreus</i>	Coyote brush scrub	G3 S3?
<i>Baccharis pilularis</i> Alliance		
<i>Baccharis pilularis</i> / <i>Carex obnupta</i> – <i>Juncus patens</i>	Coyote brush scrub	G3 S3?
<i>Baccharis pilularis</i> / <i>Danthonia californica</i>	Coyote brush scrub	G2 S2
<i>Baccharis pilularis</i> / <i>Deschampsia cespitosa</i>	Coyote brush scrub	G2 S1
<i>Baccharis pilularis</i> / <i>Dudleya farinosa</i>	Coyote brush scrub	G3 S3?
<i>Baccharis pilularis</i> / <i>Eriophyllum staechadifolium</i>	Coyote brush scrub	G3 S3
<i>Baccharis pilularis</i> / <i>Polystichum munitum</i>	Coyote brush scrub	G3 S3?
<i>Broom</i> ( <i>Cytisus scoparius</i> and Others)	Broom patches	GNA SNA
<i>Ceanothus cuneatus</i> Alliance	Wedge leaf ceanothus chaparral; Buck brush chaparral	G4 S4
<i>Ceanothus thyrsiflorus</i> Alliance	Blue blossom chaparral	G4 S4
<i>Ceanothus thyrsiflorus</i> – <i>Rubus ursinus</i>	Blue blossom chaparral	G3 S3?
<i>Ceanothus thyrsiflorus</i> – <i>Vaccinium ovatum</i> – <i>Rubus parviflorus</i>	Blue blossom chaparral	G3 S3?
<i>Chrysolepis chrysophylla</i>	Golden chinquapin thickets	G2 S2
<i>Corylus cornuta</i> var. <i>californica</i> Alliance	Hazelnut scrub	G3 S2?
<i>Frangula californica</i> Alliance	California coffee berry scrub	G4 S4
<i>Garrya elliptica</i> Provisional Alliance	Coastal silk tassel scrub	G3? S3?
<i>Diplacus aurantiacus</i> Alliance	Bush monkeyflower scrub	G3 S3?
<i>Holodiscus discolor</i> Alliance	Ocean spray brush	G4 S3
<i>Lupinus arboreus</i> scrub	Yellow bush lupine scrub	G4 S4
<i>Morella californica</i> Alliance	Wax myrtle scrub	G3 S3
<i>Rhododendron columbianum</i> Alliance	Western Labrador-tea thickets	G4 S2?
<i>Rhododendron occidentale</i> Provisional Alliance	Western azalea patches	G3 S2?
<i>Rosa californica</i> Alliance	California rose briar patches	G3 S3
<i>Rubus (parviflorus, spectabilis, ursinus)</i> Alliance	Coastal brambles	G4 S3
<i>Gaultheria shallon</i> , <i>Rubus parviflorus</i> , <i>Rubus spectabilis</i> Alliance	Coastal brambles	G4 S3
<i>Rubus armeniacus</i>	Himalayan blackberry – rattlebox – edible fig riparian scrub	GNR SNR
<i>Rubus armeniacus</i> - <i>Rubus ursinus</i>	Himalayan blackberry – rattlebox – edible fig riparian scrub	GNR SNR
<i>Salix hookeriana</i> Alliance	Coastal dune willow thickets	G4 S3
<i>Salix lasiolepis</i> Alliance	Arroyo willow thickets	G4 S4
<i>Salix lasiolepis</i> – <i>Baccharis pilularis</i> – <i>Rubus ursinus</i>	Arroyo willow thickets	G3 S3
<i>Salix lasiolepis</i> – <i>Salix lucida</i>	Arroyo willow thickets	G3 S3?
<i>Salix lucida</i> ssp. <i>lasiandra</i> / <i>Equisetum arvense</i>	Booth's Willow – Geyer's Willow – Yellow Willow thickets	GNR S2
<i>Salix sitchensis</i> Alliance	Sitka willow thickets	G4 S3?

Herbaceous Alliances and Stands		
<i>Toxicodendron diversilobum</i> Alliance	Poison oak scrub	G4 S4
<i>Toxicodendron diversilobum</i> – <i>Baccharis pilularis</i> – <i>Rubus parviflorus</i>	Poison oak scrub	G3 S3?
<i>Toxicodendron diversilobum</i> – <i>Diplacus aurantiacus</i>	Poison oak scrub	G3 S3?
<i>Abronia latifolia</i> – <i>Erigeron glaucus</i> Alliance	Dune mat	G3 S3
<i>Abronia latifolia</i> – <i>Leymus mollis</i>	Dune mat	G3 S3
<i>Agrostis stolonifera</i> Alliance	Bent grass – tall fescue meadows	GNA SNA
<i>Agrostis stolonifera</i> – <i>Festuca arundinacea</i>	Bent grass – tall fescue meadows	GNA SNA
<i>Agrostis stolonifera</i> – <i>Festuca arundinacea</i>	Bent grass – tall fescue meadows	GNA SNA
<i>Ammophila Arenaria</i> Alliance	European beach grass swards	GNA SNA
<i>Argentina egedii</i>	Pacific silverweed marshes	G4 S2
<i>Avena barbata</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Avena fatua</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Briza maxima</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus diandrus</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus diandrus</i> – <i>Avena</i> spp.	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus diandrus</i> – Mixed herbs	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus</i> – ( <i>Vicia villosa</i> – <i>Lolium perenne</i> ) – <i>Trifolium hirtum</i>	Wild oats and annual brome grasslands	GNA SNA

<i>Bromus hordeaceus – Aira caryophyllea</i>	Wild oats and annual brome grasslands	GNA SNA
Scientific Name	Common Name	Global & State Rank
<i>Bromus hordeaceus – Amsinckia menziesii – Hordeum murinum</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Bromus tectorum</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Dichelostemma multiflorum</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Erodium botrys</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Erodium botrys – Plagiobothrys fulvus</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Hordeum spp. – Medicago polymorpha</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Leontodon saxatilis</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Limnanthes douglasii</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Taeniatherum caput-medusae</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bromus hordeaceus – Vulpia myuros var. hirsuta</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Hypochaeris glabra – Vulpia bromoides</i>	Wild oats and annual brome grasslands	GNA SNA
<i>Bolboschoenus maritimus</i> Alliance	Salt marsh bulrush marshes	G4 S3
<i>Brassica nigra</i>	Upland mustards and other ruderal forbs	GNA SNA
<i>Brassica nigra – Bromus diandrus</i>	Upland mustards and other ruderal forbs	GNA SNA
<i>Raphanus sativus</i>	Upland mustards and other ruderal forbs	GNA SNA
<i>Bromus carinatus</i> Alliance	California brome – blue wildrye prairie	G3 S3
<i>Elymus glaucus</i> Alliance	California brome – blue wildrye prairie	G3 S3
<i>Pteridium aquilinum – Grass</i>	California brome – blue wildrye prairie	G3 S3
<i>Calamagrostis nutkaensis</i> Alliance	Pacific reed grass meadows	G4 S2
<i>Calamagrostis nutkaensis – Carex (obnupta) – Juncus (patens)</i>	Pacific reed grass meadows	G2 S1S2
<i>Calamagrostis nutkaensis / Baccharis pilularis</i>	Pacific reed grass meadows	G2 S1S2
<i>Camassia quamash</i> Alliance	Small camas meadows	G4? S3?
<i>Carex obnupta</i> Alliance	Slough sedge swards	G4 S3
<i>Carex obnupta – Juncus patens</i> Alliance	Slough sedge swards	G3 S3?
<i>Carex pansa</i> Alliance	Sand dune sedge swaths	G4? S3?
<i>Conium maculatum</i> Alliance	Poison hemlock or fennel patches	GNA SNA
<i>Foeniculum vulgare</i> Alliance	Poison hemlock or fennel patches	GNA SNA
<i>Cortaderia (jubata, selloana)</i> Alliance	Pampas grass patches	GNA SNA
<i>Cynosurus echinatus – Bromus hordeaceus – Avena fatua</i> Alliance	Annual dogtail grasslands	GNA SNA
<i>Danthonia californica</i> Alliance	California oat grass prairie	G4 S3
<i>Danthonia californica – (Briza maxima – Vulpia bromoides)</i>	California oat grass prairie	G4 S3
<i>Danthonia californica – Aira caryophyllea</i>	California oat grass prairie	G4 S2?
<i>Darlingtonia californica</i>	California pitcher plant fens	G4 S3?
<i>Deschampsia caespitosa</i> Alliance	Tufted hair grass meadows	G5 S4?
<i>Deschampsia cespitosa – Anthoxanthum odoratum</i>	Tufted hair grass meadows	G5 S4?
<i>Deschampsia cespitosa – Danthonia californica</i>	Tufted hair grass meadows	G2 S2
<i>Deschampsia cespitosa – Horkelia marinensis</i>	Tufted hair grass meadows	G3 S1
<i>Distichlis spicata</i>	Salt grass flats	GNR S4
<i>Eleocharis macrostachya</i> Alliance	Pale spike rush marshes	G4 S4
<i>Elymus glaucus</i> Alliance	Blue wild rye meadows	G3? S3?
<i>Festuca rubra</i> Alliance	Red fescue grassland	G4 S3?
<i>Festuca idahoensis</i> Alliance	Idaho fescue grassland	G4 S3?
<i>Glyceria occidentalis</i>	Northwest manna grass marshes	G3? S3?
<i>Grindelia (stricta)</i> Provisional Alliance	Gum plant patches	G2G3 S2S3
<i>Heterotheca (sessiflora)</i> Alliance	Goldenaster patches	G3 S3
<i>Hordeum brachyantherum</i> Alliance	Meadow barley patches	G4 S3?
<i>Juncus articus</i> (var. <i>balticus, mexicanus</i> )	Baltic and Mexican rush marshes	G5 S4
<i>Juncus effusus</i> Alliance	Soft rush marshes	G4 S4?
<i>Juncus (oxymeris, xiphoides)</i> Provisional Alliance	Iris-leaf rush seeps	G2? S2?
<i>Juncus lescurii</i> Alliance	Salt rush swales	G3 S2?
<i>Juncus patens</i> Provisional Alliance	Western rush marshes	G4? S4?

<i>Lasthenia californica</i> – <i>Plantago erecta</i> – <i>Vulpia microstachys</i> Alliance	California goldfields – dwarf plantain – small fescue flower fields	G4 S4
<i>Leymus mollis</i> Alliance	Sea lyme grass patches	G4 S2
<i>Leymus triticoides</i> Alliance	Creeping rye grass turfs	G5 S3
<b>Scientific Name</b>	<b>Common Name</b>	<b>Global &amp; State Rank</b>
<i>Mimulus (guttatus)</i> Alliance	Common monkey flower seeps	G4? S3?
<i>Nassella pulchra</i> Alliance	Purple needle grass grassland	G4 S3?
<i>Poa secunda</i> Alliance	Curley bluegrass grassland	G4 S3?
<i>Schoenoplectus acutus</i> Alliance	Hardstem bulrush marsh	G5 S4
<i>Schoenoplectus californicus</i> Alliance	California bulrush marsh	G5 S4?
<i>Scirpus microcarpus</i> Alliance	Small-fruited bulrush marsh	G4 S2
<i>Solidago canadensis</i> Provisional Alliance	Canada goldenrod patches	G4? S4?
<i>Woodwardia fimbriata</i>	Woodwardia thicket	G3 S3.2
<b>Aquatic Vegetation</b>		
<i>Azolla (filiculoides, mexicana)</i> Provisional Alliance	Mosquito fern mats	G4 S4
<i>Hydrocotyle (ranunculoides, umbellata)</i> Alliance	Mats of floating pennywort	G4 S3?
<i>Lemna (minor)</i> and Relatives Provisional Alliance	Duckweed blooms	G5 S4?
<i>Nuphar lutea</i> Provisional Alliance	Yellow pond-lily mats	G5 S3?
<i>Oenanthe sarmentosa</i> Alliance	Water-parsley marsh	G4 S2?
<i>Sarcocornia pacifica</i> ( <i>Salicornia depressa</i> ) Alliance	Pickleweed mats	G4 S3
<i>Scirpus microcarpus</i>	Small fruited bulrush marsh	G4 S2
<i>Sparganium (angustifolium)</i> Alliance	Mats of bur-reed leaves	G4 S3?
<i>Typha (angustifolia, domingensis, latifolia)</i> Alliance	Cattail marshes	G5 S5

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## Appendix C. Soil Report



United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Mendocino County, Western Part, California**

Weintraub NRCS Soils Map



December 3, 2020

## Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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## Contents

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<b>Preface.....</b>	<b>2</b>
<b>How Soil Surveys Are Made.....</b>	<b>5</b>
<b>Soil Map.....</b>	<b>8</b>
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Mendocino County, Western Part, California.....	13
124—Caspar-Quinliven-Ferncreek complex, 9 to 30 percent slopes.....	13
141—Ferncreek sandy loam, 2 to 9 percent slopes.....	15
174—Irmulco-Tramway complex, 50 to 75 percent slopes.....	16
196—Quinliven-Ferncreek complex, 2 to 15 percent slopes.....	18
199—Shinglemill-Gibney complex, 2 to 9 percent slopes.....	20
<b>References.....</b>	<b>24</b>

## How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units).

Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

## **Soil Map**

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



### MAP LEGEND



**Area of Interest (AOI)**

**Soils**

**Special Point Features**

**Water Features**

**Transportation**

**Background**

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning: Soil Map may not be valid at this scale.**

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mendocino County, Western Part, California  
Survey Area Data: Version 15, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
124	Casper-Quinliven-Ferncreek complex, 9 to 30 percent slopes	0.4	0.7%
141	Ferncreek sandy loam, 2 to 9 percent slopes	1.5	2.6%
174	Irmulco-Tramway complex, 50 to 75 percent slopes	21.2	37.4%
196	Quinliven-Ferncreek complex, 2 to 15 percent slopes	16.5	29.1%
199	Shinglemill-Gibney complex, 2 to 9 percent slopes	17.2	30.3%
<b>Totals for Area of Interest</b>		<b>56.7</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

Custom Soil Resource Report

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Mendocino County, Western Part, California

### 124—Caspar-Quinliven-Ferncreek complex, 9 to 30 percent slopes

#### Map Unit Setting

*National map unit symbol:* hmky  
*Elevation:* 100 to 1,000 feet  
*Mean annual precipitation:* 40 to 65 inches  
*Mean annual air temperature:* 52 to 55 degrees F  
*Frost-free period:* 290 to 365 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Caspar and similar soils:* 37 percent  
*Quinliven and similar soils:* 33 percent  
*Ferncreek and similar soils:* 15 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Caspar

##### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Marine deposits derived from sandstone

##### Typical profile

*H1 - 0 to 16 inches:* sandy loam  
*H2 - 16 to 37 inches:* sandy loam  
*H3 - 37 to 48 inches:* sandy clay loam  
*H4 - 48 to 62 inches:* sandy loam

##### Properties and qualities

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 8.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* B  
*Hydric soil rating:* No

**Description of Quinliven**

**Setting**

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Marine deposits derived from sandstone

**Typical profile**

*H1 - 0 to 4 inches:* sandy loam  
*H2 - 4 to 11 inches:* sandy loam  
*H3 - 11 to 18 inches:* loam  
*H4 - 18 to 51 inches:* clay  
*H5 - 51 to 60 inches:* sandy clay loam  
*H6 - 60 to 64 inches:* loamy sand

**Properties and qualities**

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 48 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.5 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

**Description of Ferncreek**

**Setting**

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Marine deposits derived from sandstone and siltstone

**Typical profile**

*H1 - 0 to 7 inches:* sandy loam  
*H2 - 7 to 33 inches:* clay loam  
*H3 - 33 to 43 inches:* sandy clay loam  
*H4 - 43 to 61 inches:* sandy loam

**Properties and qualities**

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* Very high

Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 24 to 48 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

**Minor Components**

**Unnamed, gentler or steeper slopes**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Hydric soil rating:* Yes

**Harecreek**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**141—Ferncreek sandy loam, 2 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hmln  
*Elevation:* 100 to 1,000 feet  
*Mean annual precipitation:* 40 to 65 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 290 to 365 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Ferncreek and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Ferncreek**

**Setting**

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread

Custom Soil Resource Report

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Marine deposits derived from sandstone and siltstone

**Typical profile**

*E - 0 to 7 inches:* sandy loam  
*Bt - 7 to 33 inches:* clay loam  
*Btv - 33 to 43 inches:* sandy clay loam  
*BCtv - 43 to 61 inches:* sandy loam

**Properties and qualities**

*Slope:* 2 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 24 to 48 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

**Minor Components**

**Quinliven**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

**Casper**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Unnamed, gentler or steeper slopes**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**174—Irmulco-Tramway complex, 50 to 75 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hm2  
*Elevation:* 10 to 800 feet

Custom Soil Resource Report

*Mean annual precipitation: 40 to 70 inches  
Mean annual air temperature: 50 to 55 degrees F  
Frost-free period: 290 to 365 days  
Farmland classification: Not prime farmland*

**Map Unit Composition**

*Irmulco and similar soils: 45 percent  
Tramway and similar soils: 35 percent  
Minor components: 20 percent  
Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Irmulco**

**Setting**

*Landform: Hills  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Side slope  
Down-slope shape: Convex  
Across-slope shape: Convex  
Parent material: Colluvium derived from sandstone and/or residuum weathered from sandstone*

**Typical profile**

*H1 - 0 to 6 inches: loam  
H2 - 6 to 61 inches: loam  
H3 - 61 to 65 inches: weathered bedrock*

**Properties and qualities**

*Slope: 50 to 75 percent  
Depth to restrictive feature: 60 to 80 inches to paralithic bedrock  
Drainage class: Well drained  
Runoff class: High  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.80 to 2.00 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Moderate (about 8.4 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 7e  
Hydrologic Soil Group: B  
Hydric soil rating: No*

**Description of Tramway**

**Setting**

*Landform: Hills  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Side slope  
Down-slope shape: Concave  
Across-slope shape: Convex  
Parent material: Colluvium derived from sandstone and/or residuum weathered from sandstone*

Custom Soil Resource Report

**Typical profile**

*H1 - 0 to 7 inches:* loam  
*H2 - 7 to 12 inches:* loam  
*H3 - 12 to 28 inches:* clay loam  
*H4 - 28 to 32 inches:* weathered bedrock

**Properties and qualities**

*Slope:* 50 to 75 percent  
*Depth to restrictive feature:* 20 to 40 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.5 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

**Minor Components**

**Unnamed, gentler or steeper slopes**  
*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

**Hotel**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

**Vandamme**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

**Dehaven**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

**Unnamed, disturbed**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

**196—Quinliven-Ferncreek complex, 2 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hmnz  
*Elevation:* 100 to 1,000 feet

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*Mean annual precipitation: 40 to 65 inches  
Mean annual air temperature: 52 to 54 degrees F  
Frost-free period: 290 to 365 days  
Farmland classification: Not prime farmland*

**Map Unit Composition**

*Quinliven and similar soils: 60 percent  
Ferncreek and similar soils: 25 percent  
Minor components: 15 percent  
Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Quinliven**

**Setting**

*Landform: Marine terraces  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Marine deposits derived from sandstone*

**Typical profile**

*Ol - 0 to 5 inches: slightly decomposed plant material  
E - 5 to 9 inches: sandy loam  
EB - 9 to 16 inches: sandy loam  
Bt1 - 16 to 23 inches: loam  
Bt2 - 23 to 56 inches: clay  
Bt3 - 56 to 65 inches: sandy clay loam  
C - 65 to 75 inches: loamy sand*

**Properties and qualities**

*Slope: 2 to 15 percent  
Depth to restrictive feature: More than 80 inches  
Drainage class: Moderately well drained  
Runoff class: Very high  
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)  
Depth to water table: About 48 to 72 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: High (about 10.9 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 3e  
Hydrologic Soil Group: C  
Hydric soil rating: No*

**Description of Ferncreek**

**Setting**

*Landform: Marine terraces  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Marine deposits derived from sandstone and siltstone*

Custom Soil Resource Report

**Typical profile**

*Ol - 0 to 2 inches:* slightly decomposed plant material  
*E - 2 to 9 inches:* sandy loam  
*Bt - 9 to 35 inches:* clay loam  
*Btv - 35 to 45 inches:* sandy clay loam  
*BCtv - 45 to 63 inches:* sandy loam

**Properties and qualities**

*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 48 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 8.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

**Minor Components**

**Casper**

*Percent of map unit:* 8 percent  
*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Harecreek**

*Percent of map unit:* 7 percent  
*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**199—Shinglemill-Gibney complex, 2 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hmp2

Custom Soil Resource Report

*Elevation: 200 to 750 feet  
Mean annual precipitation: 40 to 65 inches  
Mean annual air temperature: 52 to 54 degrees F  
Frost-free period: 270 to 330 days  
Farmland classification: Not prime farmland*

**Map Unit Composition**

*Shinglemill and similar soils: 45 percent  
Gibney and similar soils: 35 percent  
Minor components: 20 percent  
Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Shinglemill**

**Setting**

*Landform: Marine terraces  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Fluviomarine deposits derived from sedimentary rock*

**Typical profile**

*Oi - 0 to 2 inches: slightly decomposed plant material  
E - 2 to 10 inches: loam  
Bt1 - 10 to 17 inches: loam  
Bt2 - 17 to 27 inches: clay loam  
2Btv - 27 to 65 inches: sandy clay*

**Properties and qualities**

*Slope: 2 to 9 percent  
Depth to restrictive feature: More than 80 inches  
Drainage class: Poorly drained  
Runoff class: Very high  
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)  
Depth to water table: About 12 to 30 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: High (about 9.5 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 3w  
Hydrologic Soil Group: C/D  
Hydric soil rating: Yes*

**Description of Gibney**

**Setting**

*Landform: Marine terraces  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Fluviomarine deposits derived from sandstone*

Custom Soil Resource Report

**Typical profile**

*A - 0 to 9 inches:* loam  
*Bt - 9 to 29 inches:* sandy clay loam  
*Btv1 - 29 to 55 inches:* clay  
*Btv2 - 55 to 63 inches:* sandy clay loam

**Properties and qualities**

*Slope:* 2 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 30 to 48 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.2 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

**Minor Components**

**Blacklock**

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Gibwell**

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Tropaquepts**

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* Yes

**Tregoning**

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* Yes

Custom Soil Resource Report

23

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Custom Soil Resource Report

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United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

## APPENDIX D

### Wetland Data Sheets

#### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 45400 Bill Owens Rd City/County: MENDOCINO Sampling Date: 11/20/20  
 Applicant/Owner: Point Arena State: CA Sampling Point: SP01

Investigator(s): TERESA R SPADE Section, Township, Range: \_\_\_\_\_

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): <1%

Subregion (LRR): A Lat: 38°52'982' Long: 123°38'495' Datum: NAD83

Soil Map Unit Name: Shingletown-Gibney Complex, 2-9% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>5</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>20%</u>	(A/B)
4. _____	_____	_____	_____			
<u>20</u> = Total Cover						
Sapling/Shrub Stratum (Plot size: <u>20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:		
1. <u>Vaccinium ovatum</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	Total % Cover of:	Multiply by:	
2. <u>Baccharis pilularis</u>	<u>2</u>	<u>NO</u>	<u>N1</u>	<u>0</u>	<u>x 1 =</u>	<u>0</u>
3. <u>Pseudotsuga menziesii</u>	<u>7</u>	<u>YES</u>	<u>FACU</u>	<u>10</u>	<u>x 2 =</u>	<u>20</u>
4. _____	_____	_____	_____	<u>5</u>	<u>x 3 =</u>	<u>15</u>
5. _____	_____	_____	_____	<u>54</u>	<u>x 4 =</u>	<u>216</u>
<u>19</u> = Total Cover				<u>6</u>	<u>x 5 =</u>	<u>30</u>
<u>29</u> = Total Cover				<u>75</u> (A)	<u>291</u> (B)	
Prevalence Index = B/A = <u>3.88</u>						
Hydrophytic Vegetation Indicators:						
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)						
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.						
Hydrophytic Vegetation Present?				Yes _____ No <input checked="" type="checkbox"/>		
Remarks:						

**SOIL**Sampling Point: SP01**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix	Redox Features	Texture	Remarks		
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>
-1 - 0	Duff					organic duff layer
0 - 5"	10YR 3/2	100				sandy clay loam 1-2% organic roots
5"-17"	10YR 5/3	100				loamy sand
17"+	10YR 6/3	100				loamy clayey sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleayed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleayed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_Hydric Soil Present? Yes  No 

Remarks:

**HYDROLOGY****Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

**Field Observations:**Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_Saturation Present? Yes  No  Depth (inches):  Remarks: **Wetland Hydrology Present?** Yes  No 

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *soil is damp throughout from recent rains but not saturated. very well drained soil*

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: 45400 Bill Owens Rd City/County: MENDOCINO Sampling Date: 11/20/20  
 Applicant/Owner: Weinstein State: CA Sampling Point: SP02  
 Investigator(s): TERESA R SPADE Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex) (none): slight Slope (%): <1%  
 Subregion (LRR): A Lat: 38°52.986' Long: 123°38.491' Datum: NAD 83  
 Soil Map Unit Name: Shingletown-Gibney Complex, 2 to 9% slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30'</u> )		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. <u>Notholithocarpus densiflorus</u>	<u>5</u>	<u>YES</u>	<u>N1</u>		Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. _____					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16%</u> (A/B)
4. _____					
		<u>25</u>	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: <u>20'</u> )		<u>15</u>	<u>YES</u>	<u>FACU</u>	Total % Cover of: _____ Multiply by: _____
1. <u>Pseudotsuga menziesii</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2. _____				FACW species <u>15</u> x 2 = <u>30</u>	
3. _____				FAC species <u>0</u> x 3 = <u>0</u>	
4. _____				FACU species <u>67</u> x 4 = <u>268</u>	
5. _____				UPL species <u>5</u> x 5 = <u>25</u>	
		<u>15</u>	= Total Cover		Column Totals: <u>93</u> (A) <u>341</u> (B)
Herb Stratum (Plot size: <u>10'</u> )		<u>15</u>	<u>YES</u>	<u>FACW</u>	Prevalence Index = B/A = <u>3.7</u>
1. <u>Juniperus patens</u>	<u>15</u>	<u>YES</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
2. <u>Lonicera hispidula</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	1 - Rapid Test for Hydrophytic Vegetation	
3. <u>Polycarpon tetraphyllum</u>	<u>2</u>	<u>NO</u>	<u>FAC</u>	2 - Dominance Test is >50%	
4. <u>Luzula comosa</u>	<u>4</u>	<u>NO</u>	<u>FAC</u>	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
5. _____				4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
6. _____				5 - Wetland Non-Vascular Plants <sup>1</sup>	
7. _____				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
9. _____					
10. _____					
11. _____					
		<u>36</u>	= Total Cover		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Woody Vine Stratum (Plot size: _____)		<u>17</u>	<u>YES</u>	<u>FACU</u>	
1. <u>Rubus ursinus</u>	<u>17</u>	<u>YES</u>	<u>FACU</u>		
2. _____					
% Bare Ground in Herb Stratum <u>40</u>		<u>17</u>	= Total Cover		
Remarks: <u>leaf litter</u>					



Teresa R Spade, AICP  
Spade Natural Resources Consulting  
PO Box 1503  
Mendocino, CA 95460  
phone: 707-397-1802  
spadenrc@gmail.com



To: Weintraub

Re: Addendum to Biological  
Scoping Survey Report for  
45400 Bill Owens Road  
Point Arena, CA  
Mendocino County  
(APN 027-361-15)

Date: July 1, 2021

Dear Miranda and Jeremy:

I visited the project site at 45400 Bill Owens Road, Point Arena CA (APN 027-361-15) on May 5, and June 21, 2021, to survey for bloom window plant species of concern with the potential to occur at the site, as included in the scoping for the Botanical Scoping, Wetland Delineation and Biological Scoping Survey Report I provided for this site dated January 25, 2021. No Special Status Plant Species were observed.

A full plant list of species encountered at the site is included in this addendum as Table 1. Additionally, the site map showing the well location is included as Figure 1. The proposed well locations are within the area surveyed that is considered to be part of the building area, and meet minimum 100 foot setbacks to any identified sensitive areas.

Sincerely,

  
Teresa R Spade, AICP  
Spade Natural Resources Consulting

Table 1. Plant List 45400 Bill Owens Road, Point Arena, CA (APN 027-361-15) SpadeNRC July 1, 2021

GROUP	FAMILY	LATIN NAME	COMMON NAME	NATIVE
FERNS AND ALLIES				
	Blechnaceae			
		<i>Blechnum spicant</i>	deer fern	Y
	Dennstaedtiaceae			
		<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken; western bracken; hairy bracken fern	Y
		<i>Polystichum munitum</i>	western sword fern	Y
GYMNOSPERMS				
	Pinaceae			
		<i>Abies grandis</i>	grand fir; lowland fir	Y
		<i>Pinus muricata</i>	Bishop pine; prickle-cone pine; bull pine	Y
		<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas fir	Y
	Taxodiaceae			
		<i>Sequoia sempervirens</i>	coast redwood	Y
DICOTS				
	Asteraceae			
		<i>Anisocarpus madioides</i>	woodland madia	Y
		<i>Hypochaeris radicata</i>	rough cat's ear, hairy cat's ear	N
		<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	
	Berberidaceae			
		<i>Berberis nervosa</i>	Cascades Oregon grape, longleaf berberis	Y
	Boraginaceae			
		<i>Myosotis discolor</i>	forget-me-not, changing forget me not	N
	Caprifoliaceae			
		<i>Lonicera hispidula</i>	hairy honeysuckle	Y
	Ericaceae			
		<i>Arbutus menziesii</i>	madrone	Y
		<i>Arctostaphylos columbiana</i>	redwood manzanita, hairy manzanita	Y
		<i>Gaultheria shallon</i>	salal	Y
		<i>Rhododendron macrophyllum</i>	California rose-bay	Y
		<i>Vaccinium ovatum</i>	California huckleberry	Y
	Fabaceae			
		<i>Trifolium campestre</i>	hop clover, Field clover, Low hop clover	N
		<i>Trifolium dubium</i>	shamrock, Shamrock clover, Suckling clover	N
		<i>Vicia sativa</i> ssp. <i>sativa</i>	spring vetch	N

GROUP	FAMILY	LATIN NAME	COMMON NAME	NATIVE
	Fagaceae			
		<i>Notholithocarpus densiflorus</i> var. <i>densiflorus</i>	tanoak	Y
	Lamiaceae			
		<i>Prunella vulgaris</i> var. <i>vulgaris</i>	self-heal	N
		<i>Stachys rigida</i>	rigid hedge-nettle	Y
	Linaceae			
		<i>Linum bienne</i>	pale flax	N
	Myricaceae			
		<i>Morella californica</i>	wax-myrtle	Y
	Myrsinaceae			
		<i>Lysimachia latifolia</i>	Pacific starflower	Y
	Philadelphaceae			
		<i>Whipplea modesta</i>	yerba de selva, modesty	Y
	Phrymaceae			
		<i>Mimulus aurantiacus</i>	sticky monkeyflower	Y
	Plantaginaceae			
		<i>Plantago lanceolata</i>	English plantain, ribwort, narrow leaved plantain, ribgrass	N
	Rhamnaceae			
		<i>Ceanothus thyrsiflorus</i>	blueblossom	Y
	Rosaceae			
		<i>Cotoneaster pannosa</i>	woolly cotoneaster	N
		<i>Fragaria vesca</i>	woodland strawberry, wood strawberry	Y
		<i>Rubus ursinus</i>	California blackberry	Y
	Rubiaceae			
		<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw	Y
	Violaceae			
		<i>Viola sempervirens</i>	evergreen violet, redwood violet	Y
MONOCOTS				
	Cyperaceae			
		<i>Carex tumulicola</i>	split-awn sedge	Y
	Iridaceae			
		<i>Iris douglasiana</i>	Douglas' iris	Y
	Juncaceae			
		<i>Juncus patens</i>	common rush	Y
		<i>Trillium ovatum</i>	trillium	Y
	Poaceae			
		<i>Aira caryophyllea</i>	silver European hairgrass, hairgrass	N
		<i>Anthoxanthum odoratum</i>	sweet vernal grass	N

GROUP	FAMILY	LATIN NAME	COMMON NAME	NATIVE
		<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome	Y
		<i>Bromus laevipes</i>	Chinook brome, narrow flowered brome	Y
		<i>Festuca myuros</i>	rattail fescue	N
		<i>Holcus lanatus</i>	common velvetgrass	N
		<i>Polypogon australis</i>	Chilean beardgrass, rabbitfoot grass	N
		<i>Polypogon monspeliensis</i>	annual beard grass	N

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	Pinaceae			
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		<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas fir	Y
	Taxodiaceae			
		<i>Sequoia sempervirens</i>	coast redwood	Y
DICOTS				
	Asteraceae			
		<i>Anisocarpus madioides</i>	woodland madia	Y
		<i>Hypochaeris radicata</i>	rough cat's ear, hairy cat's ear	N
		<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	
	Berberidaceae			
		<i>Berberis nervosa</i>	Cascades Oregon grape, longleaf berberis	Y
	Boraginaceae			
		<i>Myosotis discolor</i>	forget-me-not, changing forget me not	N
	Caprifoliaceae			
		<i>Lonicera hispidula</i>	hairy honeysuckle	Y
	Ericaceae			
		<i>Arbutus menziesii</i>	madrone	Y
		<i>Arctostaphylos columbiana</i>	redwood manzanita, hairy manzanita	Y
		<i>Gaultheria shallon</i>	salal	Y
		<i>Rhododendron macrophyllum</i>	California rose-bay	Y
		<i>Vaccinium ovatum</i>	California huckleberry	Y
	Fabaceae			
		<i>Trifolium campestre</i>	hop clover, Field clover, Low hop clover	N
		<i>Trifolium dubium</i>	shamrock, Shamrock clover, Suckling clover	N
		<i>Vicia sativa</i> ssp. <i>sativa</i>	spring vetch	N

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	Lamiaceae			
		<i>Prunella vulgaris</i> var. <i>vulgaris</i>	self-heal	N
		<i>Stachys rigida</i>	rigid hedge-nettle	Y
	Linaceae			
		<i>Linum bienne</i>	pale flax	N
	Myricaceae			
		<i>Morella californica</i>	wax-myrtle	Y
	Myrsinaceae			
		<i>Lysimachia latifolia</i>	Pacific starflower	Y
	Philadelphaceae			
		<i>Whipplea modesta</i>	yerba de selva, modesty	Y
	Phrymaceae			
		<i>Mimulus aurantiacus</i>	sticky monkeyflower	Y
	Plantaginaceae			
		<i>Plantago lanceolata</i>	English plantain, ribwort, narrow leaved plantain, ribgrass	N
	Rhamnaceae			
		<i>Ceanothus thyrsiflorus</i>	blueblossom	Y
	Rosaceae			
		<i>Cotoneaster pannosa</i>	woolly cotoneaster	N
		<i>Fragaria vesca</i>	woodland strawberry, wood strawberry	Y
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	Rubiaceae			
		<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw	Y
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		<i>Carex tumulicola</i>	split-awn sedge	Y
	Iridaceae			
		<i>Iris douglasiana</i>	Douglas' iris	Y
	Juncaceae			
		<i>Juncus patens</i>	common rush	Y
		<i>Trillium ovatum</i>	trillium	Y
	Poaceae			
		<i>Aira caryophyllea</i>	silver European hairgrass, hairgrass	N
		<i>Anthoxanthum odoratum</i>	sweet vernal grass	N

GROUP	FAMILY	LATIN NAME	COMMON NAME	NATIVE
		<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome	Y
		<i>Bromus laevipes</i>	Chinook brome, narrow flowered brome	Y
		<i>Festuca myuros</i>	rattail fescue	N
		<i>Holcus lanatus</i>	common velvetgrass	N
		<i>Polypogon australis</i>	Chilean beardgrass, rabbitfoot grass	N
		<i>Polypogon monspeliensis</i>	annual beard grass	N

## Tree Removal and Mitigation Report for Coastal Development Permit

This report outlines the tree and plant removal and replacement mitigation strategies to ensure environmental considerations, such as fire safety, invasive species management, and compliance with local regulations.

**Tree Removal Details.** Surveyor's Miranda and Jeremy Weintraub conducted the tree and plant removal assessment on November 10, 2024. To ensure compliance with fire safety regulations and create a defensible space, trees identified for removal, defined as trees that are more than 6 inches in diameter at 4.5 feet up from the ground, have been selected based on their proximity to the proposed building sites for the single-family residence and guest cottage. The removal plan adheres to guidelines for maintaining a clear area around structures to reduce fire risk (e.g. Zone 1 and Zone 2), with defensible space requirements set by CalFire and the Redwood Coast Fire Protection District.

Each tree marked for removal has been chosen carefully to balance fire safety and environmental considerations. No non-native or invasive species were targeted for removal. No plants were targeted for removal. All trees marked for removal with flagging ribbon are native species that align with local ecology, including Redwood, Tan Oak, and Douglas Fir.

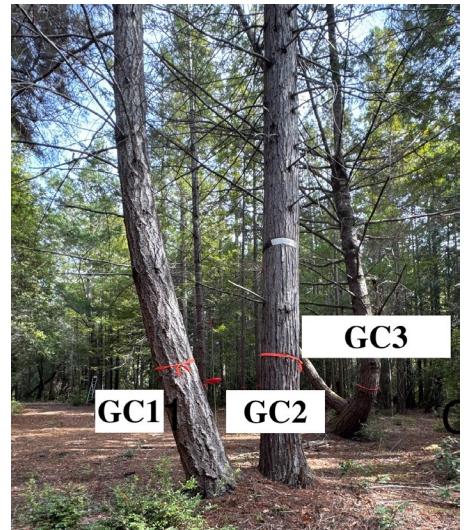
Below is a table summarizing the trees proposed for removal, images of each tree, and the associated site map that includes the building site and the location of the trees (with their respective IDs) proposed for removal.

**Table 1. Tree Removal Characteristics for each tree slated for removal due to proposed buildings — single family residence (SFR) or Guest Cottage (GC)**

Removal Tree ID (Building Site SFR [BS] and Guest Cottage [GC])	Species	DBH (in inches)	Condition (Dead/Diseased, Living)	Rationale for Removal
BS1	Tan Oak	9.23	Living	In building site of SFR
BS2	Redwood	19.10	Living	In building site of SFR
BS3	Redwood	20.69	Living	In building site of SFR
BS4	Douglas fir	30.56	Living	In building site of SFR
GC1	Douglas fir	18.46	Living	In building site of GC
GC2	Redwood	19.10	Living	In building site of GC
GC3	Douglas fir	19.74	Living	In building site of GC

### Images of Trees Slated for Removal





**Tree Removal Mitigation Details.** Surveyor's Miranda and Jeremy Weintraub conducted the sapling identification assessment on November 10, 2024. For each tree removed, a sapling of the same species was identified and marked with flagging ribbon for monitoring to meet the 1-to-1 mitigation requirement. Priority was given to selecting saplings in areas free from invasive species and weeds, to ensure they have minimal competition for resources. As no non-native or invasive species were targeted for removal, all trees requiring replacement for mitigation purposes are native species that align with local ecology, including Redwood, Tan Oak, and Douglas Fir.

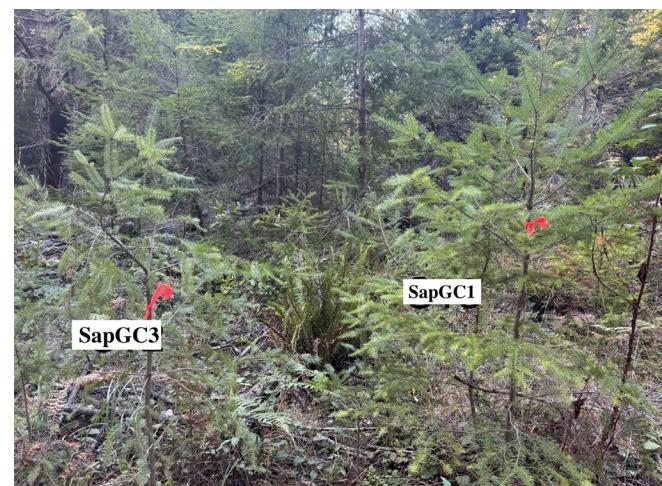
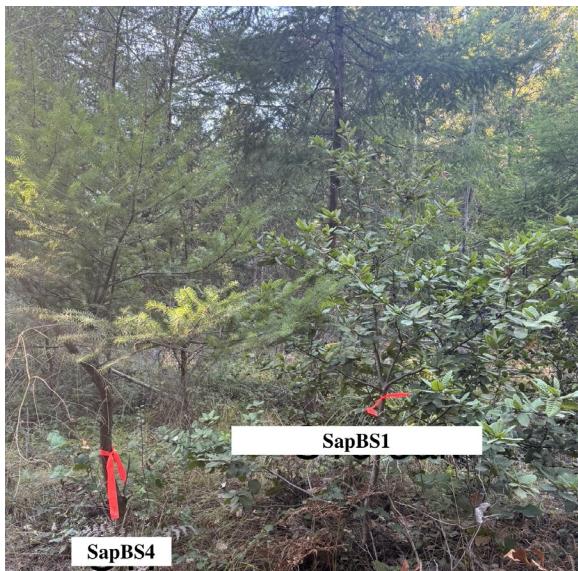
Saplings were marked with tags to allow for easy tracking. Each sapling received an identification number that corresponds to the parent tree that it is “replacing”. For example, proposed removal tree ID #BS1 corresponds to sapling tree ID #SapBS1.

Below is a table summarizing the sapling trees proposed for natural regeneration, images of each sapling, and the associated site map that includes the building site and the location of the saplings (with their respective IDs) proposed for natural regeneration. Sapling trees will be monitored for a three-year period.

<b>Table 2. Sapling Tree Characteristics for each tree slated for natural regeneration</b>		
Sapling Tree ID*	Parent Removal Tree ID*	Sapling Species (Matches Removal Tree Species)
SapBS1	BS1	Tan Oak
SapBS2	BS2	Redwood
SapBS3	BS3	Redwood
SapBS4	BS4	Douglas fir
SapGC1	GC1	Douglas fir
SapGC2	GC2	Redwood
SapGC3	GC3	Douglas fir

\*Sapling Tree ID corresponds to the ID of the parent tree being removed that it is replacing. For example, removal tree ID #BS1 corresponds to sapling tree ID #SapBS1.

### Images of Saplings Trees for Natural Regeneration

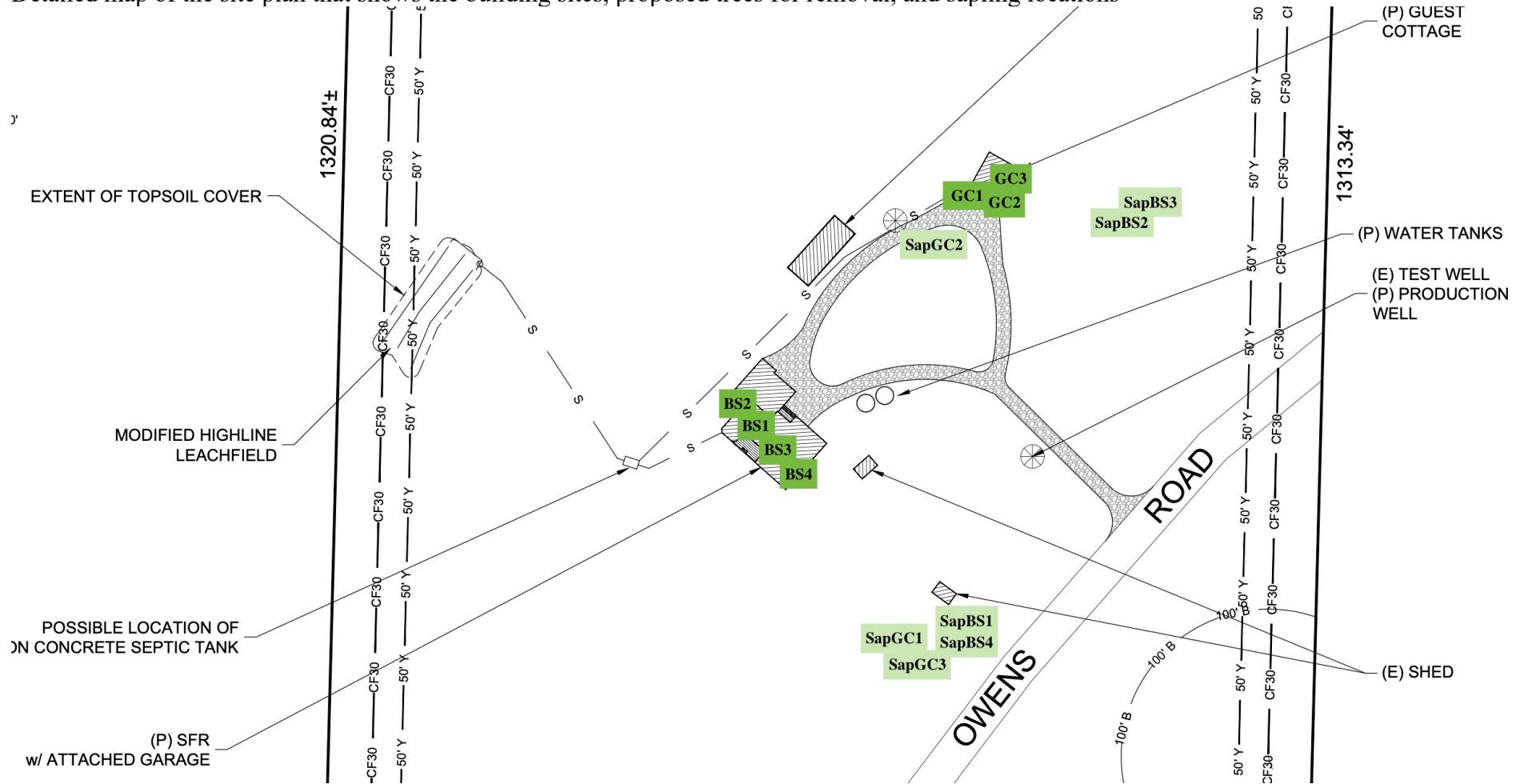


**Three-Year Management Plan of Naturally Regenerating Species.** Over the next three years, the identified saplings will be managed and protected through the following practices:

1. **Monitoring:** Each sapling will undergo biannual inspections to assess its health, growth, and any signs of stress or disease. These inspections will ensure that the saplings are thriving in the designated areas and will guide any necessary management actions.
2. **Protection from Impact:** To protect the saplings from accidental damage, barriers such as protective cages or fencing may be installed around the sapling. These barriers will be checked periodically and adjusted as necessary.
3. **Weed and Invasive Species Control:** Saplings were selected in areas free from invasive species and weeds, to ensure they will have minimal competition for resources. Areas around each sapling will be maintained to keep them free from invasive species and weeds that could otherwise compete for resources. If required, this will involve manual removal of weeds.
4. **Avoiding Trimming and Removal:** Saplings were selected in areas far from the proposed home and home-related development sites. Additionally, each identified sapling has been marked on the site plan and visually flagged to prevent accidental trimming or removal during routine property maintenance and to ensure these areas remain undisturbed.
5. **Adaptive Management:** Management practices will be adjusted based on the saplings' growth and any observed changes in environmental conditions. If a sapling fails to thrive, it will be replaced with a new sapling of the same species, located in a similarly suitable area, to meet the mitigation requirement.

This management plan aims to ensure that each replacement sapling establishes successfully, supporting the long-term health and biodiversity of the property's ecosystem.

Detailed map of the site plan that shows the building sites, proposed trees for removal, and sapling locations





## STATE FIRE SAFE REGULATIONS

### CONDITIONS OF APPROVAL

<b>Applicant Name:</b>	<b>Jeremy &amp; Miranda Weintraub</b>				
<b>Project Address:</b>	<b>45400 Bill Owens Rd.</b>				
<b>City:</b>	<b>Point Arena</b>	<b>State:</b>	<b>CA</b>	<b>Zip Code:</b>	<b>95468</b>
<b>Review Date:</b>	<b>11/10/2023</b>		<b>APN:</b>	<b>027-361-15</b>	
<b>CAL FIRE #:</b>	<b>129-23</b>		<b>Building Permit #:</b>		

The CAL FIRE Mendocino Unit has reviewed this Building Permit application. Based upon the Unit's review, the following conditions shall be incorporated prior to approval of permit issuance as required by Title 14 of the California Code of Regulations, Division 1.5, Chapter 7, Sub-chapter 2, Article 1, §1270.03

You must comply with the following marked (X) standards below to obtain FINAL CLEARANCE

**ROAD STANDARD §1273.01-§1273.06, §1273.08 - §1273.09**

- All roads shall be constructed to provide two 10' traffic lanes, not including shoulder and striping.
- Roadway shall be designed and maintained to support 75,000lb and provide an aggregate base. Project applicant shall provide engineering specifications to support design if requested.
- The grades for all roads, streets, private lanes, and driveways shall not exceed 16%.
- No roadway shall have an inside radius curvature of less than 50' and additional width of 4' shall be added to curves of 50-100'.
- Turnarounds are required on driveways and dead-end roads. The minimum turning radius shall be 40 feet not including parking. If a hammerhead "T" is used the top of the "T" shall be a minimum of 60' in length.
- Turnouts shall be a minimum of 12' wide by 30' long and 25' tapers on each end.
- All one-way roads shall provide a minimum 12' traffic lane, not including shoulders. All one-way roads shall connect to a two-lane road at both ends. In no case shall it exceed 2640' in length and a turnout shall be placed at the approximate mid-point.



**Maximum lengths for dead end roads:**

- Parcels zoned less than 1 acre- 800'
- Parcels zoned 1-4.99 acres-1320'
- Parcels zoned 5-19.99 acres-2640'
- Parcels zoned 20 acres or larger- 5280'.
- Where parcels are zoned 5 acres or larger turnarounds shall be provided at maximum 1320' intervals.
- Each dead-end road shall have turn around constructed at its a terminus.

**DRIVEWAY STANDARD §1273.01(c), §1273.02(b), §1273.03, §1273.05, §1273.06, §1273.09**

- Minimum 10' wide with 14' unobstructed horizontal clearance and 15' unobstructed vertical clearance.
- Driveway shall have an all-weather surface, with no more than 16% grade, and minimum 50' radius inside curvature on all turns.
- Driveways exceeding 150' but less than 800' require a turnout near the midpoint, driveways exceeding 800' shall provide turnouts no more than 400' apart. Turnout shall be a minimum of 12' wide, 30' long with 25' tapers on each end.
- A turnaround shall be provided to all building sites on driveways more than 300' in length and shall be within 50' of the building, a 40' radius turnaround or 60' hammerhead "T" shall be utilized.
- Gates shall be a minimum 14' wide, all gates providing access shall be located at least 30' from the roadway. Security gates shall have an approved means of emergency operation.

**ROADWAY STRUCTURE/BRIDGE STANDARD §1273.07**

- All roadway structures shall be constructed to carry at least the maximum load and minimum vertical clearance as required by Vehicle Code Sections 35250, 35550, and 35750.
- The bridge shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.
- Vehicle load limits shall be posted at both entrances to bridges.
- A bridge with only one lane shall provide for unobstructed view from one end to the other with turnouts at both ends.



**SIGN STANDARD §1274.01- §1274.02**

- Size of letters, numbers, and symbols for street and road signs shall be a minimum 4" letter height,  $\frac{1}{2}$ " stroke, reflectorized, and contrasting with background color of sign. Visible from both directions of travel for at least 100'.
- Height of street and road signs shall be uniform county wide, newly constructed, or approved public and private roads must be identified by a name or number through a consistent countywide system. Signs shall be placed at the intersection of those roads, streets, or private lanes.
- A sign identifying traffic access or flow limitations, including but not limited to weight or vertical clearance limitations, dead end road, one way road, or single lane conditions shall be placed at the intersection preceding the access limitation and no more than 100' before such access limitation.

**ADDRESS STANDARD §1274.03- §1274.04**

- Address must be posted at beginning of construction and maintained thereafter.
- Minimum 4" letter height,  $\frac{1}{2}$ " stroke, reflectorized with contrasting background, visible from both directions of travel.
- Multiple addresses on a single driveway shall be mounted on a single post.
- Address shall be placed at each driveway entrance

**EMERGENCY WATER STANDARD §1275.01- §1275.04**

**Not Required**

- Water systems equaling or exceeding the National Fire Protection Association (NFPA) 1142, 2012 Edition and California Fire Code CCR 24 part 9, shall be accepted as meeting the requirements of this article.
- The hydrant or fire valve shall be 18" above grade, 8' from flammable vegetation, no closer than 4' and no further than 12' from roadway, and in a location, apparatus using it will not block the roadway.
- The hydrant shall be not less than 50' nor more than  $\frac{1}{2}$  mile from the building it is to serve, shall be located at a turnout or turnaround along the driveway to that building or along a road that intersects with driveway.
- The hydrant head shall be 2  $\frac{1}{2}$ " National Hose male thread with cap for pressure and gravity flow systems, and 4  $\frac{1}{2}$ " for draft systems. They shall have suitable crash protection.
- A reflectorized blue marker minimum of 3" diameter shall be mounted on a fire-retardant post within 3' of the hydrant. The marker shall be no less than 3 'or more than 5' above grade.



**MAINTAIN DEFENSIBLE SPACE AND FUELS MODIFICATION STANDARD §1276.01- §1276.04, §1299.01- §1299.05**

- All parcels shall provide a minimum 30' setback for all buildings from property lines and/ or the center of the road.
- Fuel modification and disposal of flammable vegetation and fuels caused by site development and construction, shall be completed prior to road construction or final inspection of building permit.
- Maintain defensible space 100' from each side and front and rear of the structure(s), but not beyond the property line. The intensity of fuels management may vary within the 100' perimeter of the structure, the most intense being within 30' of the structure.
- Remove that portion of a tree that extends within 10 feet of a chimney or stovepipe.
- Maintain a tree, shrub, or other plant adjacent to or overhanging a structure.
- Maintain the roof structure free of leaves, needles, or other vegetative materials.

<input type="checkbox"/> EXCEPTION REQUEST GRANTED	<input type="checkbox"/> EXCEPTION REQUEST DENIED
<ul style="list-style-type: none"><li>• See attached letter</li></ul>	<ul style="list-style-type: none"><li>• See attached letter</li></ul>

<b>Application Reviewed By:</b>	<b>Steven Cherry, Fire Captain Mendocini Unit</b>
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Please note that the comments noted above are based on a CAL FIRE State Fire Safe Regulation review only. There may be additional comments or information requested from other County Departments or Divisions reviewing this application submittal package. Should you have any questions, you may contact the CAL FIRE Mendocino Unit at (707) 459-7414 or email at [Mendocino4290@fire.ca.gov](mailto:Mendocino4290@fire.ca.gov).

For current State Fire Regulations, please visit <https://govt.westlaw.com/calregs>.

**California Code of Regulations**  
**Title 14- Natural Resources**  
**Division 1.5- Department of Forestry**  
**Chapter 7- Fire Protection**  
**Subchapter 2- SRA/VHFHSZ Fire Safe Regulations**