COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES
860 NORTH BUSH STREET · UKIAH · CALIFORNIA · 95482
120 WEST FIR STREET · FT. BRAGG · CALIFORNIA · 95437

JULIA KROG, DIRECTOR
TELEPHONE: 707-234-6650
FAX: 707-463-5709
FB PHONE: 707-964-5379
FB FAX: 707-961-2427
pbs@mendocinocounty.org
www.mendocinocounty.org/pbs

January 23, 2023

Planning – Ukiah
Department of Transportation
Environmental Health - Fort Bragg
Building Inspection - Fort Bragg
Archaeological Commission
Sonoma State University
Caltrans
Department of Forestry/ CalFire
-Land Use
Department of Fish and Wildlife
California Coastal Commission
Gualala Municipal Advisory Council
Sherwood Valley Rancheria
Cloverdale Rancheria
Redwood Valley Rancheria
South Coast Fire District
Arena Union Elementary School District

CASE#: CDP_2022-0001
DATE FILED: 1/10/2022
OWNER/APPLICANT/AGENT: DOUGLAS & JENNIFER HERTING
REQUEST: Standard Coastal Development Permit for the construction of a 1,200 sq. ft. single-family residence with an 800 sq. ft. basement; Grading to construct a driveway to connect to State Highway 1; After-the-Fact approval for an existing well and septic system; Trenching for underground power connection; Installation of an auxiliary septic tank and pump tank to be connected to the existing septic field; and major vegetation removal for the driveway and home site.
ENVIRONMENTAL DETERMINATION: Categorical Exemption from the California Environmental Quality Act (CEQA) under Article 19, Section 15303; under Class 3(a), (d) and (e).Categorically Exempt
LOCATION: In the Coastal Zone, 2.25± miles north of Anchor Bay, 0.25± miles north of Gypsy Flat Road (Private), on the east side of State Route 1 (SR 1), located at 33101 S. Hwy 1, Gualala (APN: 143-050-15).
SUPERVISORIAL DISTRICT: 5
STAFF PLANNER: JESSIE WALDMAN
RESPONSE DUE DATE: February 6, 2023

PROJECT INFORMATION CAN BE FOUND AT:
www.mendocinocounty.org
Select "Government" from the drop-down; then locate Planning and Building Services/Public Agency Referrals.

Mendocino County Planning & Building Services is soliciting your input, which will be used in staff analysis and forwarded to the appropriate public hearing. You are invited to comment on any aspect of the proposed project(s). Please convey any requirements or conditions your agency requires for project compliance to the project coordinator at the above address, or submit your comments by email to pbs@mendocinocounty.org. Please note the case number and name of the project coordinator with all correspondence to this department.

We have reviewed the above application and recommend the following (please check one):

☐ No comment at this time.

☐ Recommend conditional approval (attached).

☐ Applicant to submit additional information (attach items needed, or contact the applicant directly, copying Planning and Building Services in any correspondence you may have with the applicant)

☐ Recommend denial (Attach reasons for recommending denial).

☐ Recommend preparation of an Environmental Impact Report (attach reasons why an EIR should be required).

☐ Other comments (attach as necessary).

REVIEWED BY:

Signature _____ Department _____ Date _____

CASE: CDP_2022-0001

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APN/S: 143-050-15

PARCEL SIZE: 8.0 ± Acres

GENERAL PLAN: Remote Residential, 40 acre minimum, RMR40

ZONING: Remote Residential, 40 acre minimum, RMR40

DISTRICT: 5 (Williams)

RELATED CASES: None

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES	ADJACENT USES
NORTH:	Remote Residential (RMR40)	Remote Residential (RMR40)	38.5± Acres	Residential
EAST:	Remote Residential (RMR40)	Remote Residential (RMR40)	36.25± Acres	Residential
SOUTH:	Remote Residential (RMR40)	Remote Residential (RMR40)	4.75± Acres	Residential
WEST:	Rural Residential (RR5)	Rural Residential, Development Limitation (RR5:DL)	3.0± Acres	Residential

REFERRAL AGENCIES

LOCAL
- ☒ Archaeological Commission
- ☒ Building Division (FB)
- ☒ Department of Transportation (DOT)
- ☒ Environmental Health (EH)(FB)
- ☒ SOUTH COAST FIRE DISTRICT
- ☒ Gualala MAC
- ☒ Arena Union Elementary School District
- ☒ Planning Division (Ukiah)
- ☒ Sonoma State University

STATE
- ☒ CALFIRE (Land Use)
- ☒ California Coastal Commission
- ☒ California Dept. of Fish & Wildlife
- ☒ CALTRANS

TRIBAL
- ☒ Cloverdale Rancheria
- ☒ Redwood Valley Rancheria
- ☒ Sherwood Valley Band of Pomo Indians

ADDITIONAL INFORMATION:

- List of attachments, including supplemental analyses completed:
  - Coastal Development permit Application
  - Maps (including Landscaping Plan & Architectural Plans)
  - Biological Resources Assessment & ESHA Analysis (Jacobszoon, July 2022)
  - CALFIRE 378-21
  - Well Test Report (Dudek, October 2021)
  - Sewage Treatment System Inspection Report (Septic Skeptic, February 2021)

- Located within Gualala Municipal Advisory County (GMAC)

STAFF PLANNER: JESSIE WALDMAN **DATE:** 1/20/2023

ENVIRONMENTAL DATA

1. MAC:
GIS
Gualala MAC

2. FIRE HAZARD SEVERITY ZONE:
CALFIRE FRAP maps/GIS
High Fire Hazard

3. FIRE RESPONSIBILITY AREA:
CALFIRE FRAP maps/GIS
CalFire (State Responsible Agency)
South Coast Fire Protection District (Local Responsible Agency)

4. FARMLAND CLASSIFICATION:
GIS
Grazing Land (G)

5. FLOOD ZONE CLASSIFICATION:
FEMA Flood Insurance Rate Maps (FIRM)
N/A

6. COASTAL GROUNDWATER RESOURCE AREA:
Coastal Groundwater Study/GIS
Critical Water Resources

7. SOIL CLASSIFICATION:
Mendocino County Soils Study Eastern/Western Part
198—Seaside-Rock outcrop complex
199—Shinglemill-Gibney complex (Partial)

8. PYGMY VEGETATION OR PYGMY CAPABLE SOIL:
LCP maps, Pygmy Soils Maps; GIS
198—Seaside-Rock outcrop complex
199—Shinglemill-Gibney complex (Partial)

9. WILLIAMSON ACT CONTRACT:
GIS/Mendocino County Assessor's Office
NO

10. TIMBER PRODUCTION ZONE:
GIS
NO

11. WETLANDS CLASSIFICATION:
GIS
None

12. EARTHQUAKE FAULT ZONE:
Earthquake Fault Zone Maps; GIS
NO

13. AIRPORT LAND USE PLANNING AREA:
Airport Land Use Plan; GIS
NO

14. SUPERFUND/BROWNFIELD/HAZMAT SITE:
GIS; General Plan 3-11
NO

15. NATURAL DIVERSITY DATABASE:
CA Dept. of Fish & Wildlife Rarefind Database/GIS
YES

16. STATE FOREST/PARK/RECREATION AREA ADJACENT:
GIS; General Plan 3-10
N/A

17. LANDSLIDE HAZARD:
Hazards and Landslides Map; GIS; Policy RM-61; General Plan 4-44
N/A

18. WATER EFFICIENT LANDSCAPE REQUIRED:
Policy RM-7; General Plan 4-34
N/A

19. WILD AND SCENIC RIVER:
www.rivers.gov (Eel Only); GIS
N/A

20. SPECIFIC PLAN/SPECIAL PLAN AREA:
Various Adopted Specific Plan Areas; GIS
N/A

21. STATE CLEARINGHOUSE REQUIRED:
Policy
N/A

22. OAK WOODLAND AREA:
USDA
N/A

23. HARBOR DISTRICT:
Sec. 20.512
N/A

FOR PROJECTS WITHIN THE COASTAL ZONE ONLY

24. LCP LAND USE CLASSIFICATION:
LCP Land Use maps/GIS
MAP 30: ANCHOR BAY

25. LCP LAND CAPABILITIES & NATURAL HAZARDS:
LCP Land Capabilities maps/GIS; 20.500
Beach Deposits and Stream Alluvium and Terraces (Zone 3)

26. LCP HABITATS & RESOURCES:
LCP Habitat maps/GIS; 20.496
Barren

27. COASTAL COMMISSION APPEALABLE AREA:
Post LCP Certification Permit and Appeal Jurisdiction maps/GIS; 20.544
YES Map 40: Gualala - Partial (300' from Bluff Edge)

28. CDP EXCLUSION ZONE:
CDP Exclusion Zone maps/GIS
NO

29. HIGHLY SCENIC AREA:
Highly Scenic & Tree Removal Area Maps/GIS; Secs. 20.504.015, 20.504.020
NO

30. BIOLOGICAL RESOURCES & NATURAL AREAS:
Biological Resources & Natural Area Map; GIS; General Plan 4-9
N/A

31. BLUFFTOP GEOLOGY:
GIS; 20.500.020
N/A

PLANNING & BUILDING SERVICES

CASE NO:	CDP-2022-0001
DATE FILED:	1-10-2022
FEE:	4,956.55
RECEIPT NO:	PRJ-047288
RECEIVED BY:	WALDMANJ

Office Use Only

COASTAL ZONE APPLICATION FORM

APPLICANT

Name: Douglas and Jennifer Herting Phone: 925-325-6172

Mailing Address: 3044 Santa Maria Dr.

City: Concord State/Zip: CA 94518 Email: dr.dshdc@gmail.com

PROPERTY OWNER

Name: Douglas and Jennifer Herting Phone: 925-325-6172

Mailing Address: 3044 Santa Maria Dr.

City: Concord State/Zip: CA 94518 Email: dr.dshdc@gmail.com

AGENT

Name: Douglas and Jennifer Herting Phone: 925-325-6172

Mailing Address: 3044 Santa Maria Dr.

City: Concord State/Zip: CA 94518 Email: dr.dshdc@gmail.com

PARCEL SIZE

8 ☐ Square Feet ■ Acres

STREET ADDRESS OF PROJECT

33101 S. Highway 1 Gualala CA 95445

ASSESSOR'S PARCEL NUMBER(S)

143-050-1500

I certify that the information submitted with this application is true and accurate.

1/10/22 1/10/22

Signature of Applicant/Agent *Date* *Signature of Owner* *Date*

COASTAL ZONE – SITE AND PROJECT DESCRIPTION QUESTIONNAIRE

The purpose of this questionnaire is to provide additional information related to the Coastal Zone concerning your application to the Department of Planning and Building Services and other agencies who will be reviewing your project proposal. Please remember that the clearer the picture that you give us of your project and the site, the easier it will be to promptly process your application. Please answer all questions. For those questions that do not pertain to your project, please indicate as "Not Applicable" or "N/A".

THE PROJECT

1) Describe your project and include secondary improvements such as wells, septic systems, grading, vegetation removal, roads, etc.

Building a 1200 square house with an 800 square foot basement.
Running power from an existing PG&E pole to the house
Requesting after the fact approval for an existing well and septic system installed in 1989 with County permits
Grading to create a driveway directly from Highway 1 to access our property
Grading to extend the driveway to our future home with parking area
Removal of trees to build driveway and build our home

2) If the project is *residential*, please complete the following:

Type of Unit	Number of Structures	Square Feet per Dwelling Unit
■ Single Family	1	1200 Sq Feet heated space
☐ Mobile Home		800 Sq feet basement
☐ Duplex		
☐ Multifamily		

If Multifamily, number of dwelling units per building: _____

3) If the project is *commercial, industrial* or *institutional*, complete the following:

Total square footage of structures: _____
Estimated employees per shift: _____
Estimated shifts per day: _____
Type of loading facilities proposed: _____

4) Will the project be phased? ■ No ☐ Yes. If yes, explain your plans for phasing.

5) Are there existing structures on the property? ☐ No ■ Yes. If yes, describe and identify the use of each structure on the plot plan.

2- 10x12 shed's, used for storage
1- 4x8 pump shed over the existing well

6) Will any existing structures be demolished? ■ No ☐ Yes
Will any existing structures be removed? ■ No ☐ Yes If yes to either question, describe the type of development to be demolished or removed, including the relocation site, if applicable.

7) **What is the maximum height of the structure?** 28 **Feet.**

8) **Total lot area (within property lines):** 8 ☐ **square feet** ■ **acres**

9) **Lot Coverage:**

	EXISTING	NEW PROPOSED	TOTAL
Building Coverage:	250 square feet	1450 square feet	1450 square feet
Paved Area:	0 square feet	_____ square feet	_____ square feet
Landscaped Area:	0 square feet	_____ square feet	_____ square feet
Unimproved Area:	_____ square feet	_____ square feet	_____ square feet
		GRAND TOTAL:	2250 square feet

10) **Gross floor area:** 2250 **square feet (including covered parking and accessory buildings**

11) **Parking will be provided as follows:**

Number of Spaces: Existing: 0 Proposed: 4 Total: 4

Number of Covered Spaces: 2 Size: 20x20
Number of Uncovered Spaces: 2 Size: 20x20
Number of Standard Spaces: _____ Size: _____
Number of Handicapped Spaces: _____ Size: _____

12) **Utilities will be supplied to the site as follows:**

A. Electricity
- ☐ Utility Company (service exists to the parcel)
- ■ Utility Company (requires extension of services to the site: 100 feet _____ miles
- ■ On Site generation, Specify: Solar
- ☐ None

B. Gas
- ■ Utility Company/Tank
- ☐ On Site generation, Specify: _____
- ☐ None

C. Telephone: ☐ Yes ■ No

13) **Will there be any exterior lighting?** ☐ **No** ■ **Yes** **If yes, describe and identify the location of all exterior lighting on the plot plan and building plans.**

Entry way lighting

14) **What will be the method of sewage disposal?**
- ☐ Community sewage system, specify supplier: _____
- ■ Septic Tank
- ☐ Other, specify: _____

15) What will be the domestic water source?

- ☐ Community water system, specify supplier: _____
- ■ Well
- ☐ Spring
- ☐ Other, specify: _____

16) Is any grading or road construction planned? ☐ No ■ Yes If yes, grading and drainage plans may be required. Also, describe the terrain to be traversed (e.g., steep, moderate slope, flat, etc.)

Moderate Slope

See attacahed site plan as well as engineered plans for driveway

For grading and road construction, complete the following:

A. Amount of cut: 255 CU Yards
B. Amount of fill: 0
C. Maximum height of fill slope: _____
D. Maximum height of cut slope: 2:1
E. Amount of import or export: 0
F. Location of borrow/disposal site: Dirt will be spread on existing property for leveling

17) Will vegetation be removed on areas other than the building sites and roads? ■ No ☐ Yes If yes, explain:

18) Does the project involve sand removal, mining or gravel extraction? ■ No ☐ Yes If yes, detailed extraction, reclamation and monitoring may be required.

19) Will the proposed development convert land currently or previously used for agriculture to another use? ■ No ☐ Yes

If yes, how many acres will be converted? _____ Acres (An agricultural economic feasibility study may be required)

20) Will the development provide public or private recreational opportunities? ■ No ☐ Yes If yes, explain:

21) Is the proposed development visible from:

A. State Highway 1 or other scenic route? ■ Yes ☐ No
B. A park, beach or recreation area? ☐ Yes ■ No

22) Will the project involve the use or disposal of potential hazardous materials such as toxi substances, flammables, or explosives? ■ No ☐ Yes If yes, explain:

23) Does the development involve diking, filling, dredging or placing structures in open coastal waters, wetlands, estuaries or lakes?

A. Diking ☐ Yes ■ No
B. Filling ☐ Yes ■ No
C. Dredging ☐ Yes ■ No
D. Placement of structures in open coastal waters, wetlands, estuaries or lakes: ☐ Yes ■ No

Amount of material to be dredge or filled? NA cubic yards

Location of dredged material disposal site: _____

Has a U.S. Army Corps of Engineers permit been applied for? ☐ Yes ■ No

If you need more room to answer any question, please attach additional sheets.

CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Major Towns & Places
Major Roads
City Limits
Highways

0 3,050 6,100 Feet
0 0.5 1 Miles
1:75,000

LOCATION MAP

CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT:
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

Private Roads

0 420 840 Feet
0 0.075 0.15 Miles
1:10,000

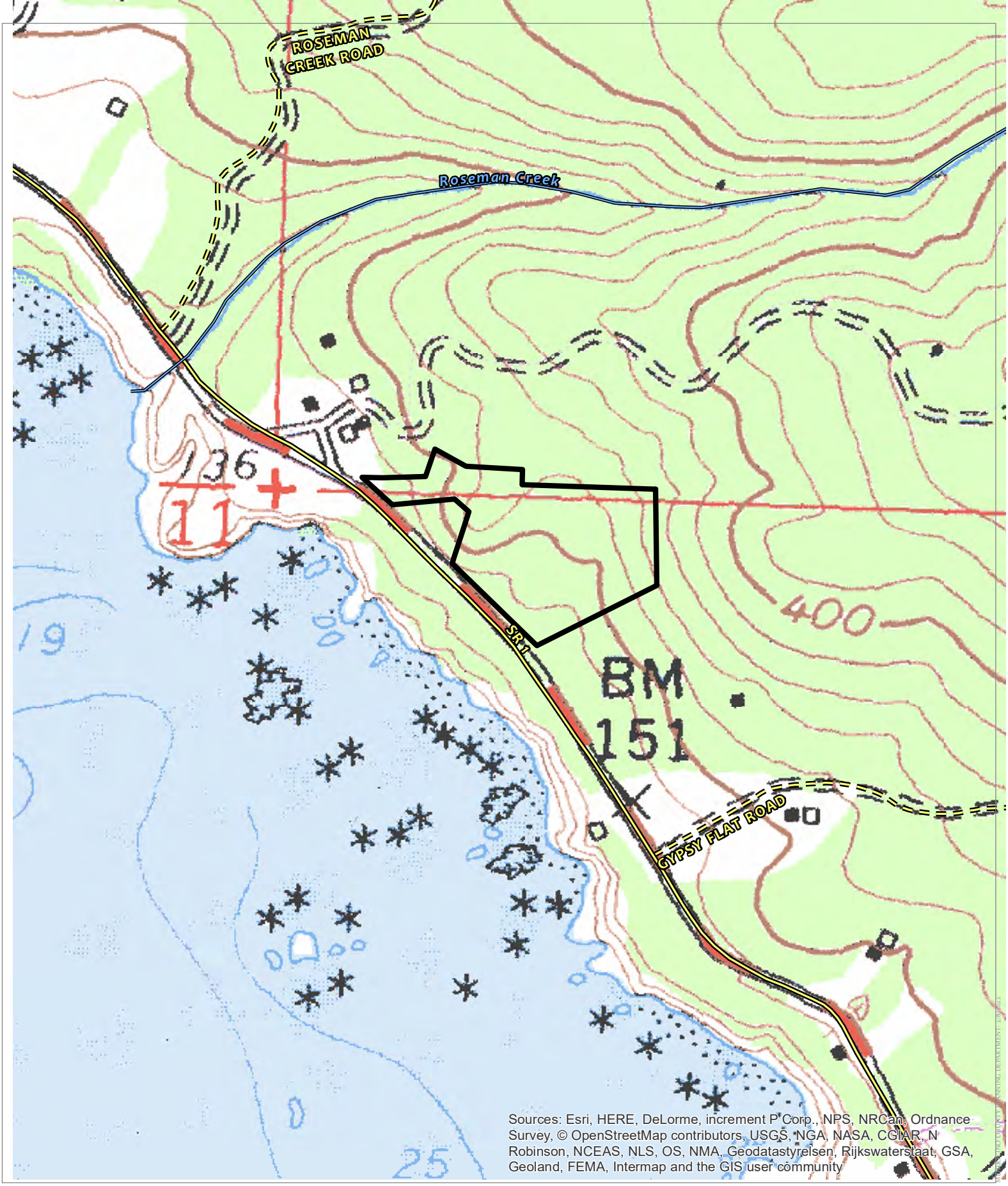
AERIAL IMAGERY

CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

0 80 160 Feet
0 0.015 0.03 Miles
1:2,000

AERIAL IMAGERY



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

Private Roads

0 210 420 Feet
0 0.035 0.07 Miles
N W E S
1:5,000

TOPOGRAPHIC MAP

CONTOUR INTERVAL IS 40 FEET

arete, inc.
architecture
kirk a. shelby, architect gary l. wheeler, architect

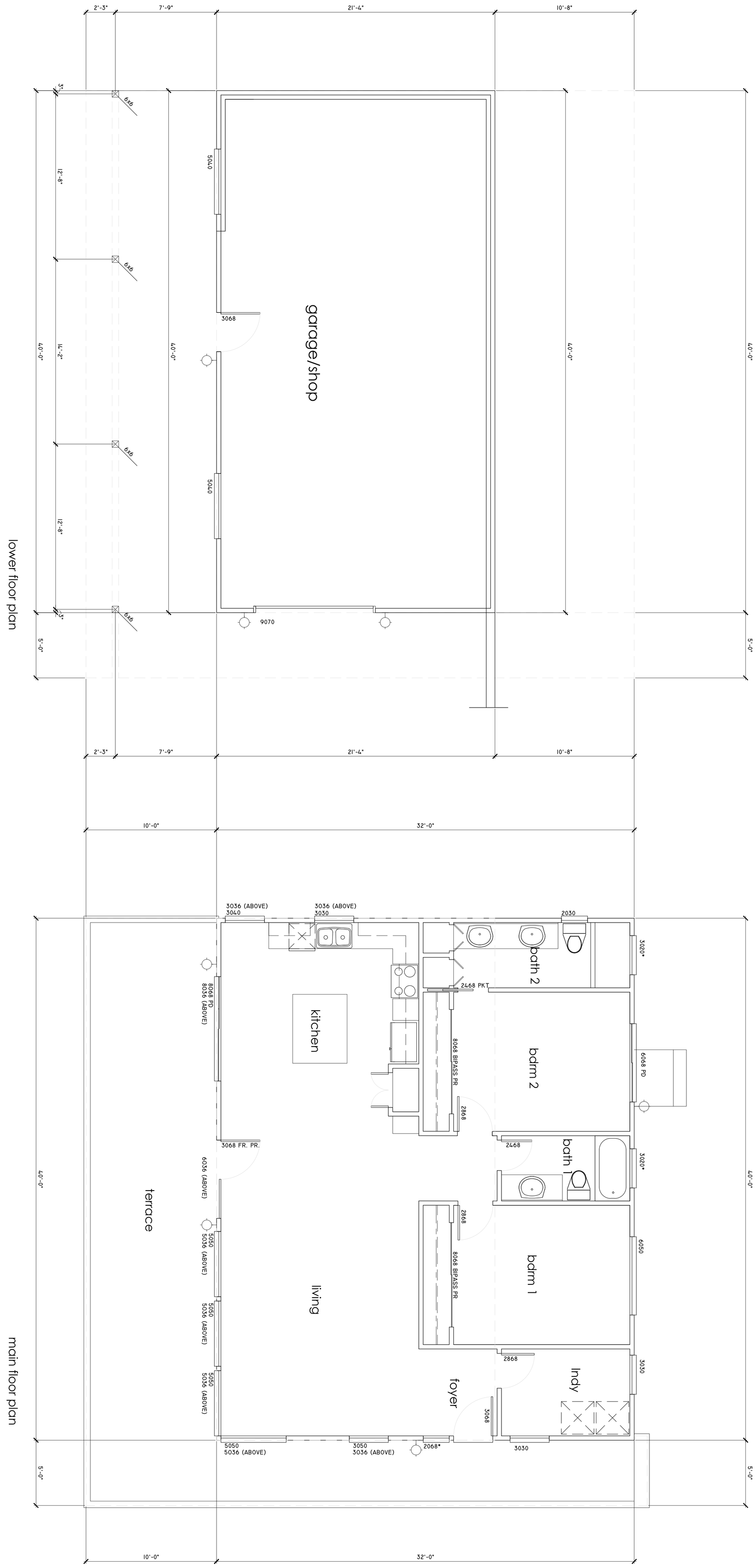
1820 gälindo street, suite b concord,
california 94520 925 692-5888

LICENSED ARCHITECT
KIRK A. SHELBY
No. C13436
STATE OF CALIFORNIA
4-30-23

33101 South Highway 1
Gualala, California
a residential addition for :
Doug and Jen Herting
33101 South Highway 1
Gualala, California

site plan
SCALE: 1" = 40.00'
PLOT DATE: May 12, 2022

drawn KAS sheet
check .
date 8/3/00 **A1**
job 5154 of A3



arete, inc.
architecture
kirk a. shelby, architect gary l. wheeler, architect

p.o. box 1211
concord, california 94522
925 692-5888

KIRK ALLEN SHELBY No. C15406 REN 4-30-23 LICENSED ARCHITECT STATE OF CALIFORNIA

33101 South Highway 1
Gualala, California
a residence for :
Doug And Jen Herting

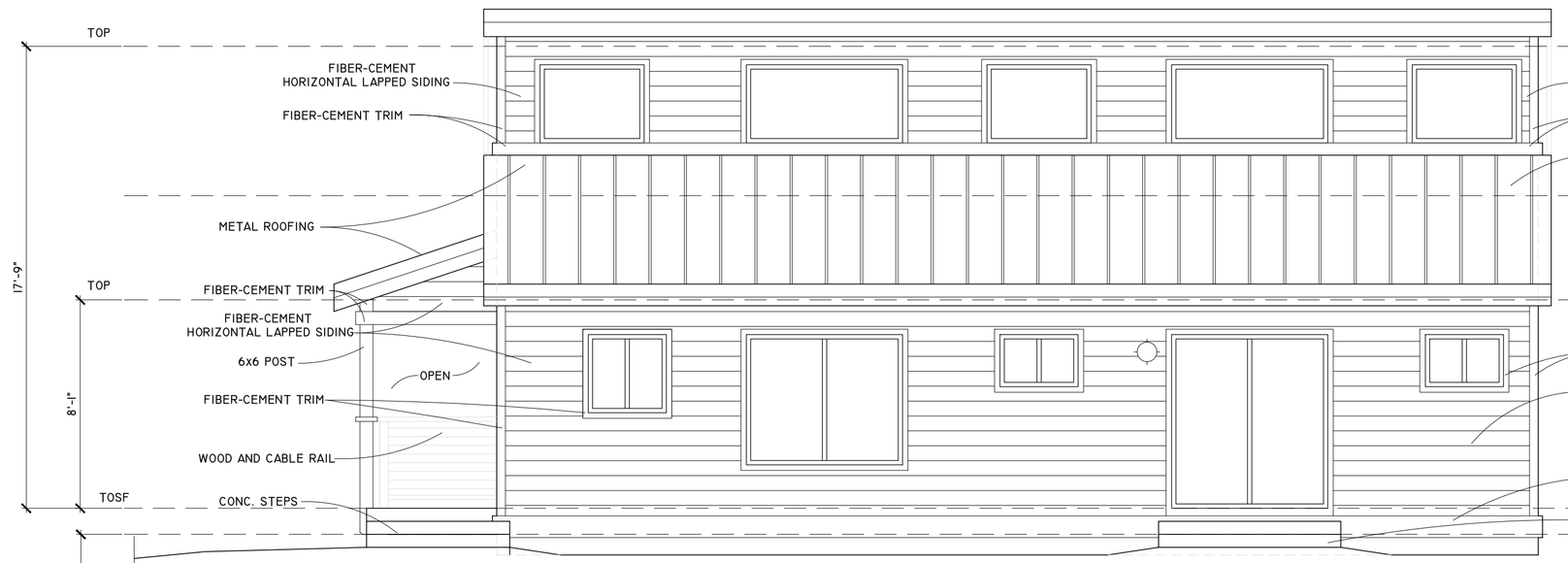
3311 South Highway 1
Gualala, California

floor plans

scale: 1/4"=1'-0"
PLOT DATE: JULY 20, 2022

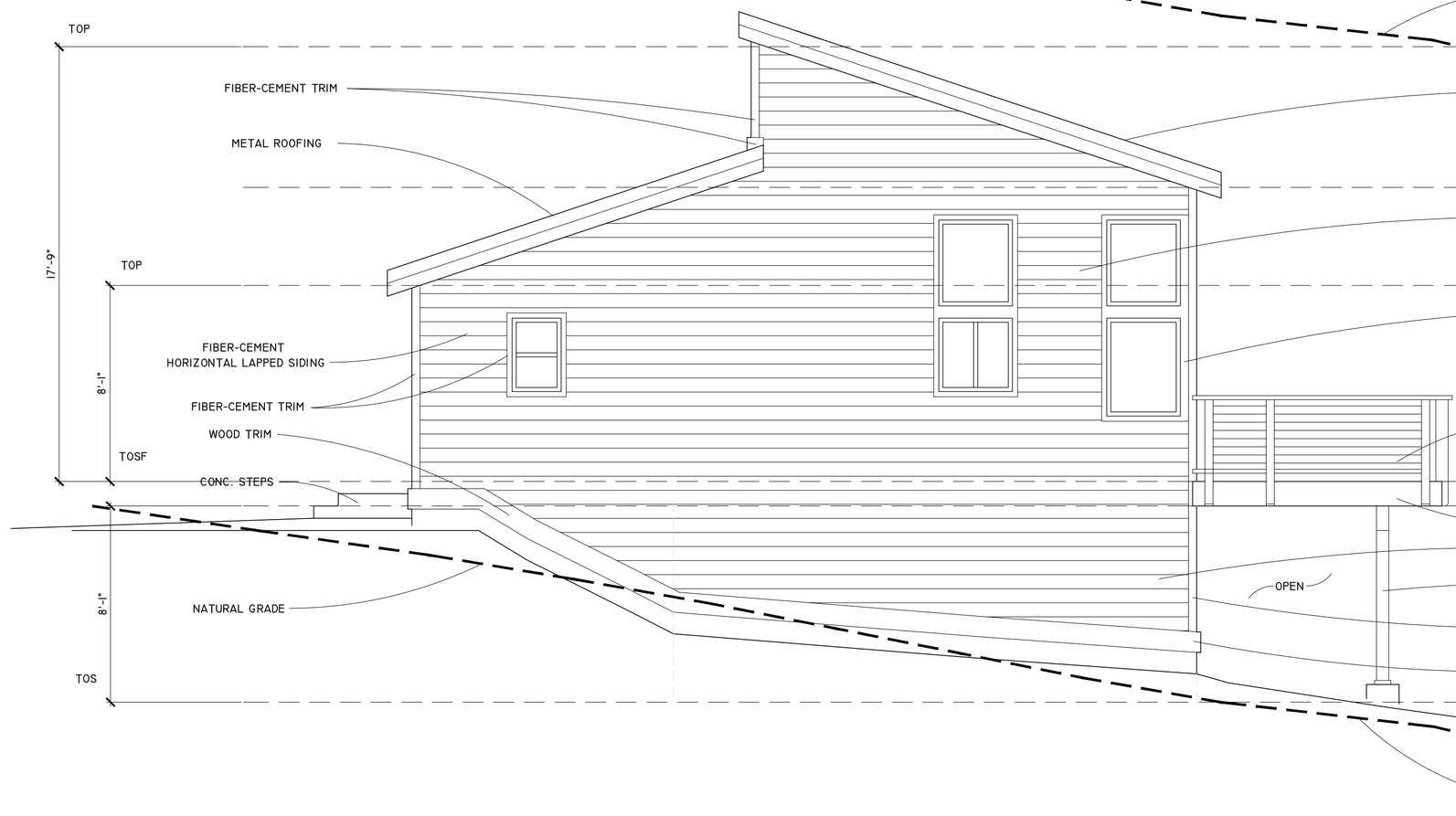
drawn KAS sheet
check .
date 8/3/00
job 5154 of A3

A2

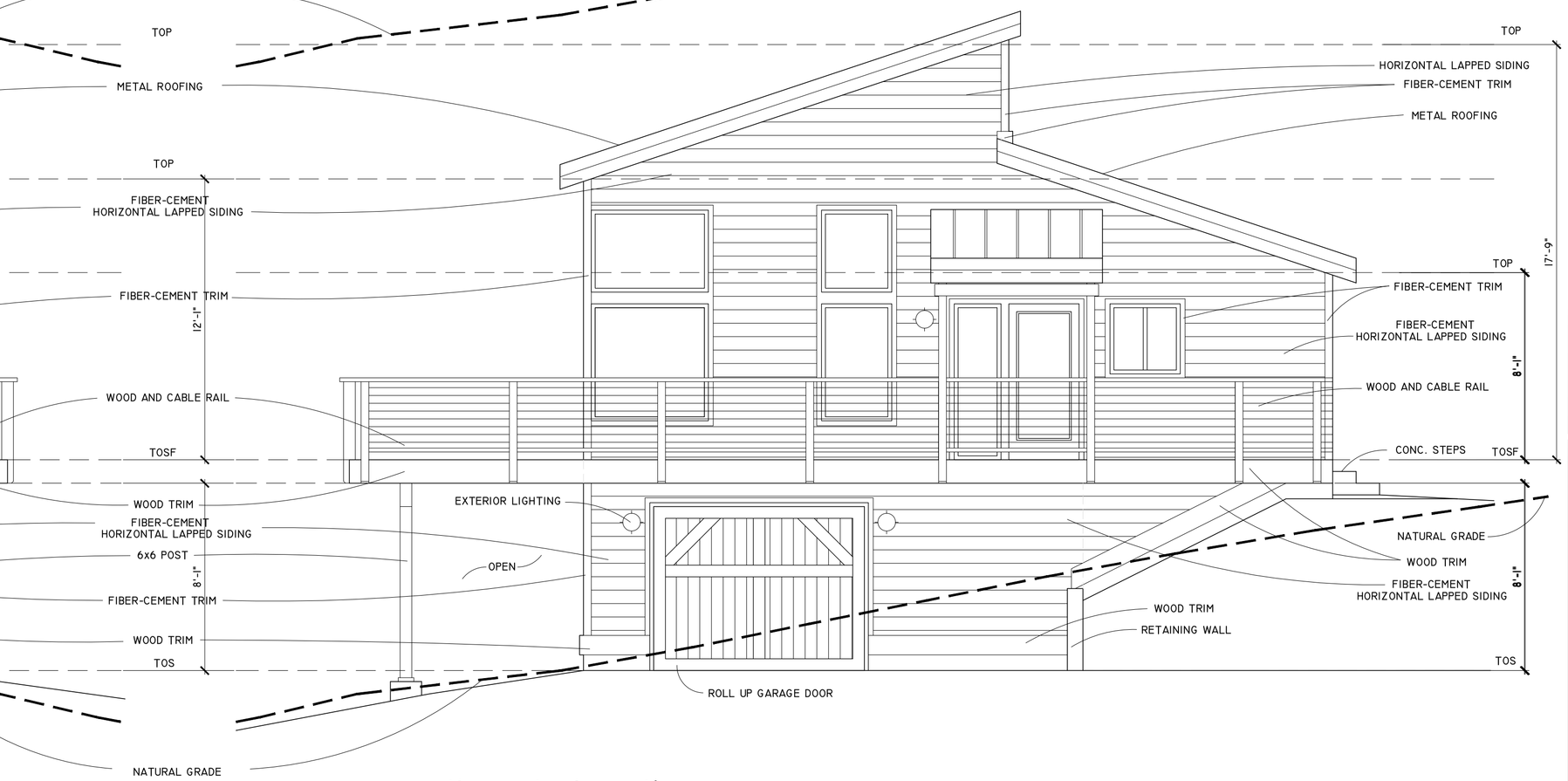


northeast elevation

southwest elevation



northwest elevation



southeast elevation

exterior elevations

SCALE: 1/4"=1'-0"

PLOT DATE: JULY 22, 2022

drawn KAS sheet A3

check . of A3

date 8/3/00

job 5154

33101 South Highway 1
Gualala, California
a residence for :
Doug And Jen Herting
33111 South Highway 1
Gualala, California

LICENSED ARCHITECT
KARL S. ALLEN JR.
No. C15404
REN. 4-30-23
STATE OF CALIFORNIA

arneté, inc.
architecture
karl s. (kelley) allen jr. architect
p.o. box 1211
concord, california 94522
925 692-5888

Bestshared Farmhouse Gooseneck Barn Light, Outdoor Wall Sconce, 1-Light Outdoor Black Finish Lantern for Porch with Contrast Color Interior

Light fixture form	Sconce
Indoor/Outdoor Usage	Outdoor
Power Source	AC
Room Type	Entryway
Material	Metal

About this item

- Simple Industrial Design: The simple traditional design of this light fixture looks great
- Black Finish with Copper Interior: the Black Finish fit any decor while the copper interior reflects light perfectly to form a extremely accent contrast
- Bulb Requirement: Hard wired. Requires 1x E26 base bulb(Max.100W). BULB NOT INCLUDED.
- ETL Listed Certification Easy Installation: Essential installation accessories included.
- 3 Year After-sale: Contact our customer service if you have any questions with our outdoor lights.

ORE

Rich and reserved with engaging warmth.

Balancing earthy tones without unwanted color saturation, Ore provides a complementary, balanced finish.

Ore's restrained earthy hue facilitates the accentuation of other natural materials such as wood and stone. This finish reinforces the creation of harmonious, naturalist, or nurturing color palettes.

ORE
22827
SRI: 28
LRV: 9
GLOSS: 1.1
SHEEN: 2.3

ROOFING COLOR TO BE ORE ULTRA LOW GLOSS METAL OR SIMILIAR

https://www.steelscape.com/wp-content/uploads/SBR400_Steelscape-Natural-Matte-Catalog-Spreads.pdf

ColorMax®

Whether you choose from our 25 solid colors or our 5 natural-wood stains, Allura will be the last cladding material you'll ever need.

Snow

Desert Tan

Caramelized Pears

Linen

Sterling Gray

Savannah Wicker


Ashen


Natural Clay


Rock Cliffs


Granite Gray


Pewter


Olive


Gray Heron


Taupe


Flagstone


Red Rock Falls


Heartstone


Cool Charcoal


Pacific Blue


Sable Brown


Plunge Pool


Knight's Armor


Bark


Autumn Red

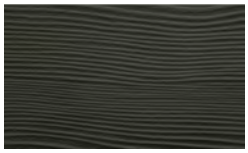

Cavalry


Cedar


Maple


Mahogany


Slate

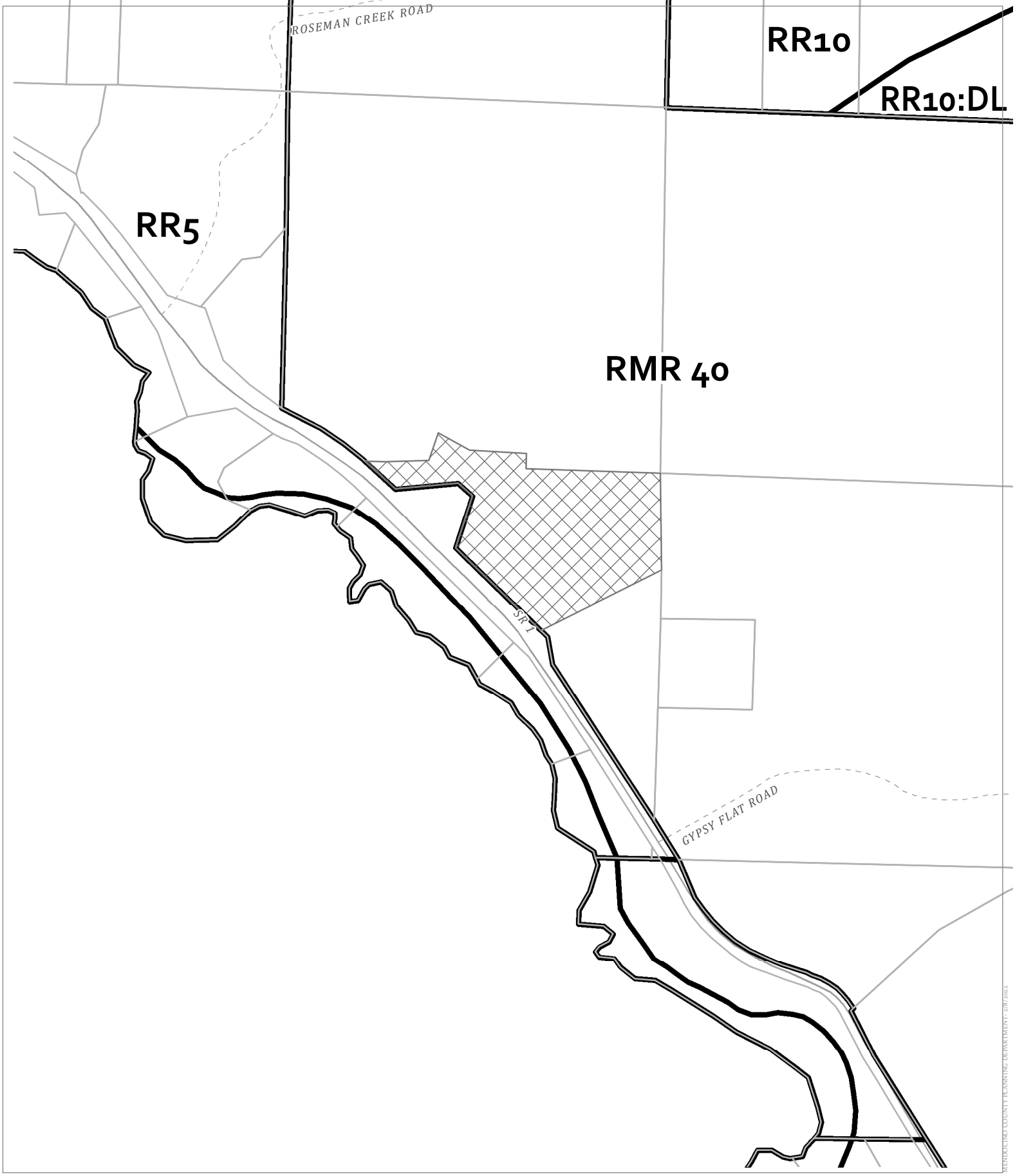

Cinder

SIDING TO FIBER CEMENT LAP SIDING TO BE MAPLE OR SIMILIAR

Have a specific look in mind? Custom colors are also available. Contact your Allura sales representative for more details on the custom color program.

https://assets.allurausa.com/web/legacy/uploads/resources/46/ALLCO-0356_PPG_ColorMax_Brochure_w_New_Colors_8.5X11_MECH2_Web.pdf

Allura partnered with PPG Industries due to their advanced primer and finish coating system, as well as their impeccable customer service. PPG has been an industry leader in factory applied finishes for over three decades with an expert approach to surface design that has been utilized on automobiles, for NASA and in the Oval Office. From initial design and engineering through application, PPG finishes offer a better investment value for any structure.



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Zoning Districts

Public Roads

0 210 420 Feet

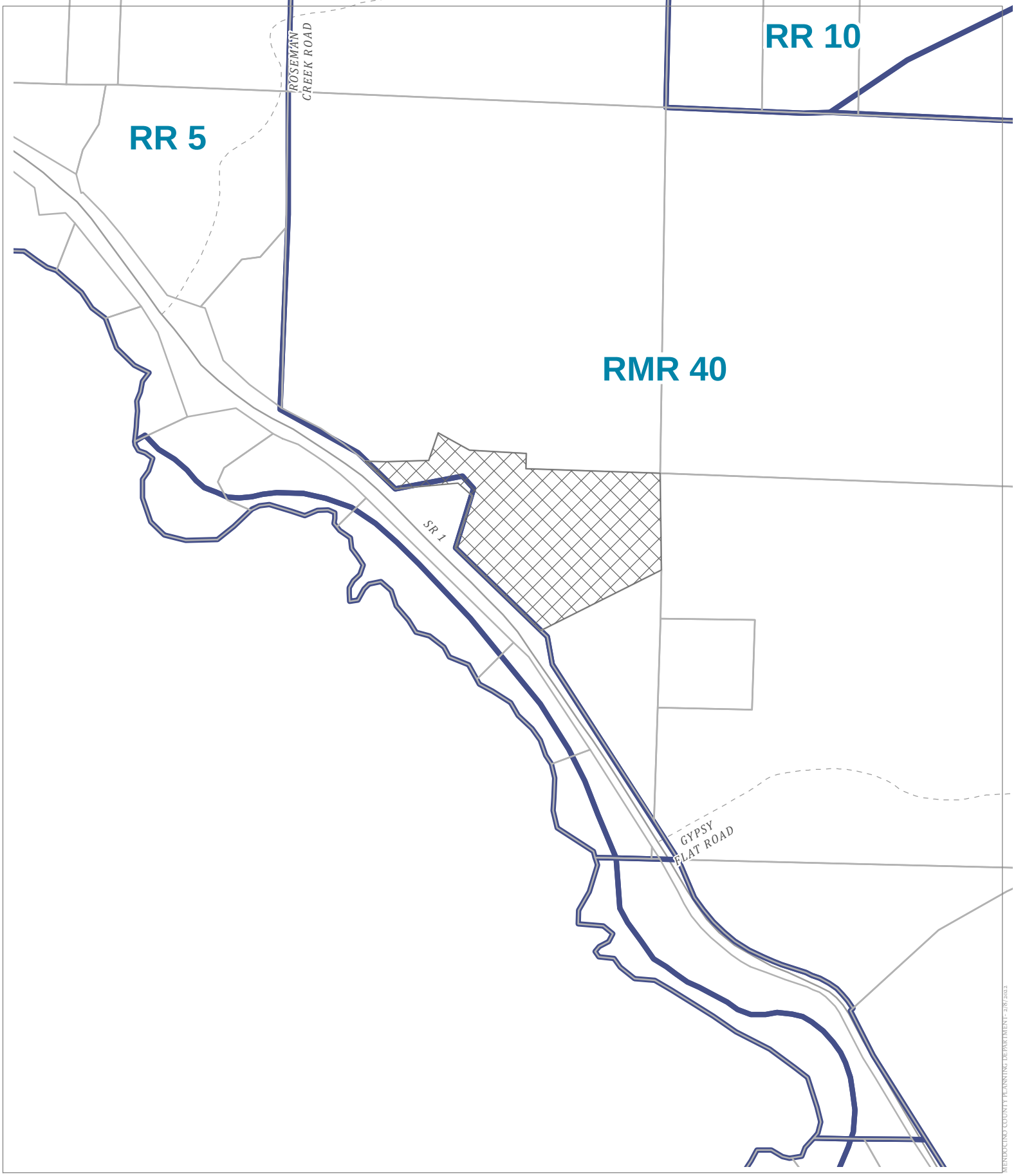
0 0.035 0.07 Miles

1:5,000

N W E S

MENDOCINO COUNTY PLANNING DEPARTMENT - 2/8/2022

ZONING DISPLAY MAP



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
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AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

General Plan Classes

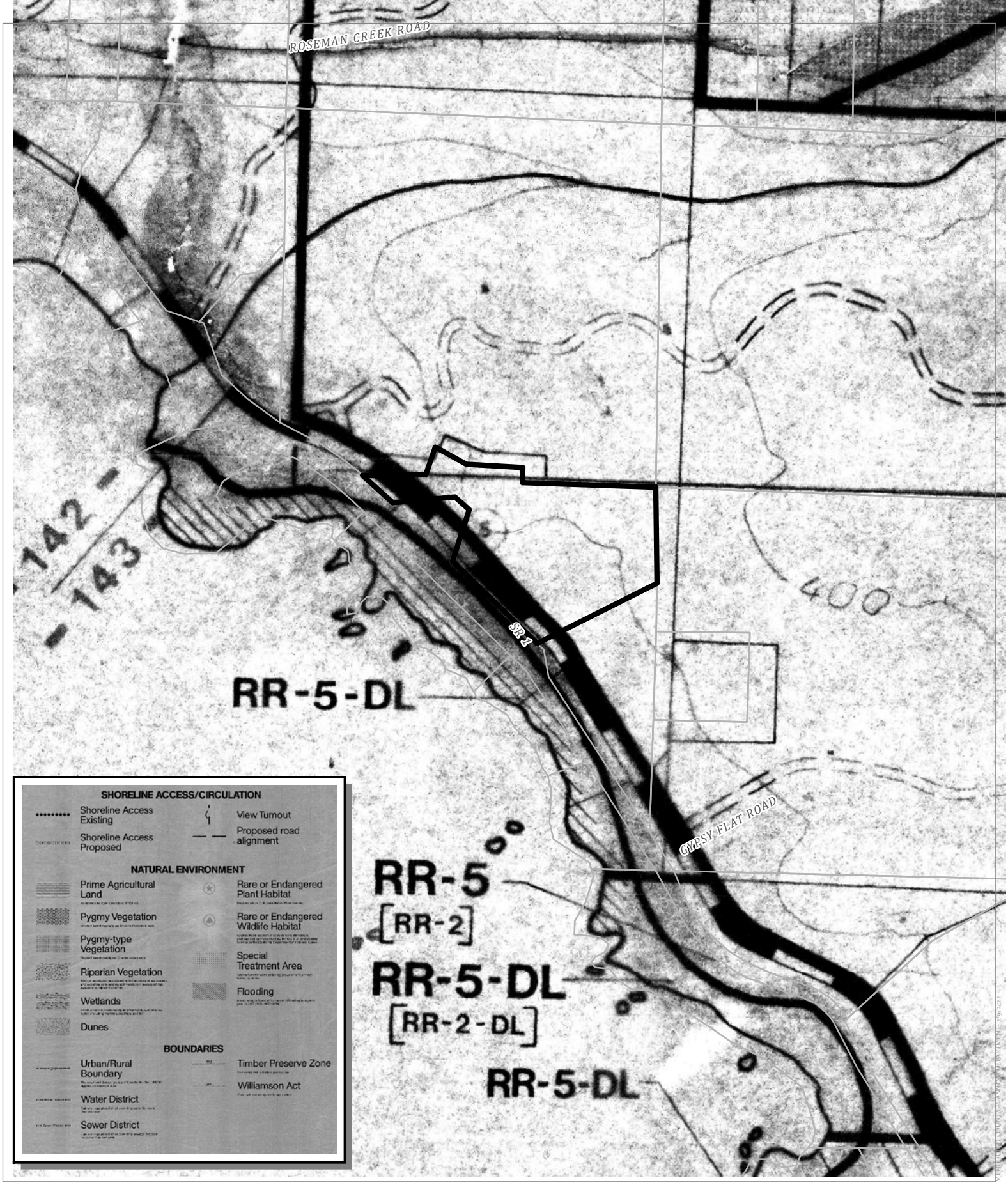
Public Roads

0 210 420 Feet
0 0.035 0.07 Miles
1:5,000

N W E S

MENDOCINO COUNTY PLANNING DEPARTMENT - 2/8/2022

GENERAL PLAN CLASSIFICATIONS



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
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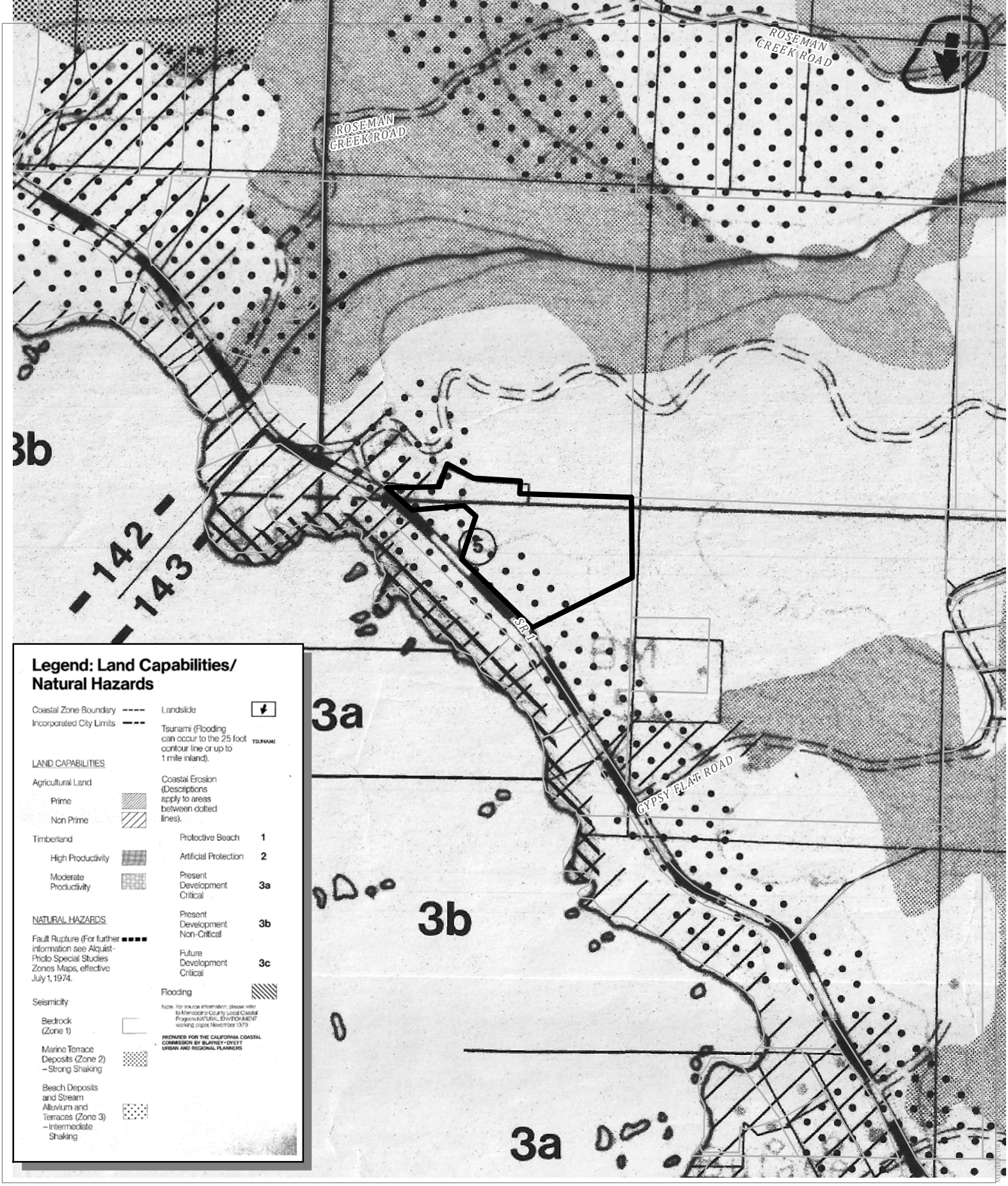
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

0 210 420 Feet
0 0.035 0.07 Miles
N W E S
1:5,000

LCP LAND USE MAP 30: ANCHOR BAY

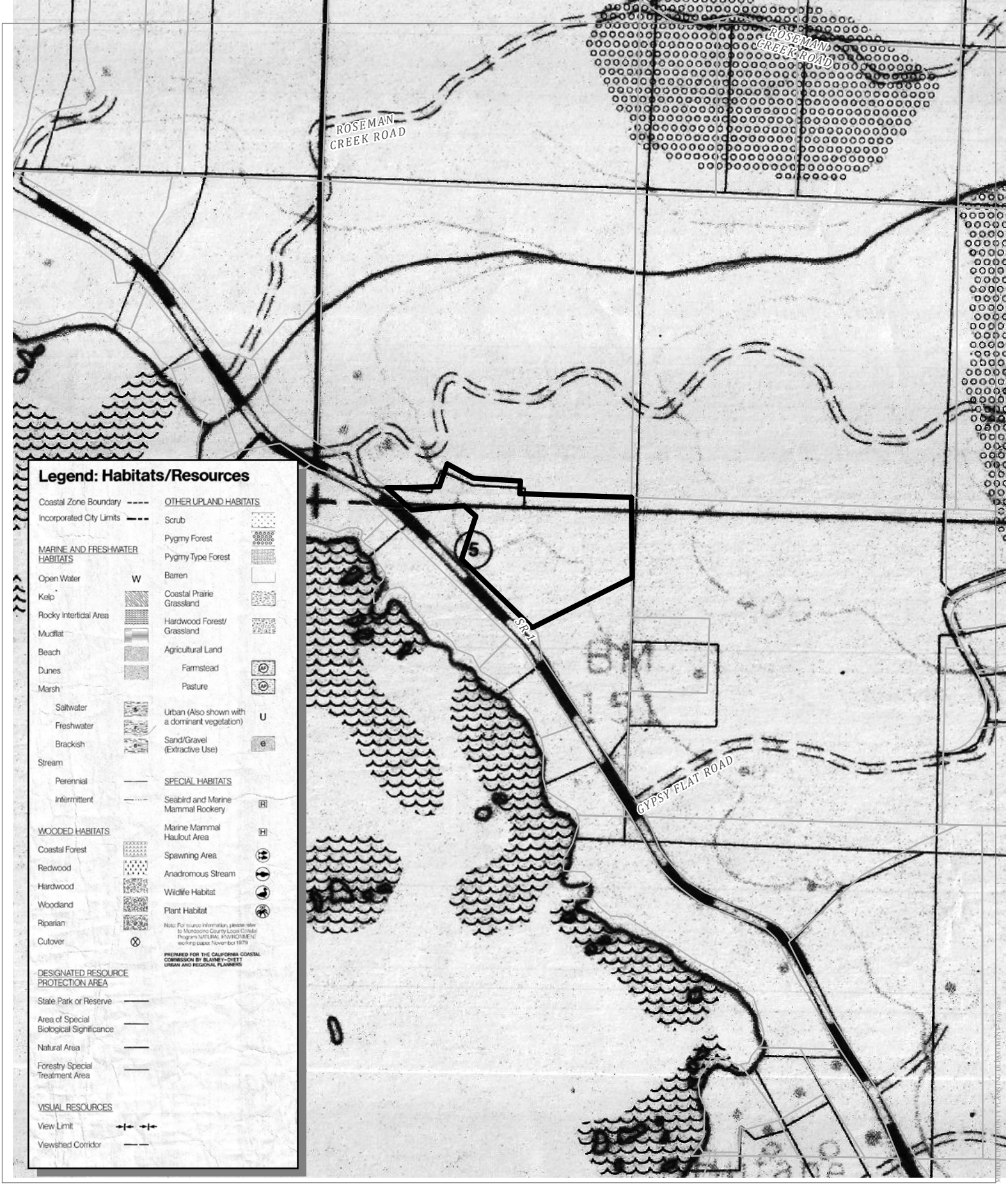


CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

0 250 500 Feet
0 0.045 0.09 Miles
1:6,000

LCP LAND CAPABILITIES & NATURAL HAZARDS

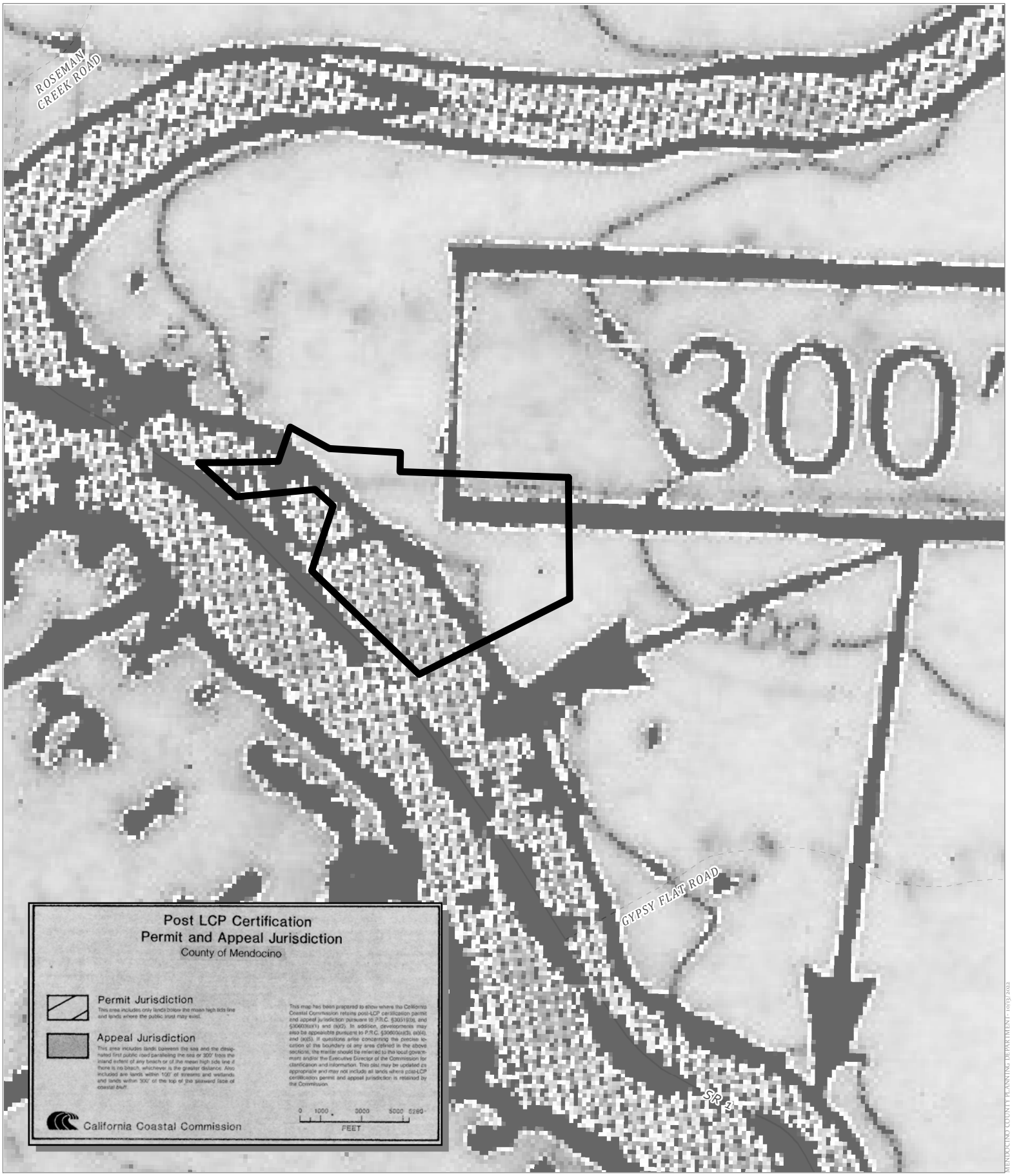


CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

0 250 500 Feet
0 0.045 0.09 Miles
1:6,000

LCP HABITATS & RESOURCES

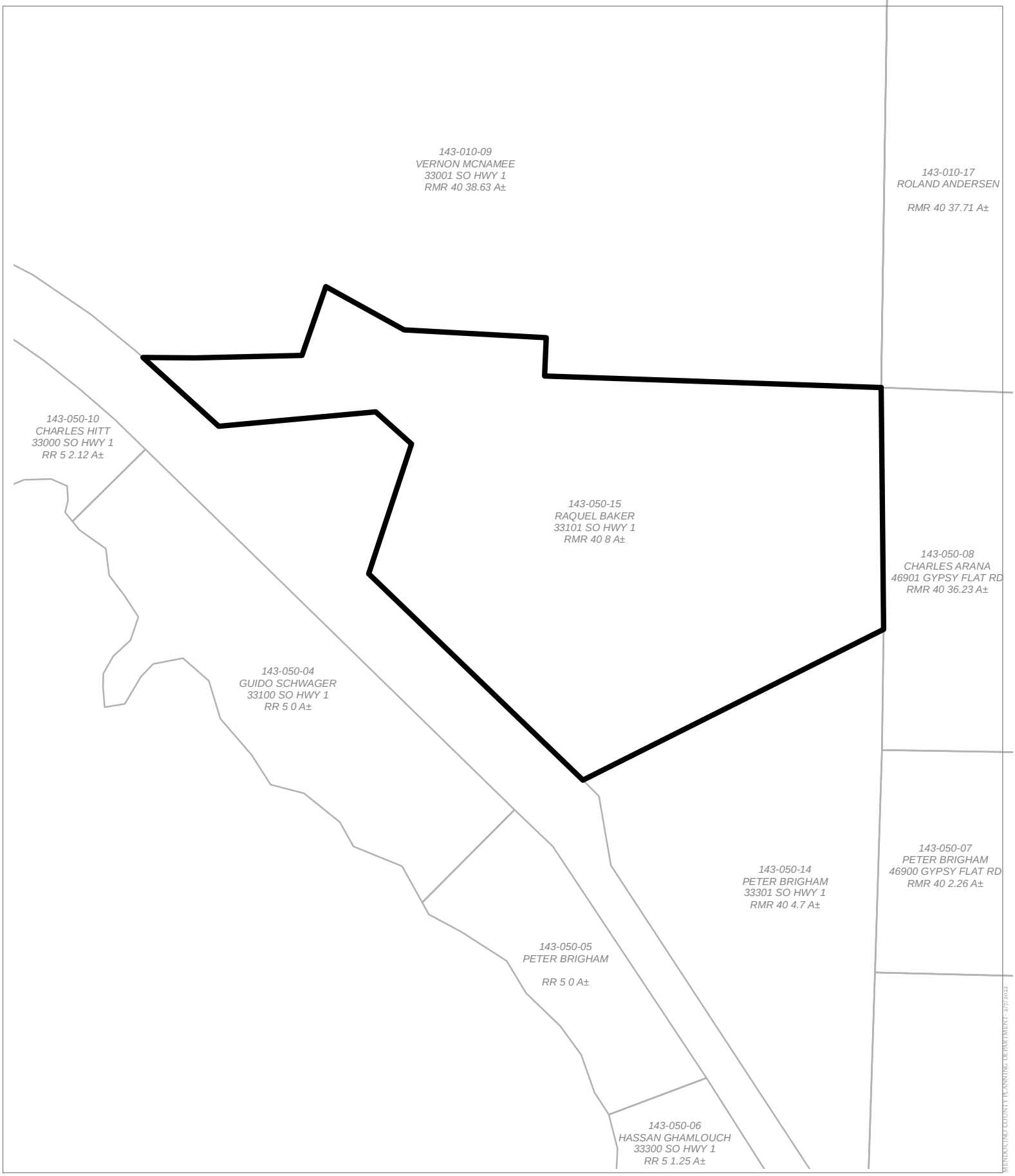


CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads

0 165 330 Feet
0 0.03 0.06 Miles
1:4,000

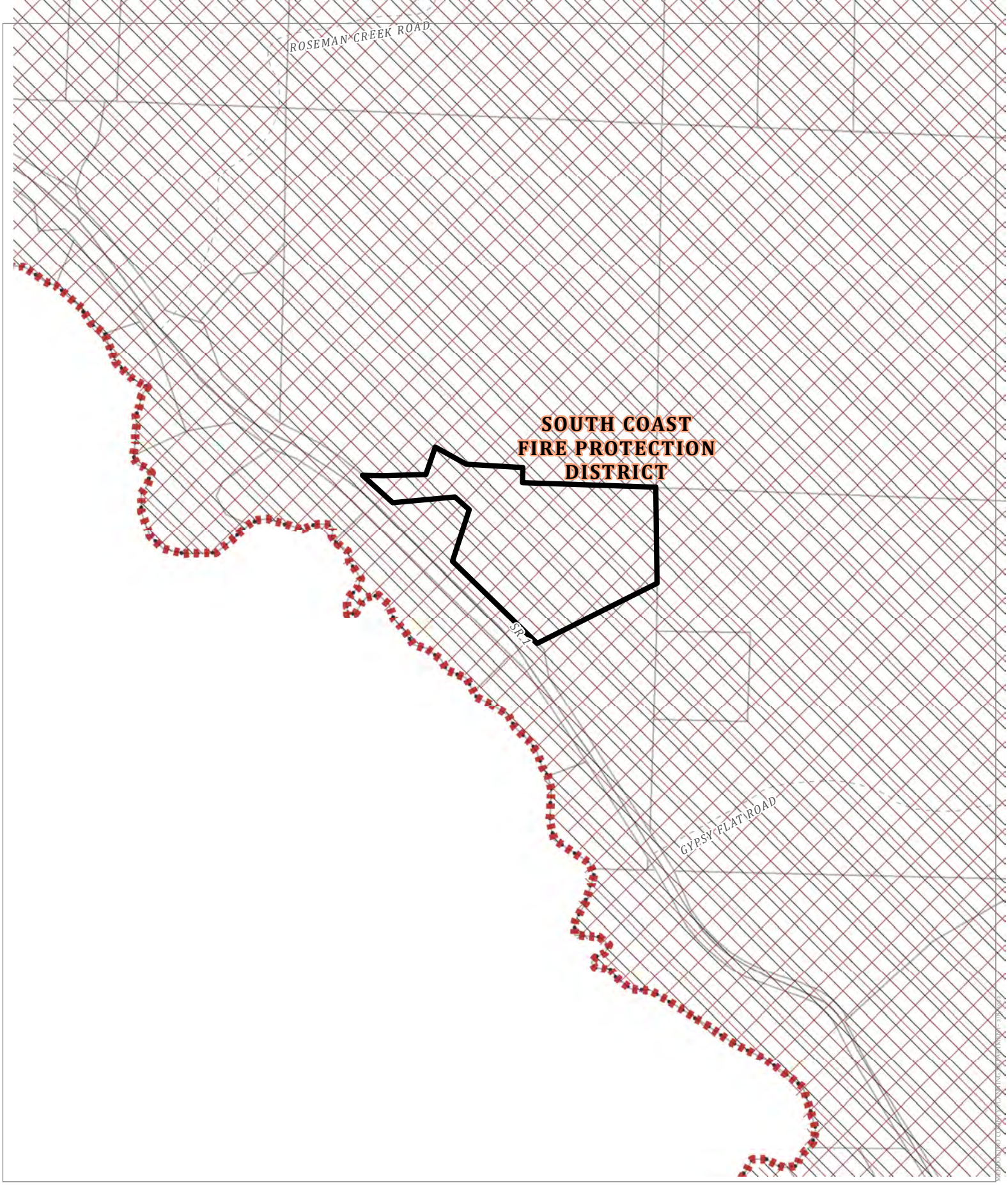
POST LCP CERTIFICATION & APPEAL JURISDICTION



CASE: CDP 2022-0001
OWNER: Douglas and Kennifer Herting
APN: 143-050-15
APLCT:
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

0 80 160 Feet
0 0.015 0.03 Miles
1:2,000

ADJACENT PARCELS

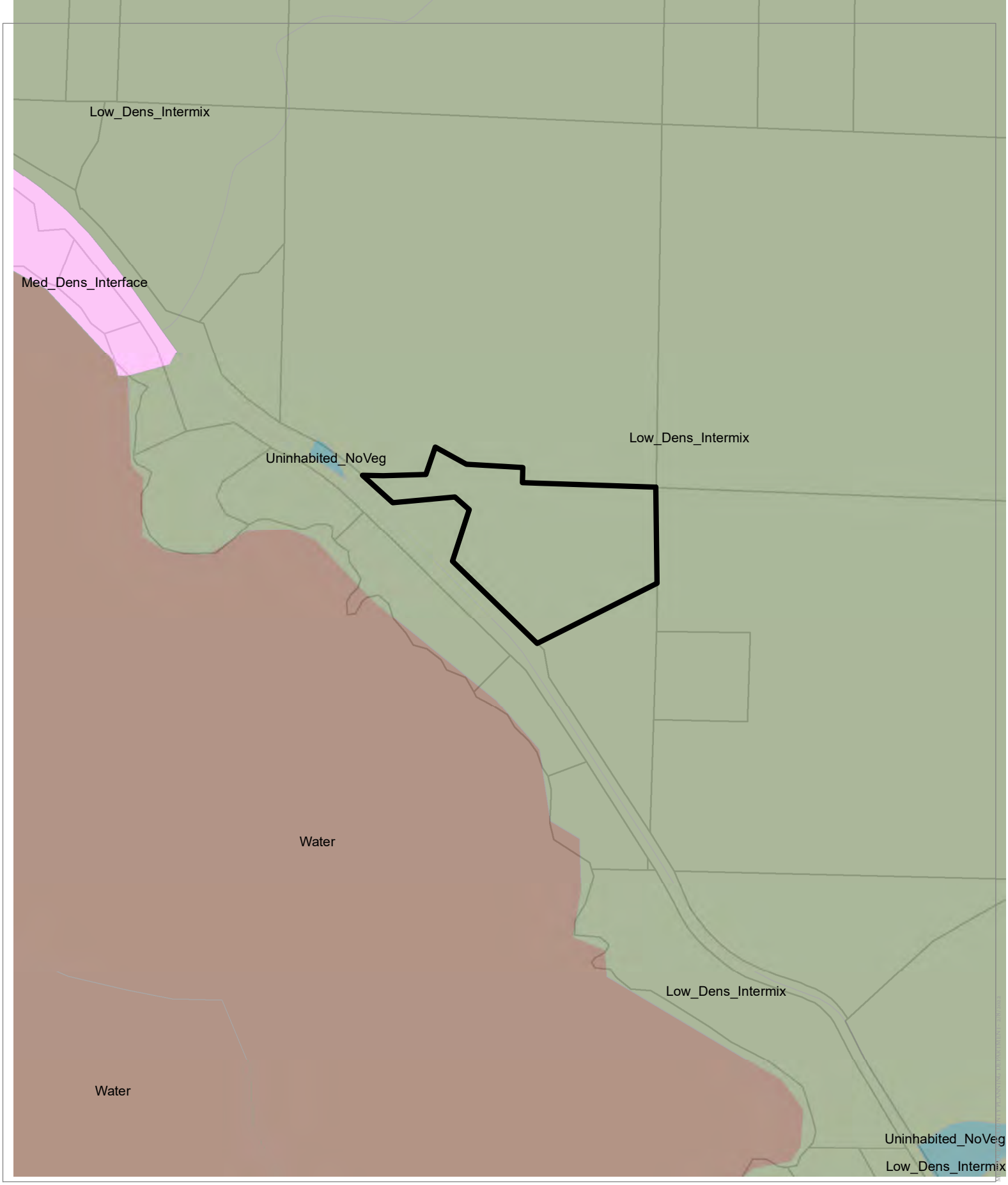


CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

High Fire Hazard
County Fire Districts
Public Roads

0 210 420 Feet
0 0.035 0.07 Miles
1:5,000

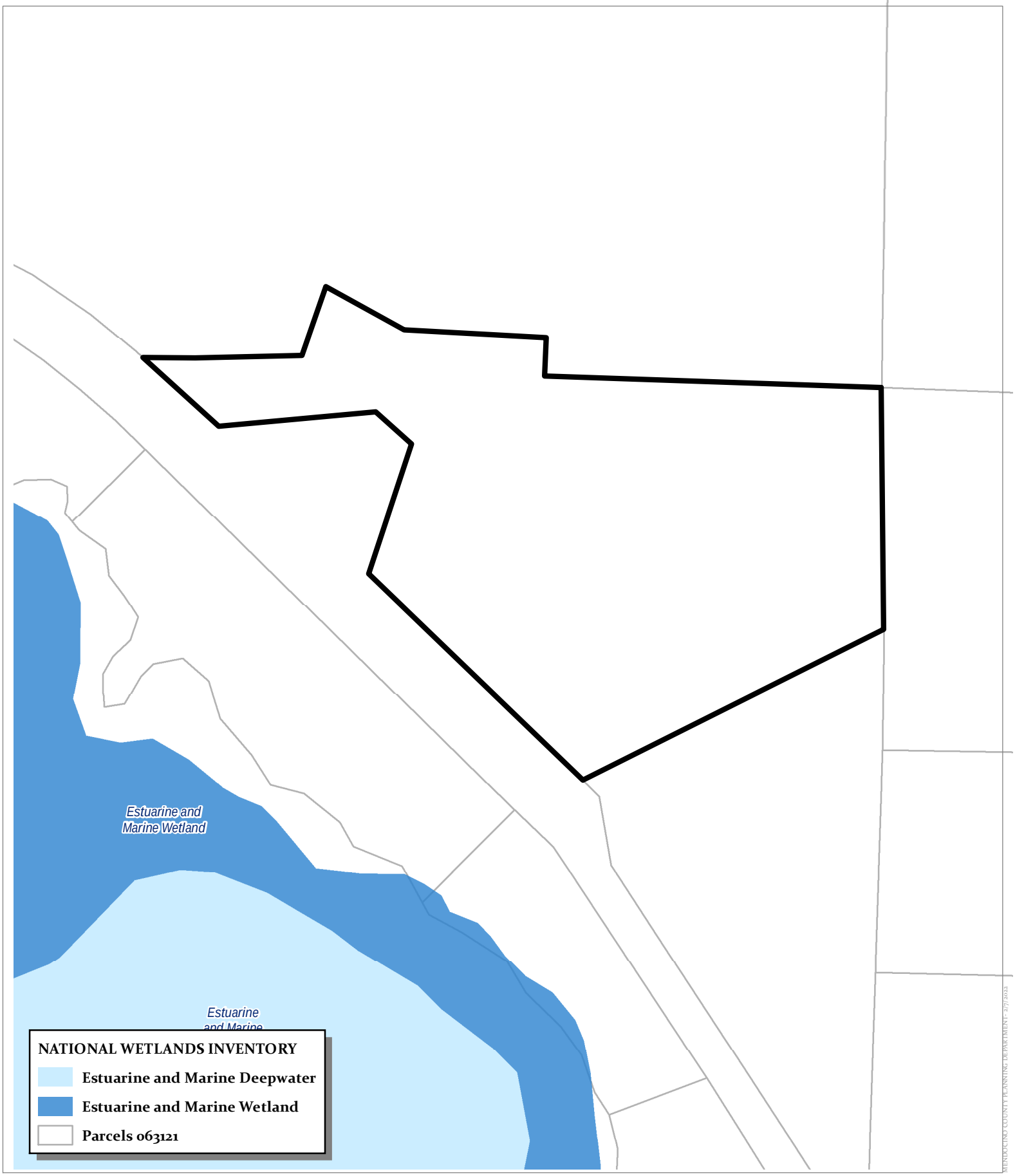
FIRE HAZARD ZONES & RESPONSIBILITY AREAS
STATE RESPONSIBILITY AREA



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

0 210 420 Feet
0 0.035 0.07 Miles
N W E S
1:5,000

WILDLAND-URBAN INTERFACE ZONES

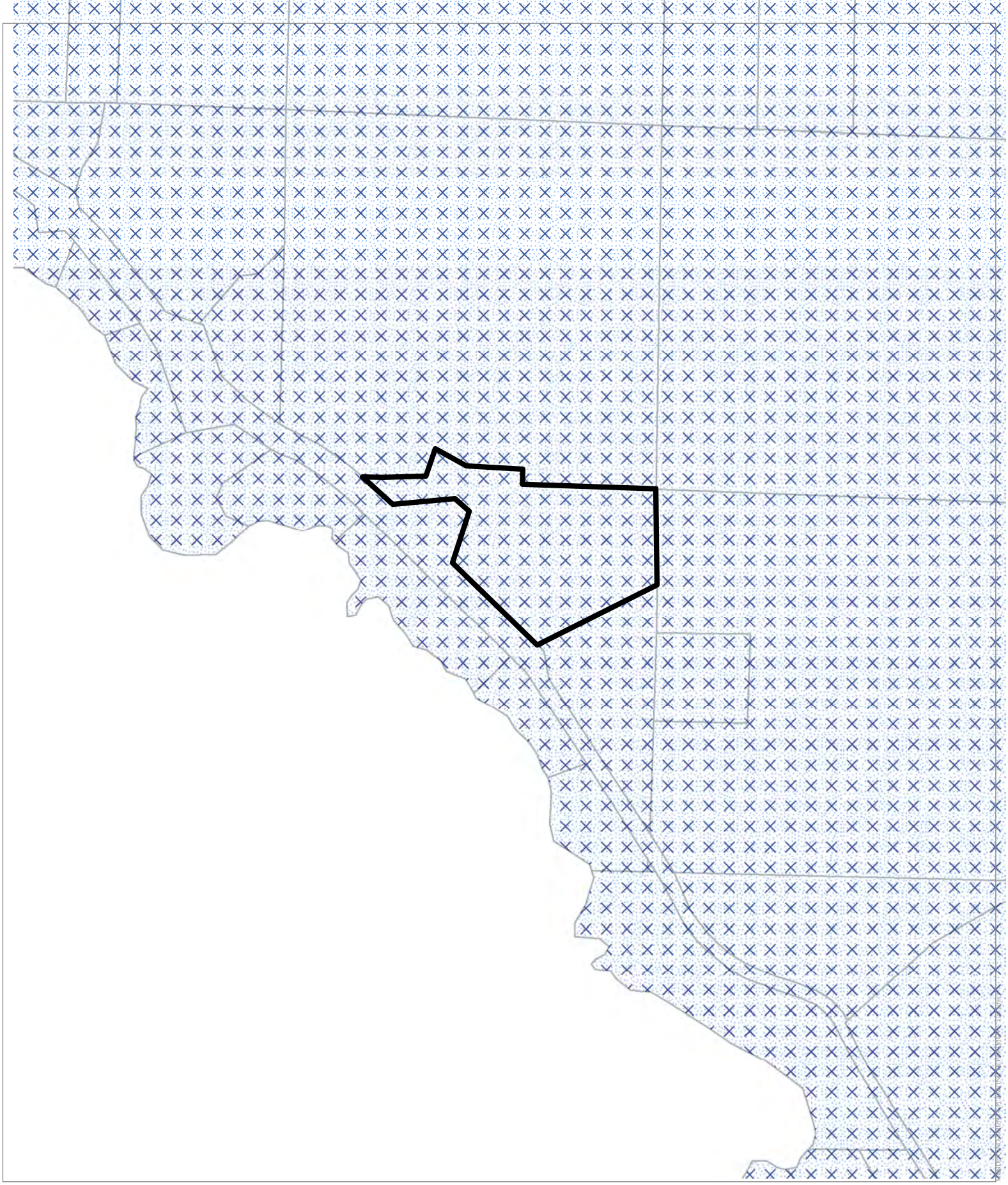


CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

0 80 160 Feet
0 0.0125 0.025 Miles
N W E S
1:2,000

WETLANDS

MENDOCINO COUNTY PLANNING DEPARTMENT - 2/7/2022



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Critical Water Areas

Coastal Ground Water Resource Areas

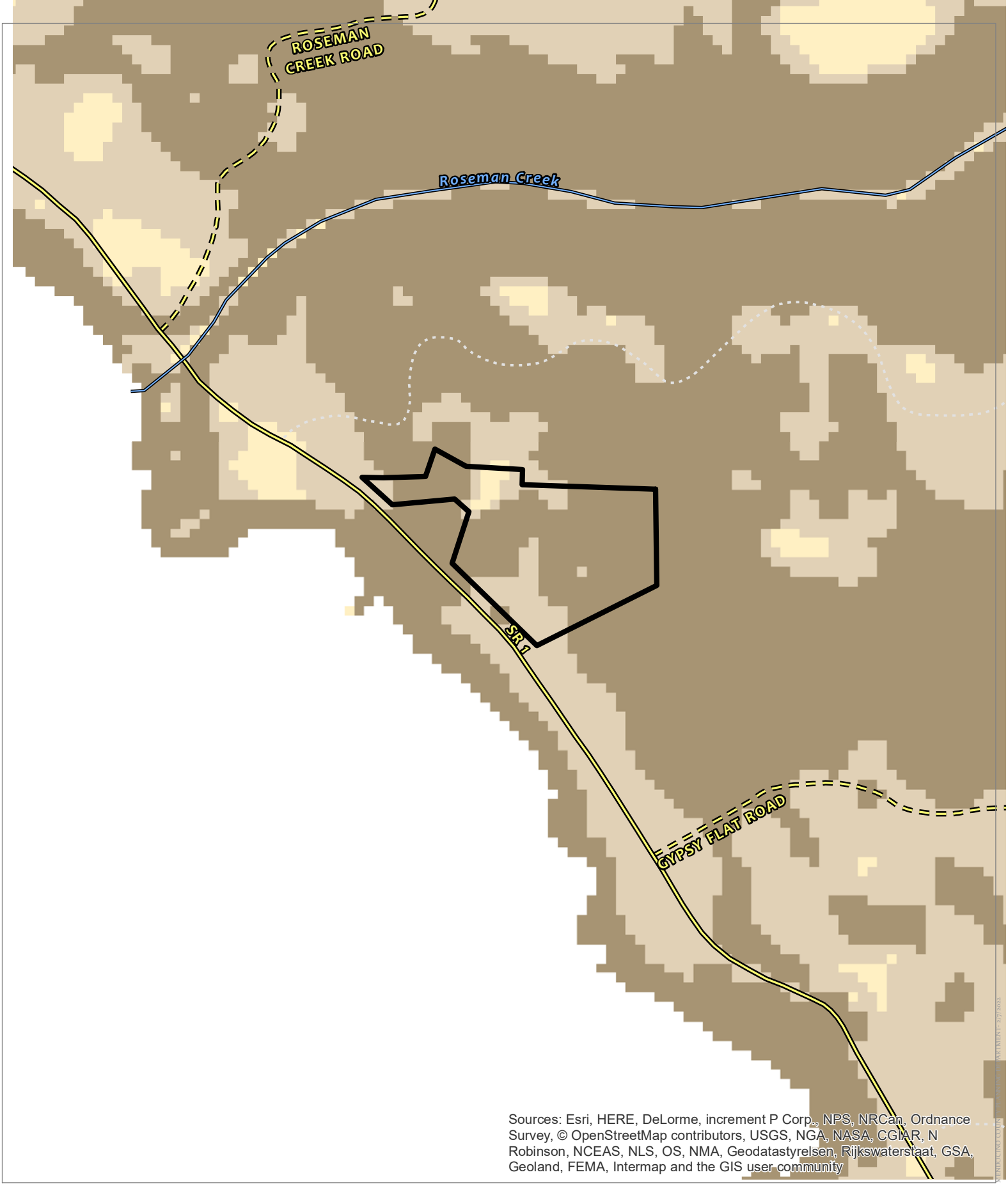
0 210 420 Feet

0 0.035 0.07 Miles

N W E S

1:5,000

GROUND WATER RESOURCES



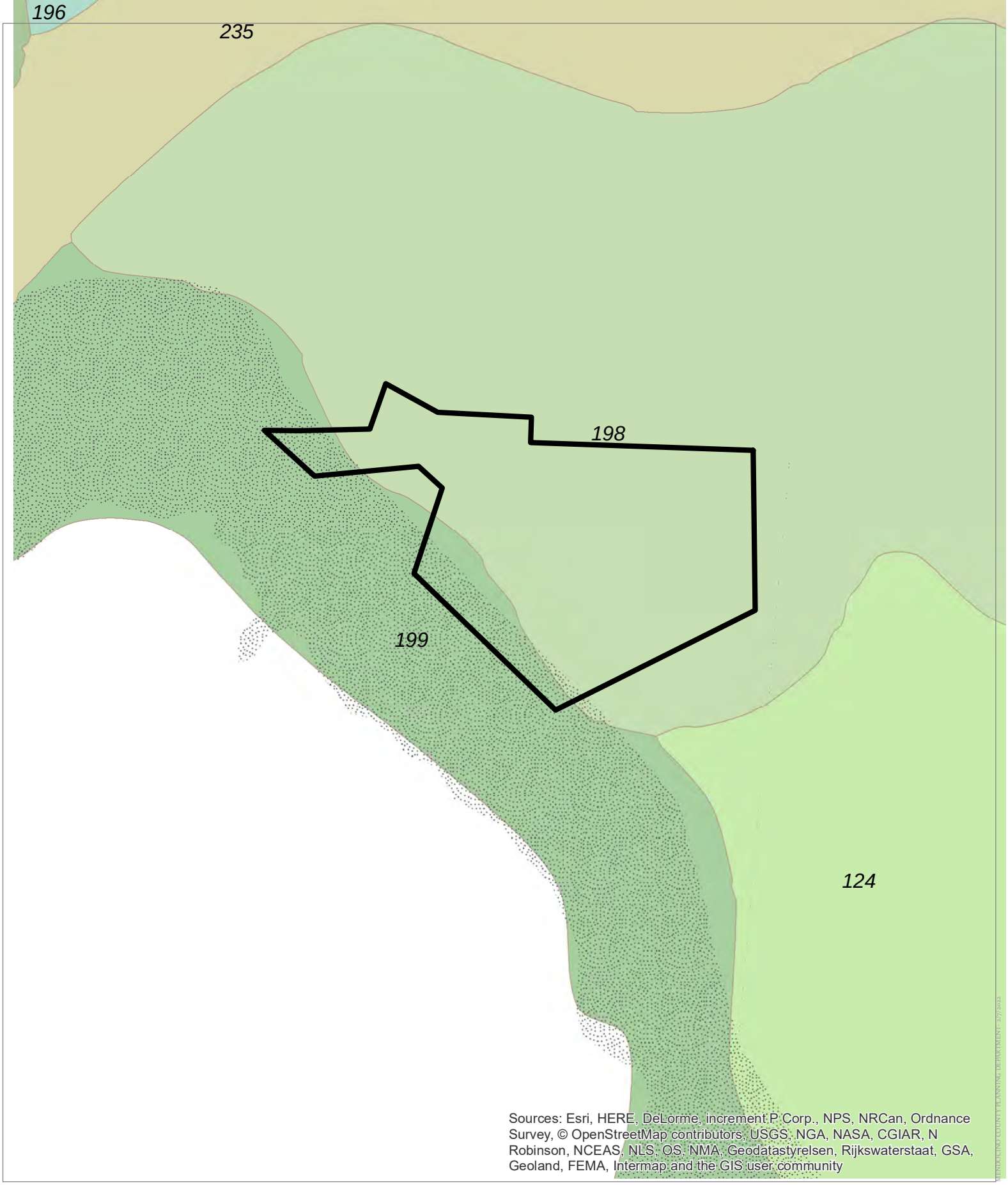
Sources: Esri, HERE, DeLorme, increment P Corp., NPS, NRCan, Ordnance Survey, © OpenStreetMap contributors, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Public Roads
Private Roads
0° - 14°
15° - 32°
33° - 72°

0 210 420 Feet
0 0.035 0.07 Miles
1:5,000

ESTIMATED SLOPE



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

Shinglemill-Gibney Complex

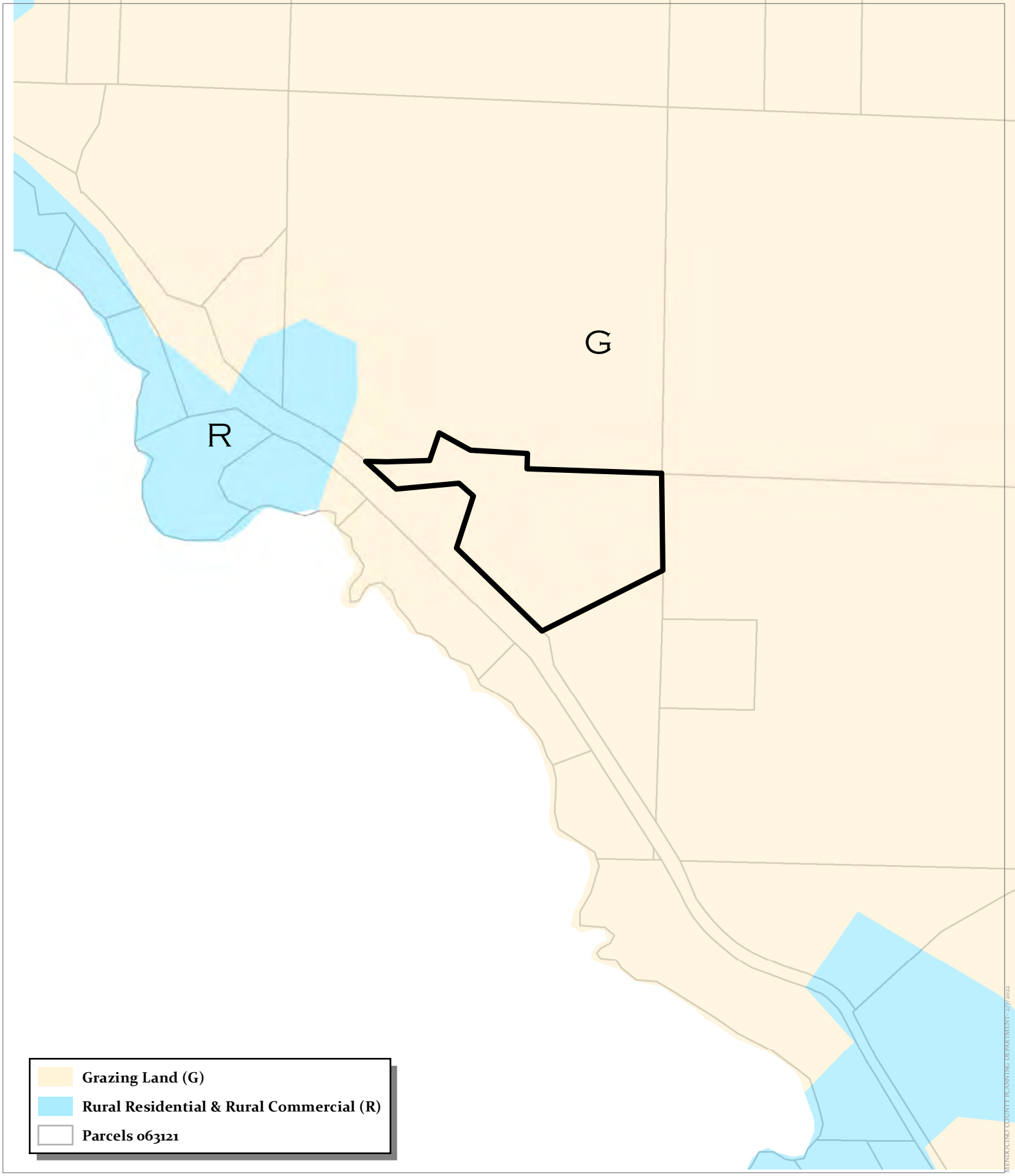
Western Study Soil Types

0 125 250 Feet
0 0.02 0.04 Miles
1:3,000

N W E S

MENDOCINO COUNTY PLANNING DEPARTMENT 5/7/2022

WESTERN SOIL CLASSIFICATIONS



CASE: CDP 2022-0001
OWNER: Douglas and Jennifer Herting
APN: 143-050-15
APLCT: Douglas and Jennifer Herting
AGENT:
ADDRESS: 33101 S. Highway 1, Gualala

0 210 420 Feet
0 0.035 0.07 Miles
1:5,000

FARMLAND CLASSIFICATIONS

MENDOCINO COUNTY PLANNING DEPARTMENT 3/7/2022

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760 632 0164

DRAFT MEMORANDUM

To:	Dr. Douglas Herting
From:	Trey Driscoll, PG No. 8511, CHG No. 936, Devin Pritchard-Peterson
Subject:	Well Test Report
Date:	October 28, 2021
Attachment(s):	Attachment A, Figures; Attachment B, Well Log

This report describes the procedures and results of a well pumping test conducted to satisfy the County of Mendocino Division of Environmental Health water well testing requirements for proof of water for an existing water well located at 33101 Highway One in Gualala, California on assessor's parcel number 143-050-13 (Attachment A, Figure 1).

1 Project Description

The Project site is currently undeveloped. An existing water well was drilled on the Project site in 1990 by Fisch Bros Drilling, Inc. The water well driller's report (No. 364405) for the existing well (Well 1) indicates Well 1 is 5-inches in diameter, 100 feet deep, and screened from 60 to 100 feet below ground surface (bgs). The static groundwater level at the time of completion was 40 feet bgs and the well was reportedly capable of pumping at a rate of 15 gallons per minute (GPM) for a duration of 2 hours (Attachment B, Well Log). Well 1 is located at latitude 38.824882° N, longitude -123.605694° W, and an elevation of approximately 224.3 feet above mean sea level.

The Project site is located in the Point Arena subunit—that extends from Point Arena to Gualala—of the Mendocino County's coastal groundwater study area (County of Mendocino 1982). According to the driller's report, the lithology at the Project site consists of topsoil from 0 to 5 feet, clay from 5 to 21 feet, and sandstone from 21 to 100 feet bgs (Attachment B, Well Log). Based on the information included in the driller's report and regional geology, the sandstone unit encountered likely includes the German Rancho Formation, composed of turbidite sequences[1] deposited on a submarine fan, overlain by marine terrace deposits (Society of Sedimentary Geology 1998). The fractured sandstone bedrock is the primary aquifer at the Project site.

To determine if the existing well has sufficient yield to meet water demands for a proposed single family residence a constant rate pumping test was performed in October 2021.

2 Well Test Procedures

A 4-hour step-drawdown pumping test was conducted at Well 1 on October 15, 2021 to evaluate well performance and establish an optimal flow rate for a constant rate pumping test. A 22-hour constant rate pumping test was

[1] Turbidite sequences are sea-bottom deposits formed by massive slope failures. Rivers flowing into the ocean deposit sediments on the continental shelf and slope. These slopes fail in response to excessive sedimentation load and sometimes earthquake shaking, sending the sediments sliding down to the ocean bottom to create a turbidite.

conducted at Well 1 beginning on October 16, 2021 at 08:05 and ending on October 17, 2021 at 06:02 to determine the feasibility of utilizing groundwater from Well 1 to satisfy water demands for a proposed single family residence. Prior to the tests, a pressure transducer and data logger were installed in Well 1 to monitor groundwater levels before, during, and after the pumping tests. An In-Situ non-vented Level Troll 400 pressure transducer was installed in Well 1 approximately 92 feet below top of casing (btoc). Additionally, an In-Situ Baro Troll pressure transducer was deployed at the well head to correct for atmospheric pressure changes. The pressure transducer installed in Well 1 was programmed to record at a frequency of every 30-seconds during the pumping tests, and every 15-minutes for long-term monitoring. Manual depth to water measurements were taken at regular intervals throughout the pumping tests to the nearest 0.01-foot using a Solinst Model 102 Water Level Meter. A Grundfos Redi-Flo 2 pump was installed at approximately 98 feet btoc. The flow rate during the pumping tests was measured using the bucket and stopwatch method and total gallons extracted was calculated from the flow measurements. The flow rate was maintained to within 10-percent of the selected pumping test rate using a variable frequency drive controller. Groundwater extracted during the pumping tests was discharged through 3/8-inch plastic pipe to the ground surface downgradient from the well.

The Well 1 step test consisted of two pumping intervals of progressively higher constant rates, each 2 hours in duration. The pumping rates observed during the step test were 0.75 GPM and 2.5 GPM. The groundwater level in Well 1 prior to the first step was 77.60 feet btoc and at the end of the last step was 87.82 feet btoc for a total water level drawdown of 10.22 feet.

The Well 1 constant rate test consisted of pumping the well at an average discharge rate of 1 GPM for 22 hours. The total volume of groundwater pumped during the test was 1,319 gallons. The groundwater level in Well 1 prior to the start of the test was 79.08 feet btoc and at the end of the test was 89.64 feet btoc for a total water level drawdown of 10.56 feet. Water level drawdown stabilized according to County criteria (three consecutive measurements 10 minutes apart in a 30 minute period that vary no more than +/- 0.1 feet) on October 17, 2021 at 23:30, approximately 15 hours into the test. Groundwater level recovery was monitored for 6 days following the constant rate pumping test. The groundwater level recovered to 80-percent of total drawdown (depth to water of 81.18 feet btoc) on October 18, 2021 at 00:20, approximately 18.3 hours after the pump was shut off, and to 100-percent of total drawdown (depth to water of 79.08 feet btoc) on October 21, 2021 at 01:06. The depth to water on October 23, 2021 at 15:21 when the transducer was removed from the well was 78.38 feet btoc. A hydrograph for Well 1 that shows the groundwater level response during and after the tests is presented in Attachment A, Figure 2.

3 Well Test Results

Groundwater level drawdown and recovery data recorded in Well 1 during the constant rate pumping test were analyzed to estimate aquifer transmissivity and the specific capacity of the well. Aquifer transmissivity (the rate at which water flows through a vertical strip of the aquifer one foot wide and extending through the full saturated thickness, under a hydraulic gradient of 1, or 100 percent) is estimated using the Cooper-Jacob approximation to the Theis equation (Cooper and Jacob 1953) as follows:

$$T = \frac{2.303\,Q}{4\,\pi\Delta s}$$

Where:

T = transmissivity (feet^2/day) [multiply by 7.48 to get units of gpd/ft]
Q= average pumping rate (feet^3/day) [multiply GPM by 192.51]
π = pi (3.14)
Δs = difference in drawdown over one log cycle (feet)

The transmissivity at Well 1 calculated by performing the Cooper-Jacob approximation to the Theis equation is 4.5 feet^2/day or 33.8 gallons per day (gpd) per foot (Attachment A, Figure 3).

The specific capacity of a well is the pumping rate divided by the total drawdown measured at the end of the test. It can be used to identify potential well, pump, or aquifer problems, and to develop a proper well maintenance schedule. The specific capacity calculated for Well 1 was 0.1 GPM per foot of drawdown (Attachment A, Figure 3). This number can be used as a baseline value to help manage well efficiency and well/pump maintenance in the future.

The observed maximum sustained yield of the well based on the 22-hour constant rate test performed is 1 GPM. The maximum sustained yield observed equals the County minimum required water supply for a single family residence (County of Mendocino 1989).

Groundwater quality was measured in the field during the constant rate pumping test using a calibrated YSI ProDSS handheld multiparameter meter. Field water quality results are presented in Table 1.

Table 1. Field Water Quality

Parameter	Result	Units
Temperature	16.1	degrees Celsius
Dissolved oxygen	2.32	milligrams per liter
Electrical conductivity	235.8	microsiemens per centimeter
Total dissolved solids	185	milligrams per liter
pH	5.75[a]	pH units
Oxidation reduction potential	150.1	millivolts
Turbidity	1.51	nephelometric turbidity units

Notes:

[a] This pH value is considered low. The U.S. Environmental Protection Agency recommends that the pH of drinking water be between 6.5 and 8.5. A review of available water quality data for nearby wells indicates that the pH of groundwater in the vicinity ranges from 5.9 to 8.1 (USGS 2021).

4 Conclusions and Recommendations

A constant rate pumping test was performed at the existing water well located on assessor's parcel number 143-050-13 to determine if the well has sufficient yield to meet water demands for a proposed single family residence. The constant rate pumping test consisted of pumping the well at an average discharge rate of 1 GPM for 22 hours. Water level drawdown was monitored using a pressure transducer installed in the well and by taking manual depth to water measurements with an electronic water level meter. Water level drawdown stabilized after approximately 15 hours of pumping and total water level drawdown at the end of the test was 10.56 feet.

Based on the results of the constant rate pumping test, the existing water well has sufficient yield to supply a single family residence.

Based on the field water quality results, the pH of the groundwater is low. It is recommended that a representative water quality sample be collected for laboratory analysis to determine the quality of the water prior to consumptive use.

5 References

Cooper, H.H., Jr. and C.E. Jacob. 1953. A Generalized Graphical Method of Evaluating Formation Constraints and Summarizing Well Field History. U.S. Department of the Interior, Geological Survey, Water Resources Division, Groundwater Branch. January 1953.

County of Mendocino. 1982. Mendocino County Coastal Ground Water Study. June 1982. Reprinted August 1989.

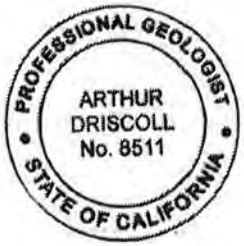
County of Mendocino. 1989. Mendocino County Coastal Groundwater Development Guidelines. July 1989.

Society of Sedimentary Geology. 1998. Geology and Tectonics of the Gualala Block, Northern California. October 2, 1998.

United States Geological Survey (USGS). National Water Information System: Mapper. Accessed October 28, 2021. https://maps.waterdata.usgs.gov/mapper/index.html.

6 Signature

This well test report has been prepared under the direction of a professional geologist licensed in the State of California consistent with professional standards of practice.

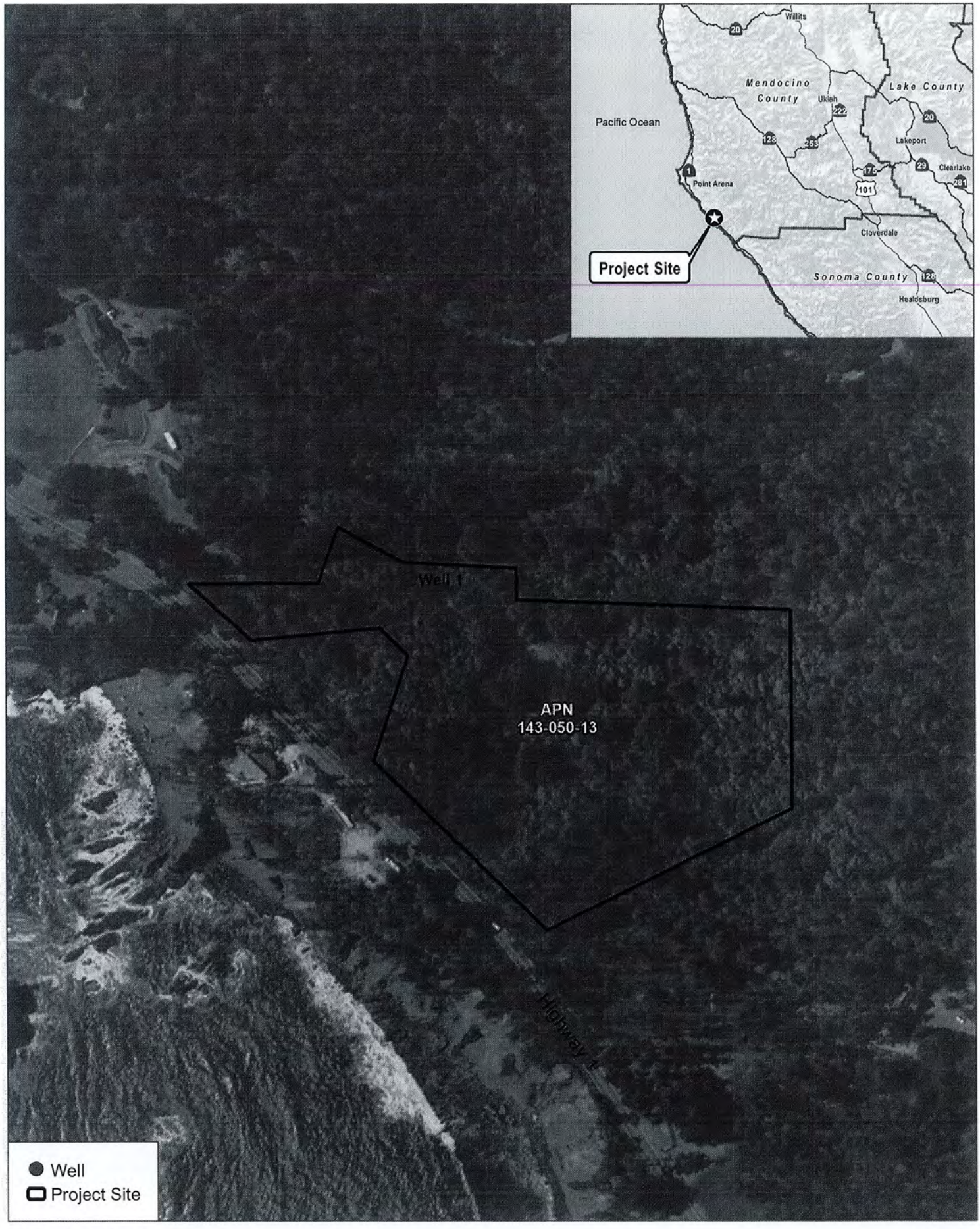


Arthur Storer Driscoll, III (Trey)

PG No. 8511, CHG No. 936

Attachment A

Figures



SOURCE: County of Mendocino

DUDEK

0 100 200 Feet

FIGURE 1

Project Location

Well Test Report

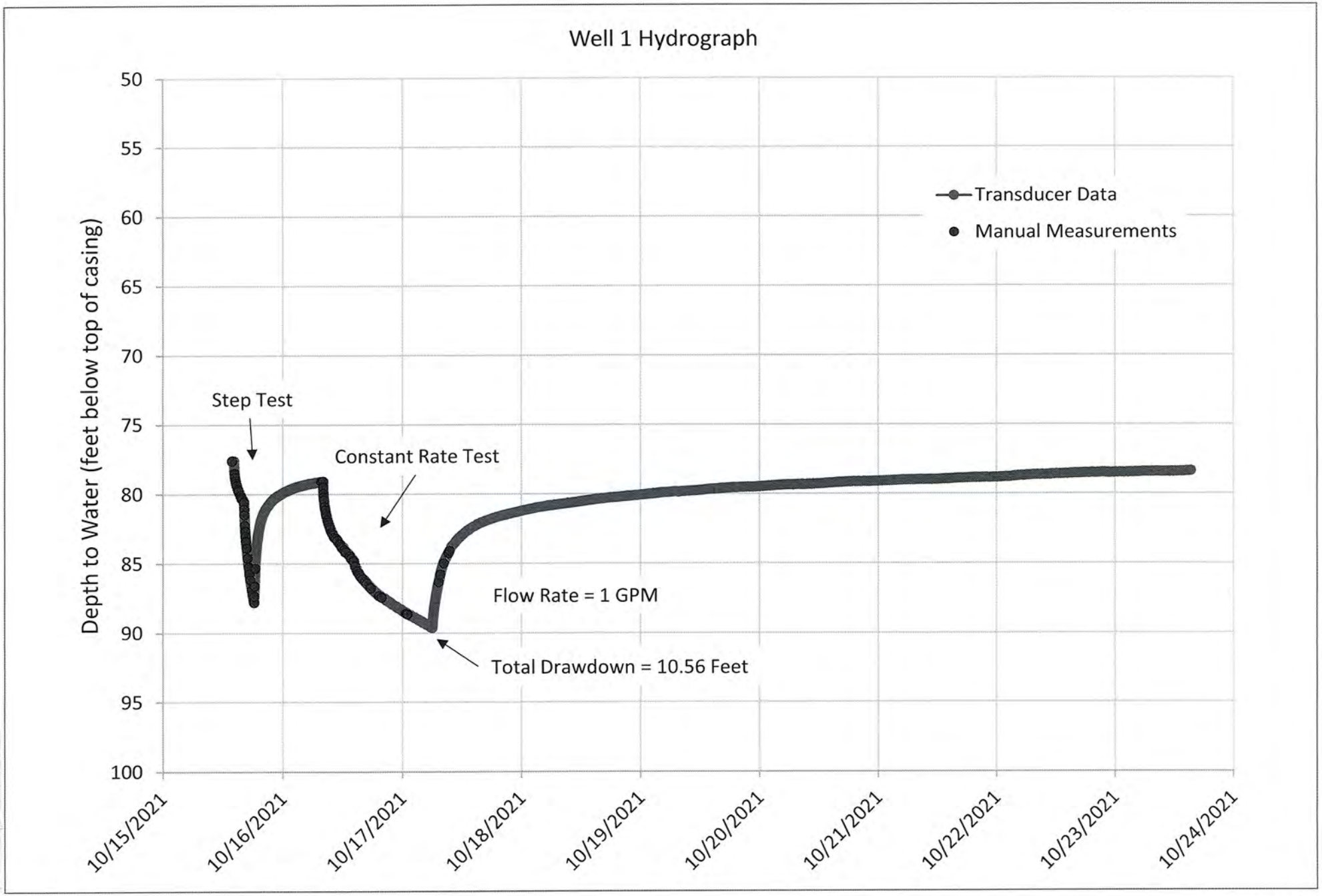


FIGURE 2

Well 1 Hydrograph

Well Test Report

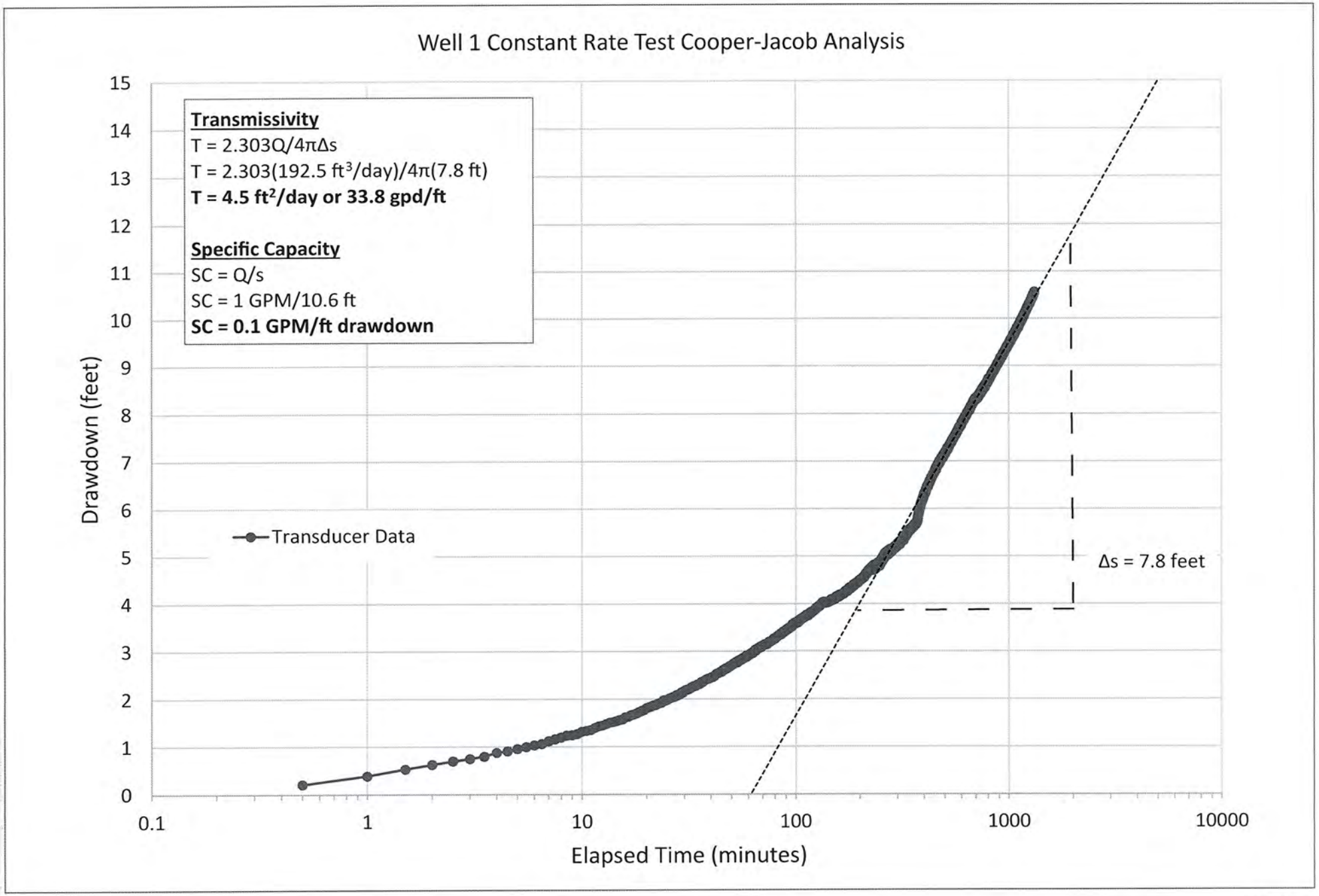


FIGURE 3

Well 1 Constant Rate Test Cooper-Jacob Analysis

Attachment B

Well Log

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in
No. 364405

...ate
...iller's Copy

Notice of Intent No. _____
Local Permit No. or Date 7179

State Well No. _____
Other Well No. _____

(1) OWNER Name Randy Brannocker
Address P. O. Box 386
City Avalon Ca. ZIP 90704

(2) LOCATION OF WELL (See instructions):
County Mendocino Owner's Well Number _____
Well address if different from above 33101 Hwy 1 Anchor Bay
Township _____ Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. _____

A.P.#143-050-13

WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Municipal ☐
Other ☐
(Describe)

(5) EQUIPMENT:
Rotary ☒ Reverse ☐
Cable ☐ Air ☒
Other ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☒ No ☐ Size 3/8Pea
Diameter of bore 10in
Packed from 80 ft. to 100 ft.

(7) CASING INSTALLED:
Steel ☐ Plastic ☒ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	100	5"	c160

(8) PERFORATIONS:
Type of perforation or size of screen (Well Driller)

From ft.	To ft.	Slot size
60	100	1/8"

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing grout

(10) WATER LEVELS:
Depth of first water, if known _____ ft.
Standing level after well completion 40 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test 40 ft. At end of test 90 ft.
Discharge 15 gal/min after 2 hours Water temperature _____
Chemical analysis made? Yes ☐ No ☒ If yes, by whom? _____
Was electric log made Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 100 ft. Completed depth 100 ft.

from ft	to ft	Formation (Describe by color, character, size or material)
0	5	topsoil
5	21	clay
21	100	sandstone

Work started 10ct 1990 Completed Oct 1990

WELL DRILLER'S STATEMENT

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief

Signed Dale Theiss by owner (Well Driller)
NAME FISCH BROS DRILLING INC. (Person, firm, or corporation) (Typed or printed)
Address 5001 Gravenstein Hwy. No.
City Sebastopol Ca. ZIP 95472
License No. 399226 Date of this report 10-19-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DWR 188 (REV. 12-90) 86 96033

...ate
...iller's Copy

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in
No. 364405

Notice of Intent No. _____
Local Permit No. or Date 7179

State Well No. _____
Other Well No. _____

(1) OWNER Name ~~Randy Brannocker~~
Address ~~P. O. Box 386~~
City ~~Avalon Ca.~~ ZIP ~~90704~~

(2) LOCATION OF WELL (See instructions):
County Mendocino Owner's Well Number _____
Well address if different from above ~~33101 Hwy 1 Anchor Bay~~
Township _____ Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. _____

A.P.#143-050-13

WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Municipal ☐
Other ☐
(Describe)

(5) EQUIPMENT:
Rotary ☒ Reverse ☐
Cable ☐ Air ☒
Other ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☒ No ☐ Size 3/8Pea
Diameter of bore 10in
Packed from 80 ft. to 100 ft.

(7) CASING INSTALLED:
Steel ☐ Plastic ☒ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	100	5"	c160

(8) PERFORATIONS:
Type of perforation or size of screen

From ft.	To ft.	Slot size
60	100	1/8"

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing grout

(10) WATER LEVELS:
Depth of first water, if known _____ ft.
Standing level after well completion 40 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test 40 ft. At end of test 90 ft.
Discharge 15 gal/min after 2 hours Water temperature _____
Chemical analysis made? Yes ☐ No ☒ If yes, by whom? _____
Was electric log made Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 100 ft. Completed depth 100 ft.

from ft	to ft	Formation (Describe by color, character, size or material)
0	5	topsoil
5	21	clay
21	100	sandstone

Work started 10ct 1990 Completed Oct 1990

WELL DRILLER'S STATEMENT

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief

Signed ~~Dale Theiss by~~ (Well Driller) ~~Publisher~~
NAME ~~FISCH BROS. DRILLING INC.~~ (Person, firm, or corporation) (Typed or printed)
Address ~~5001 Gravenstein Hwy. No.~~
City ~~Sebastopol Ca.~~ ZIP ~~95472~~
License No. ~~399226~~ Date of this report ~~10-19-90~~

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DWR 188 (REV. 12-89) 86 96353

Anthony Brosseau, *Septic System Inspector*
Certification NAWT # 12741ITC
Septic Skeptic
44980 Fish Rock Road, Gualala, CA 95445
(707) 884-5080

Invoice Number: 11649

Sewage Treatment System Inspection Report

Date Ordered: 2-5-2021 Date/Time Scheduled: 2-12-2021

By whom: Doug Herting Send copy to: _____

Parcel Number: _____ Fax to: _____

Site address: 33101 S Hwy 1 Gualala, CA 95445 Billing address: _____

Phone: (925) 325-6172 Phone: _____

1. System Type: Standard 2. Age: 1990's? 3. Number of bedrooms: 3

4. Number of people occupying dwelling: Sellers: N/A Anticipated: N/A

5. Is dwelling currently occupied: Yes: ____ No: ✓ Don't know: ____

6. If dwelling is unoccupied, how long has it been vacant? No Dwellings

7. Has there ever been a backup in the house? Yes: ____ No: ✓ Don't know: ____

8. List any known repairs made to the system: N/A

9. Has the system been inspected by others? Yes: ____ No: ✓ If so, did it fail? Yes: ____ No: ____

10. Date the treatment tank last pumped: NEVER At what frequency? NEVER

Additional comments: Brand new System never operated

SEPTIC TANK

Risers: no Inlet Tee: ok Outlet Tee: ok

Scum Inlet: 0 Sludge Inlet: 0 Scum Outlet: 0 Sludge Outlet: 0

Structural Condition: ok Pumping Required? Yes: ____ No: ✓

Liquid Level: normal Tank Construction: concrete Tank Volume: 1200 gallons

PUMP SYSTEM

Dose Counter: _____ Condition: _____ # _____ Riser: _____ Controls: _____

Valves/Plumbing: _____ Operation: _____ Basin Integrity: _____ Electrical: _____

GW Infiltration: Yes: ____ No: ____ Discharge Line: _____ Sludge/Debris: _____

Pump Run (Sec): _____ OK: Yes: ____ No: ____

N/A

Anthony Brosseau, *Septic System Inspector*
Certification NAWT # 12741ITC
Septic Skeptic
44980 Fish Rock Road, Gualala, CA 95445
(707) 884-5080

Invoice Number: 11649

DRAINAGE OBSERVATIONS

Diversion Valve: Yes:____ No: ✓ **Field:** gravity **Odors:** Yes:____ No: ✓

Surfacing Effluent: Yes:____ No: ✓ **Saturation:** Yes:____ No: ✓ **Down Slope Seep:** Yes:____ No: ✓

Greywater Bypass: Yes:____ No: ✓ **Fertility:** Yes:____ No: ✓ **Drainage Problem:** Yes:____ No: ✓

Observable plumbing problems?: Yes:____ No: ✓ **Curtain Drain:** Yes:____ No: ✓

Hot Tub: Yes:____ No: ✓ **Seep Pit:** Yes:____ No: ✓

HYDRAULIC LOAD TEST

Start Fill: 2pm **End Fill:** 3 pm **End Drain:** 3 pm

Depth to water: 8" 8" 8" **Water Added:** 300 gallons

Water Rise: 0 **Water Drop:** 0 **Elapsed Time:** 60 minutes

INSPECTORS COMMENTS

System functioning properly

SYSTEM INSPECTION RESULT: Pass: ✓ Fail:_____

Based on what I was able to observe and with my experience with on-site wastewater technology, I submit this Sanitary Sewage Disposal System Inspection Report based on the present condition of the on-site sewage disposal system. I have not been retained to warrant, or guarantee, or certify the proper functioning of the system for any period of time in the future. Because of the numerous factors (usage, soil characteristics, previous failures etc.) which may effect the proper operation of a septic system as well as my inability to supervise or monitor the use or maintence of the system. This report shall not be constructed as a warranty that the system will function properly for any particular buyer. I DISCLAIM ANY WARRANTY, either expressed or implied, arising from the inspection of the septic system or this report. I am also not ascertaining the impact the system is having on the ground water.

Date and Time Arrived: 2-12-21 Departed: 2-12-21

Signed: Anthony Brosseau

Anthony Brosseau
NAWT# 12741ITC

Invoice Number: 11649 Amount Due: 500.- Copies Made? Yes: ✓ No:____

Method of Payment:_____ Check Number:_____ Date Paid:_____ Amount Paid:_____

Thank You! We appreciate your business!

Appl[illegible]n is hereby made to the Mendocino County Division of Envi[illegible]ental Health for a permit to construct or repair a sewage disposal system as described below in compliance with the code of Mendocino County or for clearance for other construction.

SITE ADDRESS 33101 HWY 1

ASSESSOR'S PARCEL 143-050-13 00

LOCATION _____

CITY Dalaia

OWNER NAME Steve & Barbara [illegible]

MAILING ADDRESS Box 126, Avalon, CA 90704

TYPE OF STRUCTURE

☒ Single Family Residence No. of Bedrooms (3)

☐ Other _____ (Type of Facility) _____ (No. employees, units seating, etc.)

Design Flow _____

WORKMEN'S COMPENSATION CERTIFICATE

(ONE OF TWO MUST BE COMPLETED)

☐ 1. A currently effective certificate of Workmen's Compensation insurance coverage is on file with this office.

Compensation Insurance _____ Policy _____ is currently in force.

☐ 2. I certify that in the performance of the work for which this permit will be issued I shall not employ any person in any manner so as to become subject to the workmen's compensation laws of California.

_____ APPLICANT

CONTRACTOR'S LICENSE LAW CERTIFICATE

(COMPLETE EITHER A OR B)

☐ A. The Applicant is licensed under the provisions of the contractors license law under license # _____ which license is in full force and effect.

☐ B. The Applicant is exempt from the provisions of the contractors license law for the following reasons:

_____

_____

_____

DATE _____ SIGNATURE _____

IMPORTANT:

I agree to obtain Environmental Health Officer's inspection of installation prior to covering.

I agree to construct this disposal system in accordance with all the provisions of the code of Mendocino County and with the plan drawn hereon.

It is understood that the issuance of a permit in no way indicates that a guarantee of perfect and indefinite operation of this system is made by the Mendocino County Division of Environmental Health, and that the homeowner is required to make any repairs necessary to confine sewage below the surface of the ground.

SIGNATURE _____ Date _____

☐ OWNER ☒ OWNER'S AGENT

APPROVED
MENDOCINO COUNTY PLANNING DEPARTMENT
By _____ Date 1-25-89

FEE			RECEIPT NUMBER	PERMIT NUMBER
$ 185.00	☒ NEW ☐ RENEWAL	☐ ADDITION ☐ REPAIR	73191	No. 3967 -F

SEE REVERSE SIDE FOR AS-BUILT SKETCH

REQUIREMENTS & SPECIFICATIONS:

GENERAL REQUIREMENTS

1. Leach Trenches shall be covered with a minimum of 12 inches of backfill after Health Department approval.
2. Septic tank and disposal field must be 10 feet from property lines and structures, 100 feet from any water well or surface drainage.
3. When the sewage disposal system has been installed, and before top soil is placed over it, the INSTALLER SHALL NOTIFY the Health Department IN WRITING that a final inspection can be made. Allow five working days for the inspection
4. Trenches shall have a gradual fall of 1 inch to 30 feet

TREATMENT TANK

☒ Septic Tank-size 1500 gals.

☐ Other describe _____

SUBSURFACE DISPOSAL AREA

☒ Trench Disposal

Total linear feet of trench	150 ft
Number of trenches	3
Length of each trench	50 ft
Total depth of trench	4½ ft
Depth of gravel below line	2 ft

☐ Leach Bed

Total Bed area	_____ sq. ft
Number of beds	_____
Width _____ ft. Length _____ ft.	
Total Depth of beds	_____ ft.
Depth of gravel below line	_____ ft.

☐ Other Disposal Area

Describe _____

SPECIAL REQUIREMENTS

☒ Install in Area 1

☐ Special Design (Describe)

☐ Waiver Required

Describe

Remarks:

PERMIT ISSUED: John Ehlers RS DATE: 30 MAR 89

INSTALLATION APPROVED BY: John Ehlers EHS DATE: 11 July 89

SITE EVALUATION REPORT
INDIVIDUAL SEWAGE DISPOSAL SYSTEM PROPOSAL

OWNER NAME: Ed Fryer Mailing Address c/o P.O Box 1010 Gualala, Ca. 95445

PROPERTY ADDRESS: 33101 Hwy one Anchor Bay A.P. NO 143-050-13

AGENT: Cypress Properties SITE EVALUATOR: David R. Miller

LOCATION: South of McNamee's store, Mile marker 6.99 East side of Hwy one - Metal wire gate -

PARCEL SIZE 8.02 Acres

✓ SFR 3 BEDROOMS

___ COMMERCIAL ___ GPD (Attach description)

✓ INDIVIDUAL WATER SUPPLY:

___ PUBLIC

The attached compilation of soils and site information (including a plot plan, soil profile report, and either soil percolation or soil texture report) are submitted for review.

SITE EVALUATOR'S STATEMENT:

I HEREBY CERTIFY THAT I HAVE EXAMINED THE ABOVE DESIGNATED SITE USING APPROVED PROCEDURES, AND THAT IT COMPLIES WITH ALL STATE AND COUNTY REQUIREMENTS FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM AT THE TIME OF THIS EVALUATION.

✓ Requires Typical Design No. 1-A 36 inches of gravel below the pipe

___ Requires Waiver (Justification Attached)

___ Requires Other Special/Alternative Designs (Proposal Attached)

RECEIVED
JAN 17 1989
FORT BRAGG
MENDOCINO CO. HEALTH DEPARTMENT

REGISTERED SANITARIAN
DAVID R. MILLER
No. 3798
STATE OF CALIFORNIA
(SEAL)

DATE: Jan 10, 1989

SIGNED: David R. Miller

MCHD Site Check: Jan Ehlers Date - Jan 19, 1989

NOTE: Provide 2 copies of entire report

Dave Miller
P.O. Box 974
Fort Bragg,Ca. 95437
707 964-5144

To Whom It May Concern:

(1) This soils report does not constitute a permit for installation from the Mendocino County Health Department.

(2) The proposed septic system was drawn according to Mendocino County required limits and is based on information and lot access available to the preparer at the time the system was proposed. Changes in parcel utilization or topography may require re-evaluation of the system.

(3) If the septic sytem installer does not understand or agree with the system proposal, contact the preparer or the Mendocino County Health Department before construction begins. Systems installed incorrectly may require reconstruction.

(4) Be aware of property line, well, and water course setback requirements before system construction takes place.

(5) Steep lots present geological hazards which may require special engineering, particularly when leach fields are proposed up slope of house construction.

(6) Physical measurements for this soils report were made with hand held instruments such as abney level, cloth measuring tape, and Brunton Compass. Therefore, distances shown are approximate and no adjustment has been made for slope correction. The enclosed plot plan is a representation of possible location for house, leach field, well, etc. and does not depict exact location nor orientation of same.

(7) Be aware that the removal of substantial amounts of vegetation is commonly required inorder to install a leach field and while it is possible to design leach lines around major trees, it should be kept in mind that certain tree roots such as redwood and willow seek out water and nutrients from leach lines and may require periodic maintenance.

(8) Leach lines generally shall be installed across slope following the contour of the land and should be constructed in accordance with the slope contours as they exist on the parcel.

REGISTERED SANITARIAN
DAVID R. MILLER
No. 3798
STATE OF CALIFORNIA

SOIL PROFILE DATA REPORT

OWNER NAME: Ed Fryer SITE EVALUATOR: David R. Miller

PROPERTY ADDRESS: 33101 Hungry Ln M.S./A.P. NO. 143-050-13

DATE TEST DONE: Dec 20, 1988 SEASONAL RAINFALL TOTAL TO DATE _____ INCHES

SEASONAL RAINFALL PAST TWO WEEKS _____ INCHES Dug during rain storm

BRIEF DESCRIPTION OF TOPOGRAPHY AND VEGETATION IN PROPOSED AREA: 10-20% slope between Ravine and Sandstone outcrop - Redwood - Madrone - Oak

PARCEL NO. _____

DEPTH	PROFILE # E-1	DEPTH	PROFILE # E-2
0	Dark brown sandy clay loam	0	Dark brown sandy clay loam
	8"		8"
1	Yellowish red sandy loam, Medium Compaction	1	Yellowish red sandy loam, Medium Comp.
2			25"
	30"		Yellow decomposed
3	Yellow decomposed Sandstone, friable,	3	Sandstone, dry,
4		4	Medium Compaction,
5	Medium Compaction	5	friable, sandstone
6	Zone 2A, dry	6	fragments
7		7	Zone 2A
8		8	
9		9	
10	120"	10	120"

Backhoe
Bedrock Inc

REGISTERED SANITARIAN
DAVID R. MILLER
No. 3798
STATE OF CALIFORNIA

David R. Miller
SIGNATURE

Jan 8, 1989
DATE

SOIL TEXTURE ANALYSIS
HYDROMETER

OWNER: Ed Fryer DATE SAMPLE TAKEN: Dec 20, 1988

PROPERTY ADDRESS: 33101 Hwy One

A.P.#: 143-050-13 SITE EVALULATOR: David R Miller

PROFILE NUMBER	E-1		E-2	
SAMPLE NUMBER	1		1	
SLAKE TEST (Pass or Fail)	Pass		Pass	
DEPTH	40"		40"	
A. OVEN DRY WT. (Gm)	50		50	
B. STARTING TIME (hr:min) 5:00 PM	0 min		1 min	
C. TEMP @ 40 SEC (°F)	69°		69°	
D. HYDROMETER READING @ 40 SEC (Gm/l)	18.0		20.0	
E. COMPOSITE CORRECTION (Gm/l)	-6.3		-6.3	
F. TRUE DENSITY @ 40 SEC (Gm/l) D - E	11.7		13.7	
G. TEMP @ 2 HRS (°F)	66°		66°	
H. HYDROMETER READING @ 2 HRS (Gm/l)	13.0		10.0	
I. COMPOSITE CORRECTION (Gm/l)	-6.9		-6.9	
J. TRUE DENSITY @ 2 HRS (Gm/l) H - I	6.1		3.1	
K. % SAND = 100 - [(F + A) X 100]	76.6		72.6	
L. % CLAY = (J + A) X 100	12.2		6.2	
M. % SILT = 100 - (K + L)	11.2		21.2	
N. WT COARSE PARTICLES RETAINED (Gm)	0		0	
O. WT. OF TOTAL SAMPLE, OVEN DRY (Gm)	500		500	
P. % COARSE PARTICLES (N + O X 100)	0%		0%	
BULK DENSITY (Gm/ml)	—		—	
ADJUSTED SAND (%)				
ADJUSTED CLAY (%)				
ADJUSTED SILT (%)				
SOIL PERCOLATION SUITABILITY CHART ZONE	2A		2A	

REGISTERED SANITARIAN
DAVID R. MILLER
No. 3798
STATE OF CALIFORNIA

David R Miller
SIGNATURE OF TECHNICIAN

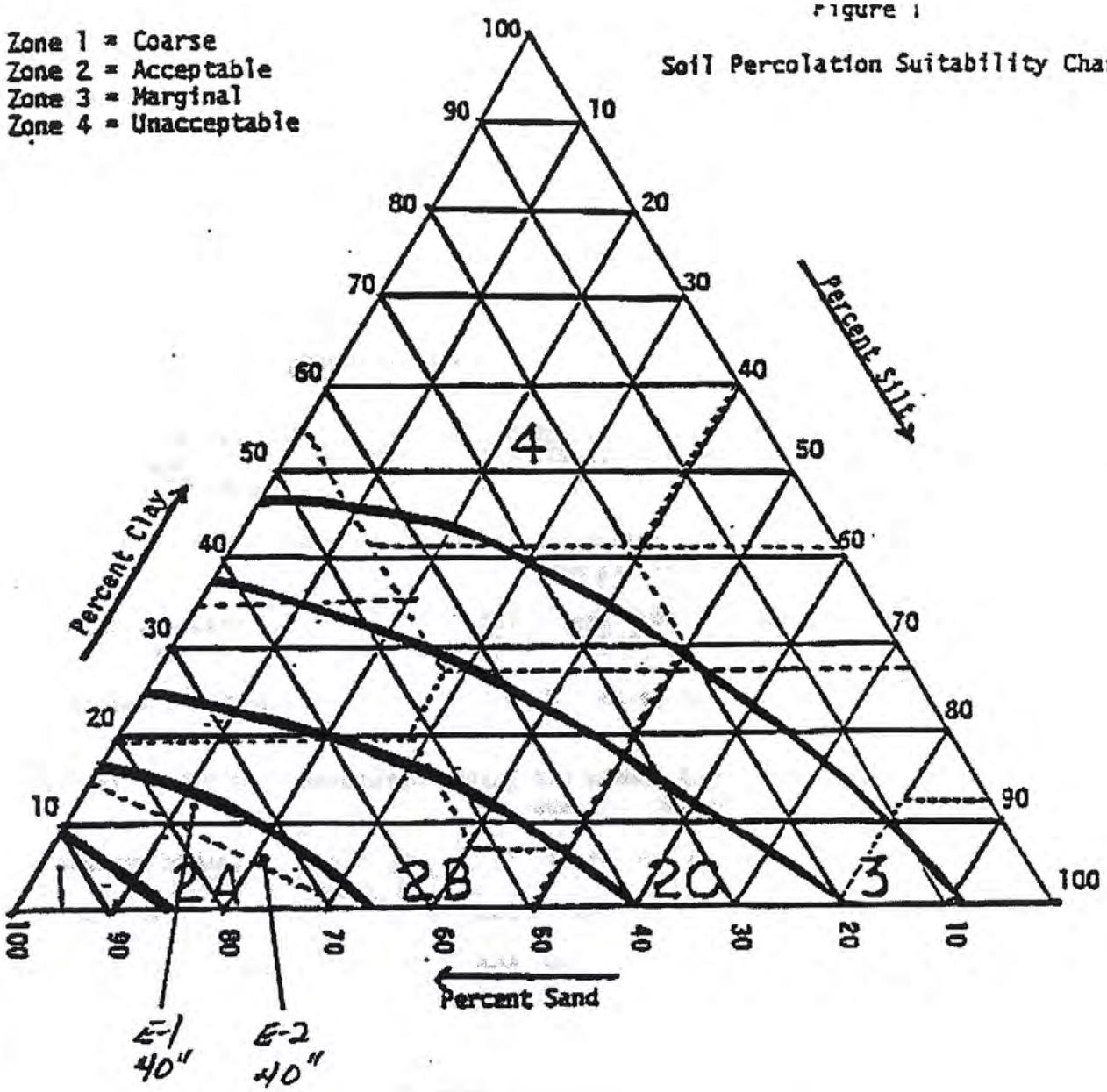
Dave Miller Company
LABORATORY

Jan 4 1989
DATE

Figure 1

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable

Soil Percolation Suitability Chart



Instructions:

1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.

2. Adjust for coarse fragments by moving the plotted point in the sand direction and additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.

3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

Note: For soils falling in sand, loamy sand or sandy loam classification, bulk density analysis will generally not affect suitability and analysis not necessary.

REGISTERED SANITARIAN
No. 3798
STATE OF CALIFORNIA

TYPICAL LEACH FIELD SIZES FOR SINGLE FAMILY RESIDENCES

Based on the Textural Triangle According to Soil Analysis -- Hydrometer Method and Percolation Rates

ZONE 1 (Greater than 10"/hr. percolation rate) 120 square feet of soil absorption area per bedroom

1 & 2 bedroom houses	120 lineal feet of leach line
3 bedroom houses	180 lineal feet of leach line
Each additional bedroom	Add 60 lineal feet of line

ZONE 2A (5"/hr. - 10"/hr, percolation rate) 180 square feet of soil absorption area per bedroom

1 & 2 bedroom houses	180 lineal feet of leach line
3 bedroom houses	260 lineal feet of leach line
Each additional bedroom	Add 90 lineal feet of line

ZONE 2B (2½"/hr. - 5"/hr. percolation rate) 225 square feet of soil absorption area per bedroom

1 & 2 bedroom houses	225 lineal feet of leach line
3 bedroom houses	350 lineal feet of leach line
Each additional bedroom	Add 125 lineal feet of line

ZONE 2C (1"/hr. - 2½"/hr. percolation rate) 330 square feet of soil absorption area per bedroom

1 & 2 bedroom houses	330 lineal feet of leach line
3 bedroom houses	500 lineal feet of leach line
Each additional bedroom	Add 165 lineal feet of line

ZONE 3

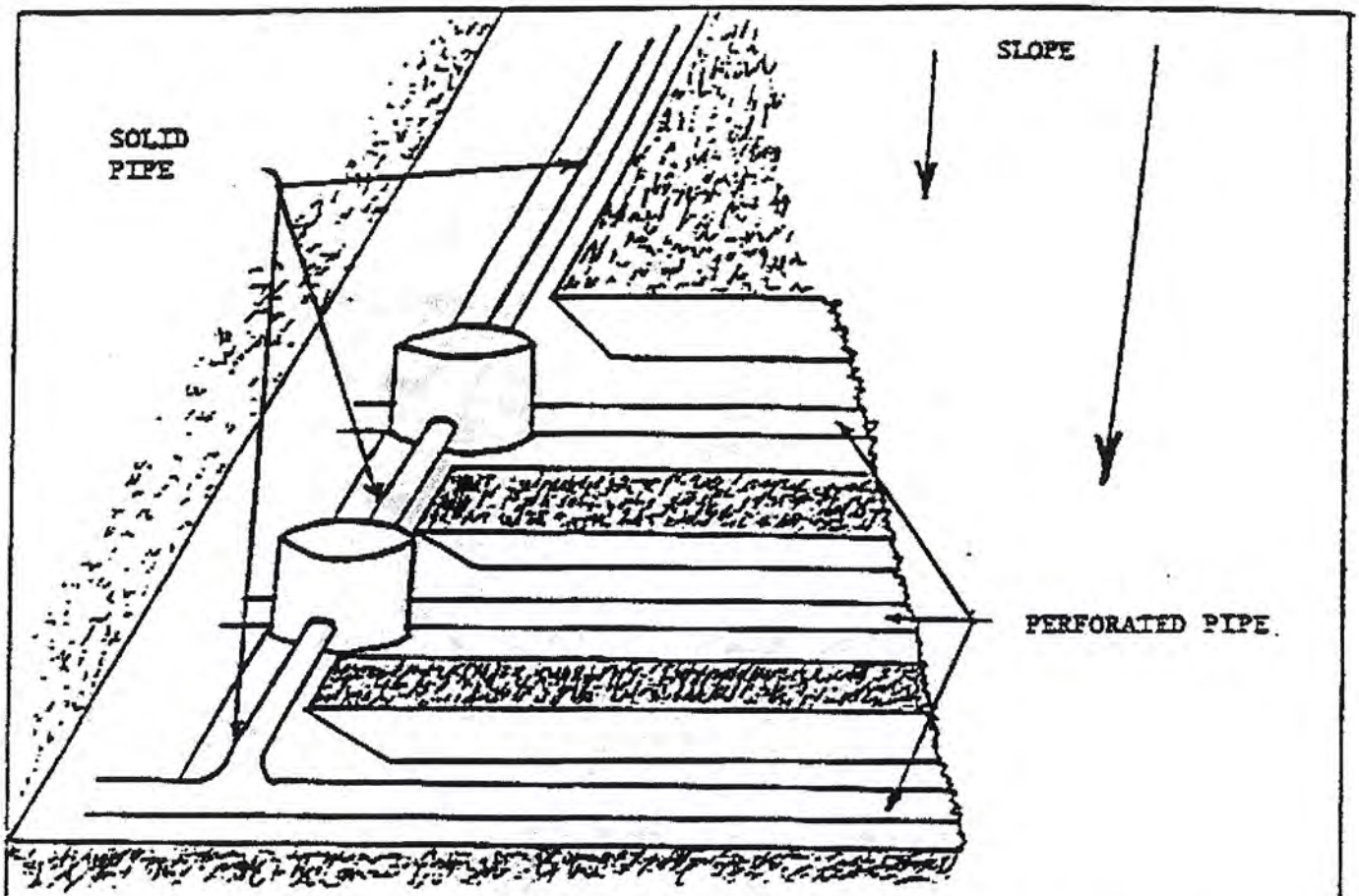
Requires percolation testing. If clay content of soil is 20% or greater, wet weather percolation tests are required.

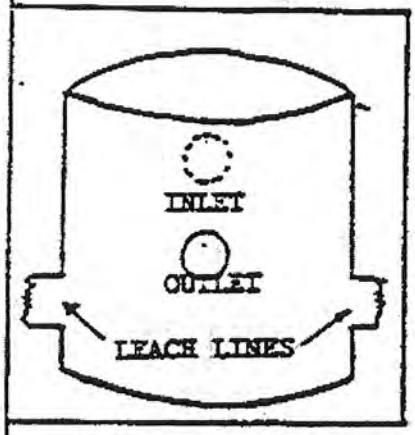
ZONE 4

Unacceptable for conventional on-site sewage disposal

Three Bedroom Single Family Residence
1200 gallon Septic Tank
260 Linear feet x 55% (36 inches gravel) = 143 ft
143 ft = 50 feet each Line with 36 inches of
3 Lines gravel under the pipe

REGISTERED SANITARIAN
DAVID R. MILLER
No. 3798
STATE OF CALIFORNIA





DISTRIBUTION BOX

1. NO. OF LEACH LINES 3
2. LENGTH OF EACH 50 FT
3. DEPTH OF TRENCHES 4½ FT
4. DEPTH OF GRAVEL UNDER LINES 3 FT
5. LOCATION OF "D" BOXES End

1200 gallon Septic Tank

ALL LEACH LINES ARE TO BE CAPPED AT ENDS

REGISTERED SANITARIAN
DAVID R. MILLER
No. 3798
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC HEALTH

DIVISION OF ENVIRONMENTAL HEALTH

DESIGN #1-A

STANDARD LEACH LINE SERIAL DISTRIBUTION

4-1-93:

STATE OF CALIFORNIA- THE NATURAL RESOURCES AGENCY
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
MENDOCINO UNIT
17501 N. HWY 101
WILLITS, CA 95451

GAVIN NEWSOM, GOVERNOR

STATE FIRE SAFE REGULATIONS

CONDITIONS OF APPROVAL

Applicant Name:	**Douglas & Jennifer Herting**		
Review Date:	**11/2/2021**	**APN:**	**143-050-15**
CAL FIRE #:	**378-21**	**Building Permit #:**	N/A

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, ½" 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, ½" 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 ½ 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 ½" National Hose male thread with cap for pressure and gravity flow systems, and 4 ½" 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.

STATE OF CALIFORNIA- THE NATURAL RESOURCES AGENCY
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
MENDOCINO UNIT
17501 N. HWY 101
WILLITS, CA 95451

GAVIN NEWSOM, GOVERNOR

☒ MAINTAIN DEFENSIBLE SPACE AND FUELS MODIFICATION STANDARD §1276.01- §1276.04	
• All parcels 1 acre and larger shall provide a minimum 30' setback for al buildings from property lines and/ or the center of the road. • All parcels less than 1 acre, the local jurisdiction shall provide for the same practical effect. • 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.	
☐ EXCEPTION REQUEST GRANTED • See attached letter	☐ EXCEPTION REQUEST DENIED • See attached letter

Application Reviewed By:	**Chris A. Vallerga, Fire Captain Mendocino Unit**

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.

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

STATE OF CALIFORNIA, NATURAL RESOURCES AGENCY
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
MENDOCINO UNIT- STATE FIRE SAFE REGULATIONS APPLICATION
MEU-4290 (REV. 1/19)

CAL FIRE - MENDOCINO UNIT
Fire Safe Regulations
17501 N. Hwy 101
Willits, CA. 95490
(707) 459-7414
Mendocino4290@fire.ca.gov

CAL FIRE File # 318-21
** FOR OFFICE USE ONLY **

STATE FIRE SAFE REGULATIONS APPLICATION

Building / Project Site Information		
Address:33101 Highway 1	APN:143-050-15	
City:Gualala	Zip Code:95445	
Property Owner		
Name:Douglas & Jennifer Herting		
Mailing Address:3044 Santa Maria Dr.		
City:Concord	State:CA	
Zip Code:94518	Phone:(925) 325-6172	
Email:dr.dshdc@gmail.com		
Agent Representing Property Owner		
Name:Douglas & Jennifer Herting		
Mailing Address:3044 Santa Maria Dr.		
City:Concord	State:CA	
Zip Code:94518	Phone:(925) 325-6172	
Email:dr.dshdc@gmail.com		
Mail Correspondence to (choose one)		
☑Owner	☐Agent	☐Pick Up at CAL FIRE Howard Forest
Project Information		
☑Residential	☐Commercial	
☑New Building	☑Class K	☐Subdivision
☐Remodel/ Addition	☐Replacement	☐Other

Dwelling Sq. Ft: 1600	Attached Garage Sq. Ft:
Accessory Building(s) Sq. Ft: 200	Detached Garage/ Shop Sq. Ft:600
Agricultural Building(s) Sq. Ft:	Other Structure Sq. Ft:
	TOTAL SQUARE FEET: 1800

Briefly describe the structure(s) to be built:
Single story 2 bedroom and 2 bathroom home with approximately 400 square foot of decking.
Detached garage with approximately 600 square feet.

STATE OF CALIFORNIA, NATURAL RESOURCES AGENCY
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
MENDOCINO UNIT- STATE FIRE SAFE REGULATIONS APPLICATION
MEU-4290 (REV. 1/19)

CAL FIRE - MENDOCINO UNIT
Fire Safe Regulations
17501 N. Hwy 101
Willits, CA. 95490
(707) 459-7414
Mendocino4290@fire.ca.gov

Project Information Continued

	Yes	No
1. Was the subject parcel created PRIOR to January 1, 1991?	☑	☐
2. Is the structure within a ½ mile driving distance of a working fire hydrant?	☐	☑
3. Is the structure within a 5-mile driving distance of a year-round fire station?	☐	☑
4. Is the subject parcel 1 acre or larger?	☑	☐
5. Will the proposed structure(s) be 30 ft. or more from ALL property lines	☑	☐
6. Will your project require construction of a new road?	☐	☑
7. Will your project require extension of an existing road?	☐	☑
If you answered YES to question 6 or 7: How many feet?	Maximum grade (%)?	
8. Will your project require construction of a new driveway?	☐	☑
9. Will your project require extension of an existing driveway?	☐	☑
If you answered YES to question 8 or 9: How many feet?	Maximum grade (%)?	

If you answered No to (one or more) questions 6-9, describe the existing road/driveway:
The property is accessed via an easement from highway 1. The easement is graveled and has a maximum grade of 18%.

10. Is there an existing bridge(s) on the parcel that provide access to the project site?	☐	☑
11. Will a bridge be installed/ constructed to provide access to project site?	☐	☑
12. Is a plot plan attached as per the instructions?	☑	☐

Subdivision Information (only required for subdivision)

Current acreage before split?	How many parcels will be created?
Acreage of each newly created parcel?	

Timber and Land Conversion Activities

13. Will trees be cut and timber products be sold, bartered, traded, or exchanged?	☐	☑
14. Will timberland be converted to a non-timber growing use?	☑	☐

If **YES** on questions 13 or 14, a harvest permit may be required from CAL FIRE Resource Management
FOR QUESTIONS RELATED TO TIMBER OR LAND CONVERSION CALL (707) 459-7440

Exception Request

15. Will your project require an exception to **ANY** of the Fire Safe Regulations?	☐	☑

If **YES** on question 15, attach a separate page identifying the applicable section pertinent to your request, facts supporting the request, and details of the exception or mitigation measures proposed, and a map showing the proposed location of the exception or mitigation measure.

I hereby agree to maintain the property in compliance with the Fire Safe Regulations established in the Public Resources Code Section 4290.The information submitted in this application is complete and accurate to the best of my knowledge.

Signature of property owner or authorized agent:	
Date: 10/19/21	Print Name: Douglas Herting

Gmail **Douglas Herting <dr.dshdc@gmail.com>**

Cal Fire File # 378-21

3 messages

Douglas Herting <dr.dshdc@gmail.com> Fri, Aug 5, 2022 at 4:06 PM
To: mendocino4290@fire.ca.gov

Checking in with you to see if you had an opportunity to take a look at this
Thank you

Dear Mr. Vallerga,
I received a State Fire Safe Regulations Condition of Approval back on 11/2/21. Since that time I have a new design for the driveway to the proposed home. Can you take a look at the new design and if it looks ok can you attach it to my existing Condition of approval?
Please see the attached architectural drawings.
Thanks
Doug Herting
33101 S Highway 1
Gualala CA 95445
APN: 143-050-15

Herting 220722 signed.pdf
1135K

Vallerga, Chris@CALFIRE <Chris.Vallerga@fire.ca.gov> Sat, Aug 6, 2022 at 8:03 AM
To: Douglas Herting <dr.dshdc@gmail.com>

Good morning,

I have looked over your plans, and the same Conditions of Approval will apply. I will make a note of this change in your file.

Best regards,

Chris A. Vallerga
Fire Captain/ Pre-Fire Planning
Defensible Space Coordinator
California Department of Forestry and Fire Protection
Mendocino Unit
17501 N. Hwy 101
Willits, CA 95490
(707) 459-7423 (Office)
(707) 391-6723 (Cell)
Chris.vallerga@fire.ca.gov

-----Original Message-----
From: Douglas Herting <dr.dshdc@gmail.com>
Sent: Friday, August 5, 2022 4:06 PM

To: CALFIRE Mendocino 4290 Program <Mendocino4290@fire.ca.gov>
Subject: Cal Fire File # 378-21

Warning: this message is from an external user and should be treated with caution.
[Quoted text hidden]

Douglas Herting <dr.dshdc@gmail.com> Sat, Aug 6, 2022 at 5:00 PM
To: Jessie Waldman <waldmanj@mendocinocounty.org>, Steve Kleinman <kleinmans@mendocinocounty.org>

Jesse and Steve,
Is this sufficient for the Cal Fire conditions of approval? If so I will put everything in the mail on Monday.
Thanks
Doug Herting
CDP 20220001

Sent from my iPhone

Begin forwarded message:

From: "Vallerga, Chris@CALFIRE" <Chris.Vallerga@fire.ca.gov>
Date: August 6, 2022 at 8:03:09 AM PDT
To: Douglas Herting <dr.dshdc@gmail.com>
Subject: RE: Cal Fire File # 378-21

Good morning,
[Quoted text hidden]

33101 South Highway 1

Gualala, California

TYP. COVER SHEET NOTES:

1. GENERAL: THESE PLANS ARE A "BUILDER'S SET". ARETE, INC. HAS NEVER CONTRACTED TO PROVIDE A "BUILDER'S SET" WITH THE AGREEMENT THAT AN EXPERIENCED & KNOWLEDGEABLE CONTRACTOR SHALL CONSTRUCT THIS PROJECT. THESE PLANS CONTAIN INFORMATION FOR GENERAL CONSTRUCTION & PLUMBING PERMIT PURPOSES ONLY. THEY ARE NOT EXTENSIVELY DETAILED NOR ARE SPECIFICATIONS PROVIDED. FOR ITEMS, METHODS AND/OR MATERIALS NOT SHOWN, THE MINIMUM REQUIREMENT OF THE CURRENTLY ADOPTED C.B.C. SHALL GOVERN. THESE PLANS HAVE BEEN PRODUCED SOLELY FOR THE USE OF A KNOWLEDGEABLE & EXPERIENCED CONTRACTOR. ANY OR PART OF ALL SYSTEMS, MATERIALS, CONNECTIONS & DETAILS NOT SPECIFICALLY PROVIDED IN THESE PLANS ARE THE SOLE & COMPLETE RESPONSIBILITY OF CONTRACTOR TO PROPERLY VERIFY AND INSTALL. ARCHITECT DOES NOT PROVIDE OBSERVATION UNLESS IT HAS BEEN SPECIFICALLY CONTRACTED FOR. CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY & CONSTRUCTION STANDARDS FOR THIS PROJECT. ARCHITECT PROVIDES NO WARRANTY OR GUARANTEE ON FINAL PROJECT, NOR A DUTY TO ANY PERSON OR ENTITY BEYOND AFOREMENTIONED LIMITED INFORMATION OF THESE CONSTRUCTION DOCUMENTS. CLIENT IS DIRECTLY RESPONSIBLE FOR ANY MODIFICATIONS THAT MAY BE ASSOCIATED WITH NEWSONS RESULTING FROM BUILDING CODE CHANGES THAT MAY OCCUR SUBSEQUENT TO THE GENERATION OF THESE CONSTRUCTION DOCUMENTS.
2. CONTRACTOR & SUBCONTRACTORS ARE TO REFER TO ALL SHEETS (DRAWINGS) PRIOR TO COMMENCEMENTS OF WORK TO ELIMINATE POSSIBLE FUTURE ERRORS AND OMISSIONS. IF, IN THE OPINION OF CONTRACTOR OR ANY SUBCONTRACTOR, INSTRUCTIONS, DETAILS OR INFORMATION CONTAINED IN THESE DRAWINGS OR SPECIFICATIONS IS AT VARIANCE WITH OR DOES NOT COMPLY WITH ANY OF THE REQUIREMENTS ABOVE, CONTRACTOR SHALL REPORT SAME TO ARCHITECT BEFORE PROCEEDING WITH THAT PHASE OF THE WORK.
3. JOB SAFETY: THE ARCHITECT IS NOT RESPONSIBLE FOR THE FABRICATION, ERECTION AND/OR JOB SAFETY OF THE CONTRACTOR SHALL COMPLY WITH ALL SAFETY REGULATIONS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL SHORING, BRACING, FORM WORK, ETC. AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING THE CONSTRUCTION OF THE PROJECT.
4. ON-SITE FIELD VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR/OWNER SHALL VERIFY CONTOURS, SITE CONFIGURATIONS, PROPERTY LINES, SETBACKS, EASEMENTS, EXTENT OF BUILDING PAD, AND ACCURACY OF TOPOGRAPHY PRIOR TO APPROVAL, ACCEPTANCE, AND CONSTRUCTION.
5. SITE CONFIGURATION, SETBACK AND EASEMENT INFORMATION, AND TOPOGRAPHY SHALL BE PROVIDED BY THE OWNER. OWNER SHALL VERIFY ALL PROPERTY LINES, EASEMENTS, EXTENT OF BUILDING PAD AND ACCURACY OF TOPOGRAPHY PRIOR TO APPROVAL AND/OR ACCEPTANCE.
6. IN THE EVENT CERTAIN FEATURES OF CONSTRUCTION ARE NOT FULLY SHOWN ON DRAWINGS, THEIR CONSTRUCTION SHALL BE OF SAME CHARACTER AS FOR SIMILAR CONDITIONS SHOWN ON DRAWINGS.
7. UNDER NO CIRCUMSTANCES SHALL ANY SHEETS (DRAWINGS, PRINTS, PLANS, ETC.) MARKED "NOT DOCUMENTS" BE USED FOR CONSTRUCTION.
8. GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT & COMPLETE SET OF CONSTRUCTION DOCUMENTS AT JOB SITE SHOWING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES & SHALL PROVIDE ALL SUBCONTRACTORS WITH CURRENT CONSTRUCTION DOCUMENTS AS REQ'D.
9. GENERAL CONTRACTOR SHALL COORDINATE THE WORK WITH THAT OF OTHER CONTRACTORS OR VENDORS TO ASSURE THAT ALL SCHEDULES AND MEP & "AS" WORK IS DONE IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS & TO HIGHEST INDUSTRY STANDARDS.
10. SUBCONTRACTORS, &/OR SUPPLIERS SHALL SUBMIT TO GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE FOR REVIEW & APPROVAL:
    -SHOP DRAWINGS FOR ALL FABRICATED ITEMS
    -CUT SHEETS, PRODUCT DATA & MAINTAINANCE MANUALS FOR ALL FIXTURES & EQUIPMENT.
    -WARRANTY INFORMATION
11. ERRORS, OMISSIONS OR CONFLICTS FOUND IN THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO ATTENTION OF ARCHITECT, GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE FOR CLARIFICATION BEFORE PROCEEDING WITH WORK.
12. SUBSTITUTIONS, REVISIONS OR CHANGES MUST HAVE PRIOR WRITTEN APPROVAL OF ARCHITECT, GENERAL CONTRACTOR & OWNER'S REPRESENTATIVE.
13. WORK SHALL BE ERECTED & INSTALLED PLUMB, LEVEL, SQUARE & TRUE IN PROPER ALIGNMENT & RELATIONSHIP TO WORK OF OTHER TRADES. FINISH WORK SHALL BE FREE OF DEFECTS & DAMAGE. SHOP & FIELD WORK SHALL BE PERFORMED BY MECHANICS, CRAFTSMEN, & WORKERS SKILLED & EXPERIENCED IN THE WORK INVOLVED WITH THE BEST AND ACCEPTED PRACTICES OF THE VARIOUS TRADES. OWNER RESERVES THE RIGHT TO REJECT MATERIALS OR WORK QUALITY NOT UP TO THE HIGHEST STANDARD OF TRADES INVOLVED. REJECTED WORK SHALL BE REPAIRED OR REPLACED AS DIRECTED AT NO ADDITIONAL COST TO ARCHITECT, GENERAL CONTRACTOR OR OWNER'S REPRESENTATIVE.
14. ALL DIMENSIONS WHEN SHOWN IN PLAN ARE TO THE FACE OF STUD OR THE FACE OF CONCRETE UNLESS OTHERWISE NOTED.
15. ALL DIMENSIONS ARE TO THE TOP OF PLATE OR TOP OF PLYWOOD IN SECTION OR ELEVATION UNLESS OTHERWISE NOTED.
16. DETAILS SHOWN ARE TYPICAL. SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.
17. VERIFY ALL EQUIPMENT SIZES BEFORE PROCEEDING WITH THE WORK.
18. INSTALL ALL FIXTURES, EQUIPMENT, AND MATERIALS PER THE MANUFACTURER'S RECOMMENDATIONS MIN.
19. VERIFY CLEARANCES FOR FLUES, VENTS, CHASES, SOFFITS, FIXTURES, ETC. BEFORE ANY CONSTRUCTION, ORDERING OF, OR INSTALLATION OF ANY ITEMS OF WORK.
20. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS, STRUCTURAL DETAILS, SPECIFICATIONS & NOTES.
21. VERIFY ALL ARCHITECTURAL DETAILS WITH STRUCTURAL DRAWINGS BEFORE ORDERING OR INSTALLATION OF ANY ITEMS OF WORK.
22. COORDINATE ALL DETAILS WITH SHEAR WALLS AND ENCASED STRUCTURAL POSTS AS REQUIRED BY THE STRUCTURAL DRAWINGS.
23. WINDOW SIZES ARE NOMINAL DIMENSIONS. SEE THE WINDOWS IN PLAN FOR SIZES. REFER TO THE MANUFACTURER FOR ACTUAL ROUGH OPENING SIZES.

ABBREVIATIONS

AB	ANCHOR BOLT
AC	ASPHALT CONCRETE
A/C	AIR CONDITIONING
ACOUS	ACOUSTICAL
ACT	ACOUSTICAL TILE
ADJ	ADJUSTABLE/ADJACENT
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
BA	BATH
BD	BOARD
BLDG	BUILDING
BLK	BLOCK
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BR	BEDROOM
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENT
CER	CERAMIC
CI	CAST IRON
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
COL	COLUMN
COMP	COMPOSITION
CONC	CONCRETE
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRUGATION
CPT	CARPET
CSK	COUNTERSUNK
CT	CERAMIC TILE
D	DEPTH
DET	DETAIL
DF	DOUGLAS FIR/DRINKING FOUNTAIN
DWAY	DRIVEWAY
DIM	DIMENSION
DW	DOOR
DS	DOWNSPOUT
DWG	DRAWING
EXT	EXISTING
EA	EACH
EIFS	EXTERIOR CEMENT PLASTER
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EQ	EQUAL
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FAU	FORCED AIR UNIT
FD	FLOOR DRAIN
F EXT	FIRE EXTINGUISHER
FIN	FINISH
FLR	FLOOR
FLUOR	FLUORESCENT
FO	FACE OF
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZE (D)
GAR	GARAGE
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GFRC	GLASS FIBER REINFORCED CONCRETE
GI	GALVANIZED IRON
GTV	GATE VALVE
GYP	GYPSUM
HB	HOSE BIB
HDR	HEADER
HDWD	HARDWOOD
HDWR	HANDRAIL
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HPT	HIGH POINT
HR	HOUR
HT	HEIGHT
HW	HOT WATER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
INSUL	INSULATION
INT	INTERIOR
ID	INSIDE DIAMETER
JAN	JANITOR
JB	JUNCTION BOX
JT	JOINT
K.I.D.	KITCHEN
LAV	LAVATORY
LOC	LOCATION
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MASTER BEDROOM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MSTR	MASTER
MTL	METAL
MULL	MULLION
(N)	NEW
NA	NOT APPLICABLE OR NOT AVAILABLE
NIC	NOT IN CONTRACT
NO. OR #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW ROOF DRAIN
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLYWD	PLYWOOD
PR	PAIR
(R)	RISER OR (AT RADIUS)
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REDWD	REDWOOD
REF	REFRIGERATOR
REQ	REQUIRED
RF MT	REINFORCED
RHMS	ROUND HEAD MACHINE SCREW
RM	ROOM
RO	ROUGH OPENING
RWL	RAINWATER LEADER
S.N.D.	SUPPLIED BY OWNER
SC	SOLID CORE
SCD	SOAP DISH/SOAP DISPENSER
SD	SIDEWALK DRAIN
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SND	SANITARY NAPKIN DISPENSER
SPEC	SPECIFICATION
SQ	SQUARE
SS	SANITARY SEWER
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
T	TREAD
TC	TOP OF CURB/CONCRETE
TEL	TELEPHONE
T&G	TONGUE AND GROOVE
THK	THICKNESS
TO	TOP OF
TOS	TOP OF SLAB
TYP	TYPICAL
T.O.W.	TOP OF WALL
U.O.N.	UNLESS OTHERWISE NOTED
UR	URINAL
VCP	VITREOUS CLAY PIPE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
V.I.F.	VERIFY IN FIELD
W	WIDTH
W/	WITH
WC	WATER CLOSET
WD	WOOD
W.G.	WIRE GLASS
WH	WATER HEATER
WS	WEATHERSTRIPPING
WWF	WELDED WIRE FABRIC

PROJECT DATA:

OWNER

DOUG AND JEN HERTING
33101 SOUTH HIGHWAY 1
GUALALA, CALIFORNIA
925 899-4269
CONTACT: DOUG HERTING

ARCHITECT

ARETE, INC.
P.O. BOX 121
CONCORD, CA 94522
925 692 5888
CONTACT: KARA SHELBY

GENERAL CONTRACTOR

T.B.D.

BUILDING AREA SUMMARY

BUILDING OCCUPANCY GROUPS	R3/U
BUILDING CONSTRUCTION TYPE	V-N
BASIC ALLOWABLE BUILDING AREA	UNLIMITED
INCREASE FOR SEPARATION	N.A.
FIRE SPRINKLER INCREASE	N.A.
MAXIMUM ALLOWABLE BUILDING AREA	UNLIMITED
ACTUAL BUILDING AREA	2133 S.F.
STORIES	2
ZONING	RMR 40

ALL WORK PERFORMED SHALL COMPLY IN ALL ASPECTS WITH BUT NOT NECESSARILY LIMITED TO ALL APPLICABLE LOCAL AND STATE ORDINANCES, CODES, AND REGULATIONS, AND WITH THE FOLLOWING CODE EDITIONS:

CALIFORNIA BUILDING CODE 2019	CALIFORNIA GREEN CODE 2019
CALIFORNIA RESIDENTIAL CODE 2019	CALIFORNIA FIRE CODE 2019
CALIFORNIA PLUMBING CODE 2019	CALIFORNIA ELECTRICAL CODE 2019
CALIFORNIA MECHANICAL CODE 2019	COUNTY OF MENDOCINO CODE OF ORDINANCES

IN THE EVENT OF CONFLICTS IN THE CODE REQUIREMENTS, THE MOST STRINGENT REQUIREMENTS SHALL APPLY. ANY CONFLICTS BETWEEN THE CONSTRUCTION DOCUMENTS AND THE ABOVE CODES AND ORDINANCES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, GENERAL CONTRACTOR AND THE OWNER'S REPRESENTATIVE FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

PROJECT AREAS:

FIRST FLOOR AREA (CONDITIONED)	1280 S.F.
TOTAL FLOOR AREA (CONDITIONED)	1280 S.F.
GARAGE/SHOP FLOOR AREA (UNCONDITIONED)	852 S.F.
TOTAL ENCLOSED FLOOR AREA	2132 S.F.
TERRACE AREA (UNCONDITIONED)	641 S.F.
LOT COVERAGE AREA	2743 S.F.

SHEET INDEX:

LOCATION MAP

NO SCALE

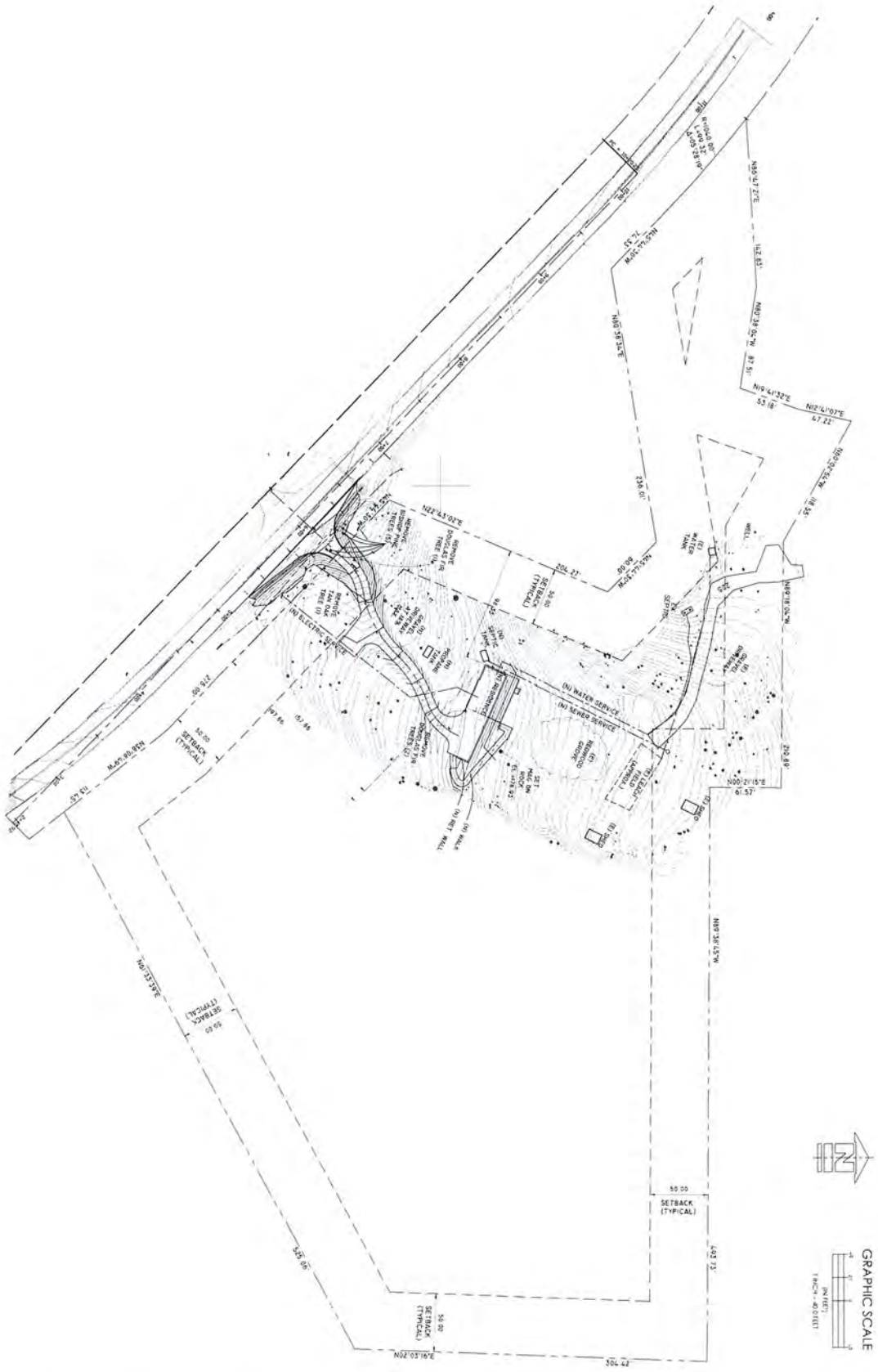
arete, inc.
architecture
P.O. box 1211
Concord, California 94522
925 692-5888

33101 South Highway 1
Gualala, California
a residence for:
Doug And Jen Herting
33101 South Highway 1
Gualala, California

cover

SCALE: 1/4"=1'-0"

drawn: GLM sheet
check: KAS C
date: 8/3/20
job: 5000 of C



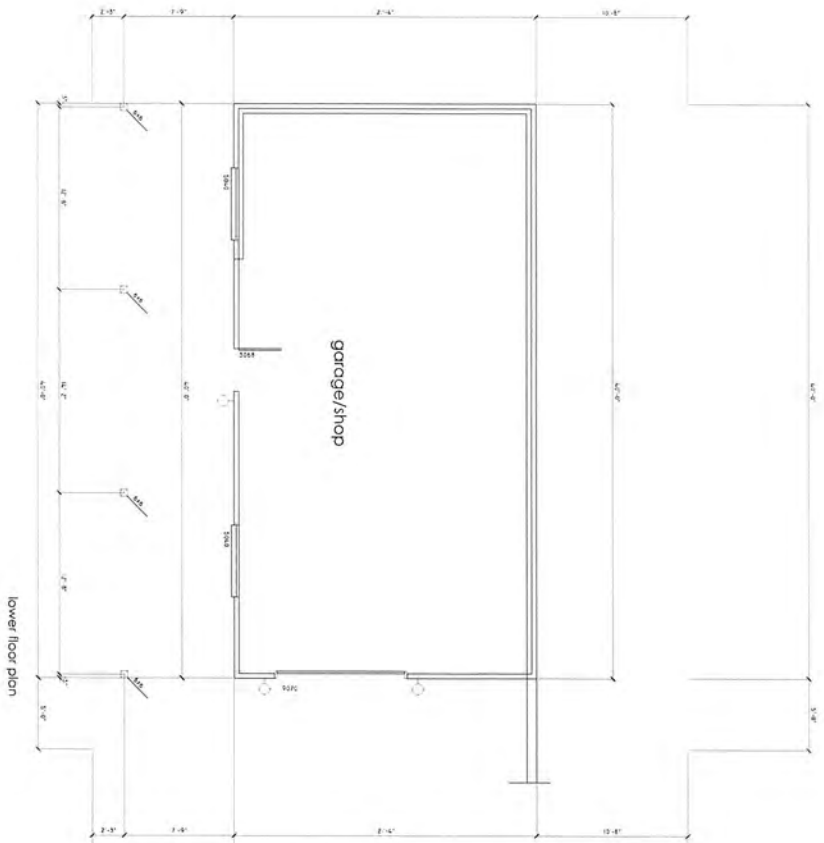
aretê, inc.
architecture

1820 gälindo street, suite b concord, california 94520 925 692-5888

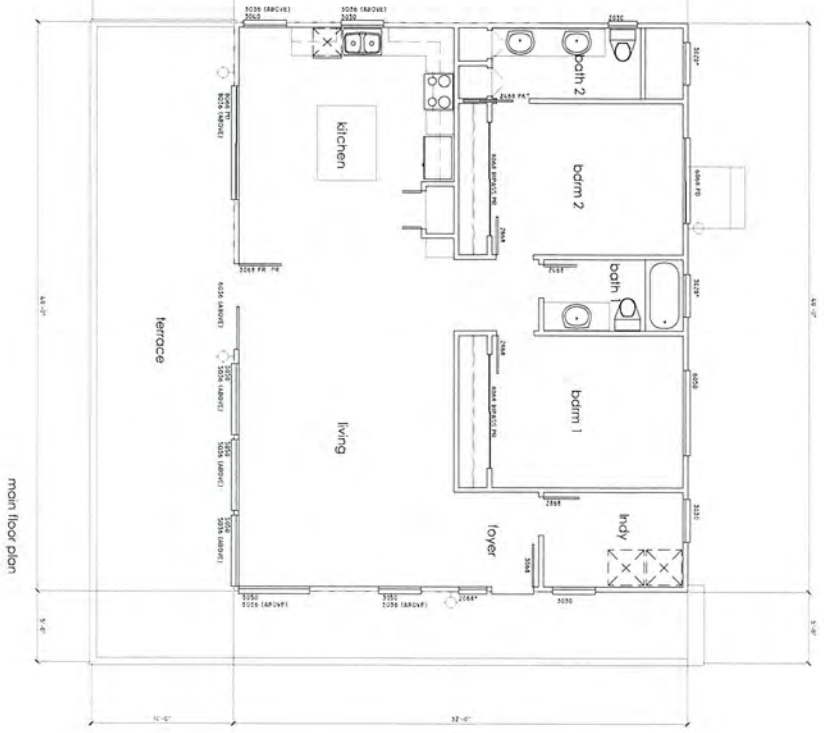
33101 South Highway 1
Gualala, California
a residential addition for:
Doug and Jen Herting
33101 South Highway 1
Gualala, California

site plan
SCALE: 1" = 40.00'

drawn KAS sheet
check
date 8/3/00 A1
job 5154 of A3



lower floor plan



main floor plan

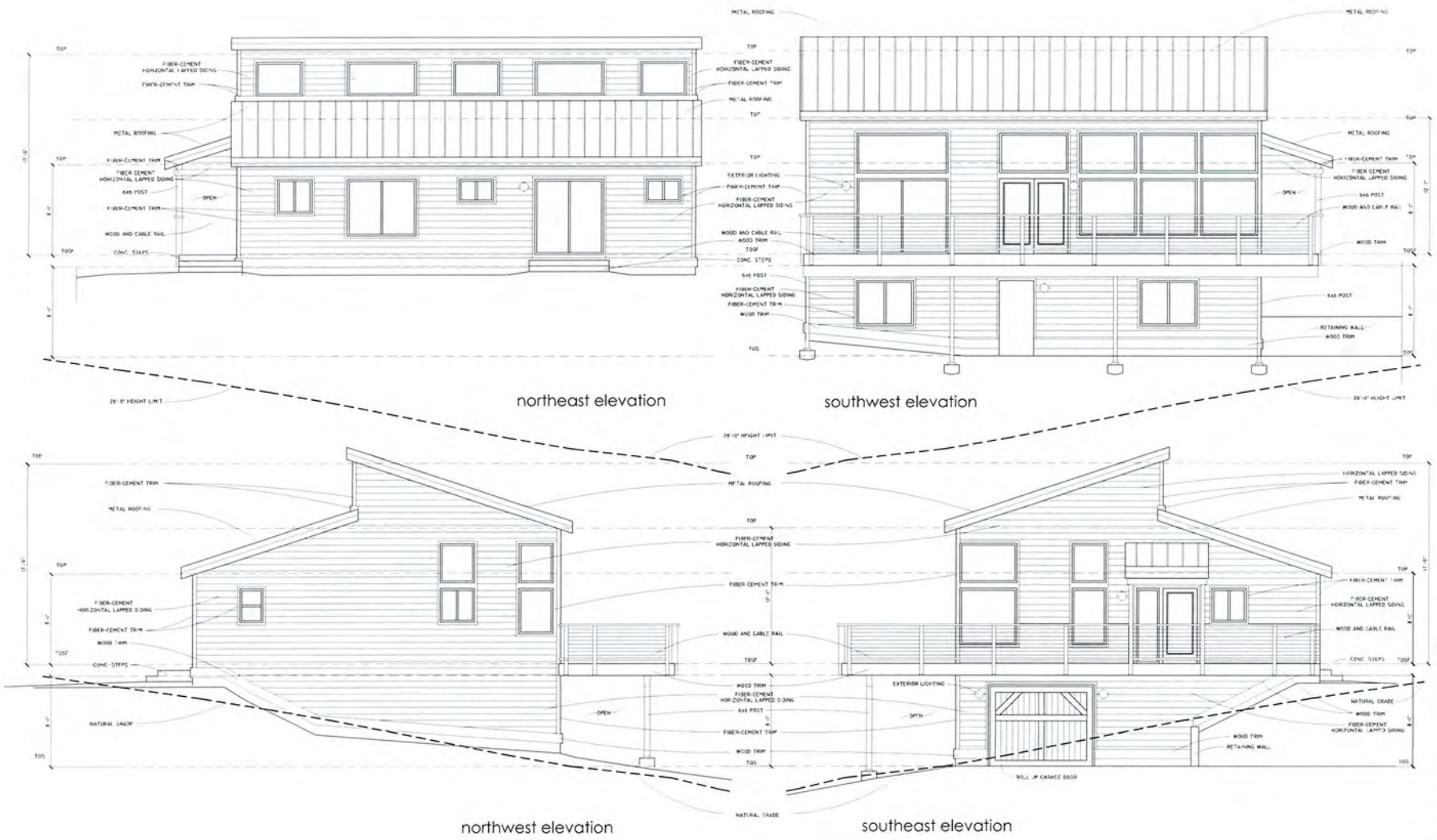
aretê, inc.
architecture
p.o. box 1211
concord, california 94522
925 692-5888

33101 South Highway 1
Gualala, California
a residence for :
Doug And Jen Herting
3311 South Highway 1
Gualala, California

floor plans

scale: 1/4"=1'-0"

drawn KAS sheet
check
date 8/3/00 **A2**
job 5154 of A3



exterior elevations

SCALE: 1/4"=1'-0"

33101 South Highway 1
Gualala, California
a residence for :
Doug And Jen Herting
33111 South Highway 1
Gualala, California

drawn: MAS
check:
date: 8/3/00
job: 554

sheet
A3
of A3

arete, inc.
architecture

P.O. box 1211
Cotati, California 94932
925.692.5888

JACOBSZOON & ASSOCIATES, INC.

natural resource planning & management

BIOLOGICAL RESOURCES ASSESSMENT AND ESHA ANALYSIS

Prepared For:

Douglas Herting

33101 Highway 1
APN: 143-050-15
Gualala, CA 95445

Prepared by Jacobszoon & Associates, Inc.

Miles Hartnett
Staff Biologist/Botanist
117 Clara Avenue
Ukiah, CA 95482
miles@jaforestry.com

Date: July 6, 2022

Table of Contents

Section 1.0: Introduction/Project Description

Jacobszoon & Associates, Inc. has performed a Biological Assessment (BA) and Environmentally Sensitive Habitat Area (ESHA) analysis for 33101 Highway 1, Gualala, CA 95445 (APN: 143-050-15) for the purpose of obtaining a Coastal Development Permit (CDP) for a proposed single-family homesite development (Appendix F: Map 1, Vicinity). The proposed project includes the construction of a 1,200 square-foot house, and a 12-foot-wide gravel driveway and parking area on the approximately 7.55-acre parcel. The parcel contains an existing access road, well, pumphouse, water tank, septic tank, leach field, and two outbuildings measuring 10'x 12'and 12'x 8' respectively (Appendix F: Map 2, Plot Plan). The proposed development is consistent with low density residential land uses of neighboring parcels and utilizes existing footprints of land disturbance to the maximum extent feasible.

The purpose of the BA and ESHA analysis is to identify and map areas within the parcel that are potential ESHAs, as defined by the California Coastal Commission (CCC), to locate special-status plants, and special-status animal habitats to determine if they would be directly or potentially impacted by the proposed development. The Study Area referred to within this report is approximately 7.55 acres and comprises the entire parcel. The Project Area referred to in this report is approximately 5200 square feet and comprises the areas proposed for development including the proposed house, driveway, and parking area. The ESHA survey was conducted on November 24, 2021 and consisted of approximately 5 survey hours. A Rare and Special-Status Plant Survey was completed on April 5, June 15 and June 16.

Section 2.0: Regulations and Descriptions

2.1 Regulatory Setting

In addition to the requirements of California Coastal Act (CCA) administered by the California Coastal Commission (CCC), the project shall comply with Federal, State, and local regulations designed to protect sensitive natural resources. The following natural resources are protected under one or more of several Federal and/or State regulations and should be considered when designing and/or implementing the proposed project within the Study Area:

Waters of the State: Protected under Clean Water Act (CWA) Section 401 and administered by the State Water Resources Control Board (SWRCB).

- Includes any surface water or groundwater, including saline waters, within the boundaries of the state.

Waters of the U.S.: protected under the Clean Water Act (CWA) Section 404 and administered by the Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE):

- Includes wetlands, streams, rivers, and other aquatic habitats meeting the guidance issued by USACE.

Essential Fish Habitat: protected through changes to the Magnuson-Stevens Fishery Conservation and Management Act to maintain sustainable fisheries in the United States, administered by National Marine Fisheries Service (NMFS):

- Includes habitats (rivers, creeks, estuaries) that may support anadromous fish (fish migrating from ocean habitat into freshwater river habitat), as well as commercially and/or ecologically valuable fishes.

Streams, Lakes, and Riparian Habitat: protected under the California Fish and Game Code (CFGC), administered by the California Department of Fish and Wildlife (CDFW):

- Includes creeks and rivers (bodies where water flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life), and vegetation adjacent to and associated with (riparian habitat).

Environmentally Sensitive Habitat Area (ESHA): Protected under the California Coastal Act (CWA) and administered by the California Coastal Commission (CCC).

The California Coastal Act (CCA) Section 20.308.040 defines an ESHA as follows:

> *"Environmentally Sensitive Habitat Area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities or developments. In Mendocino County, environmentally sensitive habitat areas include, but are not limited to: anadromous fish streams, sand dunes, rookeries and marine mammal haul-out areas, wetlands, riparian areas, areas of pygmy vegetation that contain species of rare or endangered plants, and habitats of rare and endangered plants and animals.*

The CCA and Mendocino County LCP define other resource areas as follows:

> *"Other designated resource areas include: State parks and reserves, underwater parks and reserves, areas of special biological significance, natural areas, special treatment areas, fishing access points, areas of special biological importance, significant California ecosystems, and coastal marine ecosystems."*

The Mendocino County LCP and California Coastal Commission (CCC) Guidelines contain definitions for specific types of ESHAs, including wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special-status species and their habitats. For the purposes of this report, Jacobszoon & Associates, Inc. has taken into consideration any areas that may meet the definition of ESHA as defined by the CCA, CCC guidelines, or the Mendocino County LCP.

2.2 Natural Communities and Sensitive Natural Communities

Natural Communities are evaluated using NatureServe's Heritage Methodology, the same system used to assign global and state rarity ranks for plant and animal species in the CNDDB. VegCAMP has been ranking California Natural Communities by their rarity and threat since the inception of the program. However, since 2012 the ranking methodology has become more transparent and defensible through the advent of a rank calculator. VegCAMP and the California Native Plant Society's Vegetation Program now use this calculator to rank Natural Communities; rankings are reviewed by both programs.

The basic ranking concepts of rarity and threats used in the "Heritage Methodology" since the 1970's remain the same, using the best and most recent scientific information available. However, as a result of better definitions based on classification and mapping of California's Natural Communities, we can apply standardized quantitative rarity and threat parameters and compute weighted scores for rarity and threats. For rarity, the ranking involves the knowledge of range and distribution of a given type of vegetation, and the proportion of occurrences that are of good ecological integrity. Threats and trends are likewise considered in categories such as residential and commercial development, agriculture, energy production and mining, and invasive and other problematic species and genes (among others). Threat scope (typically assessed within a 20-year timeframe for vegetation) and severity are used to calculate an overall threat score, which is added to the overall rarity score for a single rank of 1 through 5. Evaluation is done at both the Global (full natural range within and outside of California) and State (within California) levels resulting in a single G (global) and S (state) rank ranging from 1 (very rare and threatened) to 5 (demonstrably secure). For more details on the components of ranking see the "factor reference sheet" on the conservation rank calculator mentioned above.

Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes of CEQA and its equivalents. For alliances with State ranks of S1-S3, all associations within them are also considered Sensitive. Semi-natural stands are not ranked, as these are defined and strongly dominated by non-native species.

As of 2018, about half of California has been mapped and classified according to the state and national standard. Accordingly, not all Sensitive Natural Communities have been described, and the ranks of some current communities may change as we refine their known distributions. However, rankings are based on the best available information.

2.3 Wetlands

The California Coastal Act and Mendocino County LCP define wetlands as:

> *"Wetland means lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."*
>
> Public Resources Code Section 30121

CCC Administrative Regulations (Section 13577 (b)) provide a more explicit definition:

> *"Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats."*

The CCC considers this definition as requiring the observation of one diagnostic feature of a wetland, such as wetland hydrology, dominance by wetland vegetation (hydrophytes), or presence of hydric soils, as a basis for asserting jurisdiction under the CCA.

In addition to the above definition, the *Statewide Interpretive Guidelines for Identifying and Mapping Wetlands and Other Wet Environmentally Sensitive Habitat Areas* (CCC 1981) provide technical criteria for use in identifying and delineating wetlands and other ESHAs within the Coastal Zone. The technical criteria presented in the guidelines are based on the CCA definition and indicate that wetland hydrology is the most important parameter for determining a wetland, recognizing that:

> *". . . the single feature that most wetlands share is soil or substrata that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore; only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria."*

The Technical Criteria requires that saturation of soil in a wetland must be at or near the surface considered to be approximately one foot from the surface or less (the root zone), and the saturation must be continuously present for a period of time (generally more than two weeks) in order to create the necessary soil reduction (anaerobic) processes that create wetland conditions.

Identifying the presence of either wetland classified plants or hydric soils is referred to as the "one parameter approach." This approach can be useful because wetland plants, wetland hydrology, and/or hydric soils often co-occur, especially in natural undisturbed areas. However, situations do exist where wetland classified plants are found in the absence of other wetland conditions. These areas are not wetlands, and a delineation study must carefully scrutinize whether the wetland classified plants that are growing as hydrophytes in anaerobic soil conditions caused by wetland hydrology or not.

In the Coastal Zone, the California Coastal Commission presumes an area is a wetland if any one of the following three-wetland indicators is present: wetland hydrology, wetland plants, or hydric soils. Exceptions to this exist if there is strong positive evidence of upland conditions, which should be obtained during the wet season. Evidence of upland conditions could include the following observations: a given area saturates only ephemerally following a substantial rainfall, soil is very permeable with no confining layer, or the land is steep and drains rapidly.

Hydrology: Depressions, seeps, and topographic low areas in the Study Area are surveyed for primary and secondary hydrological indicators. Primary indicators of wetland hydrology that offer direct evidence include visible inundation or saturation, surface sediment deposits, oxidized root channels, and drift lines. Secondary indicators that offer indirect evidence include algal mats, shallow restrictive layers in the soil, or vegetation meeting the FAC-neutral test.

Soils: The Study Area is examined for hydric soil indicators according to Natural Resources Conservation Service guidelines (USDA 2006) where horizon depths, color, redoximorphic features, and texture characterize soil profiles. Soils formed under anaerobic wetland conditions generally have a low chroma matrix color, designated 0, 1, or 2, and contain mottles or other redoximorphic features. Soil color and chroma was determined using a Munsell soil color chart (Gretag Macbeth 2000) to identify soils as hydric.

Plants: The US Army Corps of Engineers developed a classification system for plant species known to occur in wetlands. The plant species are categorized based on the frequency that they have been observed in wetlands. Species classified as obligate (OBL), Facultative Wetland (FACW), and Facultative (FAC) are considered hydrophytic. If more than 50 percent of the plant species in a given area are hydrophytic, the area meets the wetland vegetation criterion and is presumed to be a jurisdictional wetland under the CCA.

2.4 Riparian Habitats

The CCA and Mendocino County LCP define riparian habitats as follows:

> *"A riparian habitat is an area of riparian vegetation. This vegetation is an association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other bodies of freshwater."*

The Statewide Interpretive Guidelines (CCC 1981) state:

> *"For the purpose of interpreting Coastal Act policies, another important distinction is between "wetland" and "riparian habitat." While the Service's classification system includes riparian areas as a kind of wetland, the intent of the Coastal Act was to distinguish these two areas. "Riparian habitat" in the Coastal Act refers to riparian vegetation and the animal species that require or utilize these plants. The geographic extent of a riparian habitat would be the extent of the riparian vegetation.*
>
> *. . . Unfortunately, a complete and universally acceptable definition of riparian vegetation has not yet been developed, so determining the geographic extent of such vegetation is rather difficult. The special case of determining consistent boundaries of riparian vegetation along watercourses throughout California is particularly difficult. In Southern California these boundaries are usually obvious; the riparian vegetation grows immediately adjacent to watercourses and only extends a short distance away from the watercourse. . .*

> *. . . For the purposes of this guideline, riparian vegetation is defined as that association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other freshwater bodies. Riparian plant species and wetland plant species either require or tolerate a higher level of soil moisture than dryer upland vegetation and are therefore generally considered hydrophytic. However, riparian vegetation may be distinguished from wetland vegetation by the different kinds of plant species. . ."*

The guidelines include a list of representative riparian plants that are meant to help distinguish wetland areas from riparian areas. Therefore, under the Coastal Act, riparian areas do not have to be wetlands, and are determined based primarily on vegetation and that vegetation's ability to provide habitat for animal species.

2.5 Streams, Rivers and Anadromous Fish Habitat

The CCA and Mendocino County LCP define Streams, Rivers and Anadromous Fish habitats as follows:

> "A stream or a river is a natural watercourse as designated by a solid line or dash and three dots symbol shown on the United States Geological Survey map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris."
>
> "Freshwater streams used as migration corridor or spawning or nursery habitat by fish, such as salmon and steelhead trout, that live most of their adult lives in saltwater."

2.6 Special-Status Species

Special-status species and their habitats are defined as ESHA by the CCA and Mendocino County LCP. Special-status species include those species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing by the U.S. Fish and Wildlife Service (USFWS) or CDFW. In addition, CDFW Species of Special Concern are given special consideration under the California Environmental Quality Act (CEQA). However, these Species of Special Concern may only be protected as ESHAs if they are ranked by CDFW as imperiled globally or in California (G2 S2 or rarer). Plant species on California Native Plant Society (CNPS) Rare Plant Ranks 1, 2, 3 or 4 are also considered special-status species and are protected as ESHA.

Rare plant assessments and surveys are conducted to determine the presence of rare, threatened, or endangered plants and plant communities or the potential for the presence of sensitive species or critical habitat that may occur within the proposed project area or be potentially impacted by the proposed project. Survey findings are useful in assessing the potential for significant adverse impacts on botanical resources and critical in mitigating those impacts to a level less than significant. In order to conduct an effective survey, potentially occurring rare plant species were investigated, along with their blooming times, and habitat requirements. The botanical surveys that were conducted for this project are based on *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

Section 3.0: Field Survey Methodology

3.1 Assessment Methods

The biological resource assessment is designed to assess the potential for the presence of sensitive wildlife species and to determine whether habitat for sensitive plant species and plant communities may or may not be present within the Study Area. The purpose of this analysis is to assess the potential for cumulative impacts to biological resources that may occur as a result of the proposed development. The biological resource assessment includes the analysis and comparison of existing habitat conditions within the Study Area and the documented range and habitat requirements of sensitive plant and wildlife species described in CDFW's California Wildlife Habitat Relationships System (CWHR).

Field surveys (biological and botanical) were conducted by Jacobszoon and Associates, Inc. to identify and delineate potential ESHAs within the Study Area. The Study Area was assessed to document: (1) the on-site plant communities, (2) existing conditions and to determine if such conditions provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive biological communities (ESHAs) are present.

Plant species observed during the site assessment were recorded and are listed in Appendix B. Plants listed in Appendix B were identified using *The Jepson Manual: Vascular Plants of California 2nd Edition* (Baldwin et al. 2012) to the taxonomic level necessary to determine rarity. The names provided in this biological assessment report follow *The Jepson Flora Project* (JFP 2019).

3.2 Database and Resource Descriptions

Prior to conducting field surveys, available reference materials were reviewed, including the United States Department of Agriculture, Natural Resources Conservation Service's *Web Soil Survey,* the Gualala 7.5' quadrangle topographic map (USGS 1978), and available aerial photographs. The methodology of the surveys is described below. ESHA boundaries were mapped using sub-meter accuracy Global Positioning System (GPS). The following sections detail the methods utilized to delineate the potential ESHA within the Study Area.

The potential for occurrences of rare, threatened, endangered or plant and animal species of concern within or near the Study Area were evaluated by reviewing topographic maps, aerial photography, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (online edition, v9-01 1.0), the California Department of Fish and Wildlife's Natural Diversity Database (CNDDB) Spotted Owl Data, CWHR, RareFind and Quick Viewer processed and unprocessed data (online edition, v5.96.99). Mendocino County also maintains a mapped database of biological resources including special features such as wetland, vernal pool, aquatic, and riparian communities.

Existing vegetative communities were reviewed using CDFW's Vegetation Classification and Mapping Program (VegCAMP) data for the potential existence and location of sensitive biological communities including Mendocino Cypress (*Hesperocyparis pygmaea*) and related vegetation. Where VegCAMP data was not available, existing vegetative communities were reviewed using USDA Forest Service Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) data.

The CNPS database produces a list of sensitive plants potentially occurring at a site based on various site characteristics: location of the Study Area with regard to the geographic range of sensitive plant species, location(s) of known populations of sensitive plant species as mapped in the CNDDB, soils of the Study Area, elevation, presence/absence of special habitat features (vernal pools, serpentine/volcanic soils, etc.) and plant communities existing within the Study Area.

While use of the CNPS inventory does not eliminate the need for an in-season botanical survey, it can, when used in conjunction with other information, provide a very good indication of the suitability of a site as habitat for sensitive plant species. The CNDDB consists of mapped overlays of all known populations of sensitive plants and wildlife. The database is continually updated with new sensitive species population data.

California Wildlife Habitat Relationships (CWHR) Predicted Habitat Suitability is a dataset accessed through CNDDB BIOS Commercial/Spotted Owl Viewer that represents areas of suitable habitat within the species ranges based on California Wildlife Habitat Relationships (CWHR). Habitat suitability ranks of Low (less than 0.34), Medium (0.34-0.66) and High (greater than 0.66) suitability are based on the mean expert opinion suitability value for each habitat type for breeding, foraging, and cover (CDFW 2022). Examination of the CWHR dataset was applied when: 1) the data is available for the species of concern, and 2) when there is a moderate to high potential for an animal to occur on or within 100 feet of the Study Area. As with all models, these maps are not perfect, and do not predict the occurrence of an organism, it just examines whether the areas being examined in the biological assessment is habitat which *may* support a species of special concern. This information not only informs the landowner of what may occur on their property, but also assists the biologist when conducting a survey.

3.3 Database and Resource Assessment

A scoping of the CNDDB and CNPS Inventory of Rare and Endangered Plants was performed to identify existing and historical occurrences of special status species and sensitive terrestrial communities within the project vicinity. The scoping extended to seven quads surrounding and including the Gualala 7.5-minute quadrangle and include the Eureka Hill, Zeni Ridge, McGuire Ridge, Stewarts Point, Sanders Reef, and Point Arena quadrangles. In addition, a 0.7-mile radius scoping area was completed for the identification of northern spotted owl (NSO) activity centers.

Prior to the site visit, databases (listed above) were accessed to determine whether special-status species were documented within the vicinity of the Study Area. Potential occurrence of special-status plants in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area or in similar biological communities through a literature and database search (Appendix A). A list of target plant species with potential to occur in the Study Area was generated, which guided subsequent field surveys. During the site visit, existing habitat conditions were evaluated and used to assess the potential for presence of special-status species. The potential for each special-status species to occur in the Study Area was then evaluated according to the following criteria:

- No Potential. Habitat on and 100 feet adjacent to the Study Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and 100 feet adjacent to the site is unsuitable or very poor quality. The species is not likely to be found on-site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or 100 feet adjacent to the Study Area is unsuitable. The species has a moderate probability of being found on-site.

- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or 100 feet adjacent to the Study Area is highly suitable. The species has a high probability of being found on-site.
- Present. Species is observed on the site or has been recorded (i.e., CNDDB) on-site recently.

3.4 Special-status Plant Species

Special-status plants (native, vascular and non-vascular) and animals assessed are of limited abundance in California, with known occurrence or distribution in Mendocino County, and were derived from the following lists:

- Federal listed or threatened or endangered plants or species of concern (FT, FE, FSC)
- California State listed or rare, threatened or endangered plants or species of concern (SR, ST, SE, SP, SSC)
- Board of Forestry Sensitive (BFS)
- California Department of Fish and Wildlife (CDFW) Status animals: Fully Protected, Species of Special Concern and Watch List (FP, SSC, WL)
- California Native Plant Society Rare Plant Rank (CRPR) list 1A species (plants presumed extirpated in California, and either rare or extinct elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 1B species (plants rare, threatened or endangered in California and elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2A species (plants presumed extirpated in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2B species (plants rare, threatened, or endangered in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 3 (plants which more information is needed- a review list)
- California Native Plant Society Rare Plant Rank (CRPR) list 4 (plants of limited distribution- a watch list)

Rare, threatened, and endangered plants are not necessarily limited to those species which have been “listed” by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

> A species, subspecies, or variety of plant is **"endangered"** when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is **"threatened"** when it is likely to become endangered in the foreseeable future in the absence of protection measures. 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 habitat continues to deteriorate.

Potential occurrence of special-status wildlife in the Study Area was evaluated by Jacobszoon and Associates, Inc. by determining which special-status species occur in the vicinity of the Study Area or in similar biological communities through a literature and database search. Records from the CNDDB and the USFWS Species list for Mendocino County (USFWS 2022) were reviewed to determine which special-status wildlife species have been documented to occur in the vicinity of the Study Area (Appendix A). An initial site visit was conducted by Miles Hartnett of Jacobszoon and Associates, Inc. during visits on November 24, 2021, to evaluate potentially suitable habitat characteristics for special-status species within the Study Area.

3.5 Natural Communities and Other ESHA

Biological communities present within the Study Area were classified based on existing plant community descriptions described *by Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), California Wildlife Habitat Relationships (CWHR) habitat types, USDA Forest Service Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) system, and the *Manual of California Vegetation Online Edition* (MCV2 Alliances, CNPS 2021b). However, in some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

The currently accepted vegetation classification system for the state that is standardly used by CDFW, CNPS, and other state and federal agencies, organizations, and consultants for survey and planning purposes is the *Manual of California Vegetation* (MCV; Sawyer, Keeler-Wolf, and Evens 2009). Unlike Holland, this vegetation classification system is based on the standard National Vegetation Classification System (NVCS) and includes alliances (a floristically defined vegetation unit identified by its dominant and/or characteristic species) and associations (the finer level of classification beneath alliance).

Although the CNDDB still maintains records of some of the old Holland vegetation types, these types are no longer the accepted standard, and the CDFW Vegetation Classification and Mapping Program (VegCAMP) has published more recent vegetation lists for the state based on a standardized vegetation classification system that is currently being developed for California and which is consistent with the MCV classification system.

3.5.1 Non-sensitive Natural Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations, and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species, and are described in section 5.1 below.

3.5.2 Sensitive Natural Communities and ESHA

Sensitive biological communities include those that are listed in CNDDB as well as MCV2 alliances or associations with state ranks of S1-S3. Aquatic resources (e.g., watercourses, ponds, wetlands, vernal pools, etc.) are also considered sensitive biological communities and are afforded special protections under CEQA and other Federal, State, and local laws, regulations, and ordinances. Sources for assessing sensitive terrestrial or aquatic natural communities include *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), List of Vegetation Alliances (CDFW 2022), and *A Manual of California Vegetation* (CNPS 2021b). The Study Area was evaluated for the presence of other ESHA as defined in the CCA and the Mendocino County LCP, as well as natural communities designated in the CNDDB as G2 S2 or rarer (CDFW 2019).

CDFW considers any MCV2 alliance or association with a state rank of S1-S3 a sensitive natural community. Global and state rankings are defined below.

Global Ranking:

- G1-Critically Imperiled: At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2-Imperiled: At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3-Vulnerable: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4-Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5-Secure: Common; widespread and abundant.

State Ranking:

- S1-Critically Imperiled: Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- S2-Imperiled: Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- S3-Vulnerable: Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.
- S4-Apparently Secure: Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.
- S5-Secure: Common, widespread, and abundant in the state.

3.5.3 Wetlands

The CCC uses a broad wetland definition, in which the presence of any one of the wetland parameters may indicate presence of a wetland. The CCC presumes that the area is a wetland if one of the wetland parameters is present. However, there may be exceptions to this presumption if there is strong positive evidence of upland conditions, as opposed to negative evidence of wetland conditions. Positive evidence of upland hydrology might be the observation that a given area saturates only ephemerally following significant rainfall, that the soil is very permeable with no confining layer, or that the land is steep and drains rapidly. Positive evidence of upland conditions should be obtained during the wet season. Based on these facts, when conducting parallel transects, this delineation study identified areas within the Study Area that had wetland plants, hydric soils, or wetland hydrology indicators.

The methodology for identifying wetland indicators followed the one described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Western Mountains, Valleys, and Coast Region Version 2.0* (Corps 2010). This document uses several new wetland hydrology indicators not specified in the 1987 Corps Manual.

The Study Area was surveyed for indicators of wetland hydrology. Positive indicators of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, oxidized root channels, and drift lines, or indirect indicators (secondary indicators) such as algal mats, shallow restrictive layers in the soil, or vegetation meeting the FAC-neutral test. Depressions, seeps, and topographic low areas were examined for these hydrological indicators.

Plant species within potential wetlands were assigned a wetland status according to the Corps list of plant species that occur in wetlands (Lichvar and Kartesz 2009). This wetland plant classification system is based on the expected frequency of occurrence of each species in wetlands. The classification system has the following categories, which determine the frequency with which plants occur in wetlands:

OBL	Obligate, almost always found wetlands	>99% frequency
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal in wetland or non-wetlands	34-67%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL/NL	Not found in local wetlands	<1%
NI	Wetland preference unknown	

Species with OBL, FACW, and FAC classifications are considered hydrophytic vegetation. If more than 50 percent of the dominant plant species are hydrophytic, the area meets the wetland vegetation criterion and is presumed to be a jurisdictional wetland under the CCA.

3.5.4 Riparian Habitats

Areas mapped as riparian within the Study Area were delineated based primarily following the definition outlined in the *Statewide Interpretive Guidelines* (CCC 1981) and the Mendocino County LCP, supplemented *by A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607*, California Fish and Game Code (CDFG 1994), *List of Vegetation Alliances and Associations* (CDFW 2022), and *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009).

Within the Study Area, riparian habitats were determined based on the predominance of riparian trees and shrubs associated with streams, rivers, lakes, and/or other intermittent to perennial waterbodies. The outer canopy or dripline of riparian trees and shrubs was used to delineate the outward extent of riparian habitat within Study Area. *The Statewide Interpretive Guidelines* (CCC 1981) maintains a list of trees and shrubs frequently situated in a riparian position on the North Coast, including willows (*Salix* spp.), cottonwoods (*Populus* spp.), red alder (*Alnus rubra*), box elder (*Acer negundo*), twinberry (*Lonicera involucrata*), salmon berry (*Rubus spectabilis*), California blackberry (*R. ursinus*), and wax myrtle (*Morella californica*); however, there are several dozens of other species closely associated with riparian settings not listed which may be used to determine riparian habitat.

Additionally, the Mendocino County LCP notes that several generalist tree and shrub species frequently situated in upland settings can also form riparian canopies, such as Bishop pine (*Pinus muricata*), Douglas fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), Himalayan blackberry (*Rubus armeniacus*), thimble berry (*R. parviflorus*), and salal (*Gaultheria shallon*). In the instance where these generalist species were situated along a waterbody in the Study Area, the species composition of the understory was used to determine the presence and extent of the riparian habitat boundary. For instance, a shift from predominantly riparian associated herbs, such as lady fern (*Athyrium filix-femina*) or slough sedge (*Carex obnupta*), to predominantly upland herbaceous species, such as Douglas iris (*Iris douglasiana*) or bracken fern (*Pteridium aquilinum*) constituted the approximate boundary between riparian and non-riparian habitat.

3.5.5 Streams, Rivers and Anadromous Fish Habitat

Watercourses and other waterbodies were classified using guidance from the *California Forest Practice Rules 2020* (FPR). Streams and rivers were evaluated for their potential to support anadromous fish by reviewing the CNDDB's Intrinsic Potential layers for fish species. Also, general observations of a stream's bed substrate, bank stability, run-riffle-pool complexes, riparian quality, and upstream and downstream barriers were noted during a site visit.

3.5.6 Critical Habitat

Critical habitat is a term defined by the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. Federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Section 4.0: Study Area Setting

The following subsections summarize the physical and biological settings of the Study Area.

4.1 Location and Land Use

The Study Area is located approximately 7.3 miles northwest of the town of Gualala, in Mendocino County at 33101 Highway 101, Gualala, CA (APN: 143-050-15) in Section 1 & 2, T11N, R16W, Mount Diablo Base and Meridian, in the Gualala USGS 7.5-minute quadrangle. The Study Area encompasses the entire approximate 7.55-acre parcel and is located at approximately 160 feet elevation (Appendix F: Map 1, Vicinity).

The Study Area is currently minimally developed, with an existing access road, well, pumphouse, water tank, septic, leach field and two (2) outbuildings measuring 10' x 12' and 12' x 8' respectively (Appendix F: Map 2, Plot Plan and Map 3, Site Plan Appex.). Aerial photographs accessed through Google Earth Pro show some vegetative clearing occurring prior to 2012.

Surrounding land use primarily includes remote residential homesite development, wildlife, and watershed. The adjacent parcels are either undeveloped or contain remote single-family residences. The parcel is directly adjacent to a Caltrans Right of Way which includes Highway 1 and contains an easement for electrical distribution and communication lines.

The parcel is located within the Coastal Zone and is zoned RMR-40 (Remote Residential) according to the County of Mendocino Local Coastal Plan Map; Anchor Bay, Map 30 (Appendix F: Map 9, Anchor Bay).

4.2 Soils and Topography

According to the United States Department of Agriculture, Natural Resources Conservation Service's *Web Soil Survey,* the Study Area is underlain by two (2) soil mapping units: 198-Seaside-Rock outcrop complex, 5 to 30 percent slopes, and 199-Shiglemill-Gibney complex, 2 to 9 percent slopes (Appendix F: Map 6, Soils).

Descriptions of the soil series are as follows:

Seaside-Rock outcrop complex, 5 to 30 percent slopes, (Map Unit Symbol: 198): This map unit is on coastal hills and mountains. Seaside soil id very shallow to bedrock, somewhat excessively drained, and formed in material derived from sandstone. Rock outcrop consists of hard sandstone and is areas that support little to no vegetation. Native vegetation on this unit is typically manzanita and stunted cypress. Included areas comprise approximately 6.5 acres or 85 percent of the total acreage of the Study Area.

Shiglemill-Gibney complex, 2 to 9 percent slopes (Map Unit Symbol: 199): This map unit is on marine terraces. Cabrillo soils are very deep, somewhat poorly drained and formed in marine sediments. Shinglemill soils are very deep, poorly drained, and formed in marine sediments. Gibney soils are very deep, somewhat poorly drained, and formed in marine sediments. Included within this map unit are small areas of Blacklock, Gibwell, and Treegoing soils and Tropaquepts. Native vegetation is typically bishop pine and huckleberry. The map unit comprises approximately 1.1 acres or 14 percent of the total acreage of the Study Area.

4.3 Hydrology and Climate

The California Coast Ranges are characterized by steep to very steep northwest-trending mountain ridges dissected by perennial streams and rivers. Western Mendocino County has a mild climate and abundant rainfall. The average annual precipitation is 45 to 55 inches per year and occurs mostly from October through April. The average annual air temperature is 55 degrees F, and the average frost-free period is 250 to 320 days.

The project area is located within the Point Arena Creek-Frontal Pacific Ocean hydrologic unit (HUC12-180101080906). The topography is mostly gentle to moderately sloped. Runoff from the project area drains west through the parcel and into three (3) low to moderate gradient Class III watercourses and the Pacific Ocean approximately 700 feet downstream.

4.4 Vegetation and Biota

The Study Area consists primarily of forested areas dominated by bishop pine (*Pinus muricata*), coastal redwood (*Sequoia sempervirens*), and tanoak (*Notholithocarpus densiflorus*). The understory consists primarily evergreen huckleberry (*Vaccinium ovatum*) and tanoak shrub (*Notholithocarpus densiflorus*).

Section 5 provides a detailed account of the biological communities found on-site, including sensitive and non-sensitive natural communities and special-status flora and fauna with potential to occur within the Study Area.

Please refer to Appendix B for a complete list of all species observed within the Study Area.

Section 5.0: Field Survey Results

5.1 ESHA Analysis

Aquatic Resources:

Three (3) class III watercourses were identified within the Study Area (Appendix F, Map 2, Plot Plan).

Riparian Resource Areas:

Riparian vegetation along the central watercourse system is restricted to a relatively small area along the stream channel consisting primarily of chain fern (*Woodwardia fimbriata*) and deer fern (*Struthiopteris spicant*).

Riparian vegetation along the class III watercourse on the southern parcel boundary of the property boundary consists primarily of wax myrtle (*Morella californica*) and western labrador tea (*Rhododendron columbianum*).

Wetlands:

Wetlands, as defined by the USACE or CCC, are not present within the Study Area. The closest NWI mapped wetland is an Estuarine and Marine Wetland approximately 365 feet from the Study Area (Appendix F: Map 4, National Wetland Inventory).

Plants:

One (1) coast lily (*Lilium maritum*) was located along Highway 1 in a roadside ditch approximately 52 feet from where the proposed driveway (Appendix F: Map 2, Plot Plan).

Other ESHA:

Other ESHA's such as coastal sand dunes, pygmy forest, rookeries, and marine mammal haul outs are not present within the Study Area.

5.2 Natural Communities

Natural Communities were determined using *A Manual of California Vegetation* (MCV2) classification system and the CDFW-CNPS "*Protocol for the Combined Vegetation Rapid Assessment and Relevé Field Form*" and "*Protocol for Combined Vegetation Rapid Assessment and Relevé Sampling Field Form*" (Appendix C: Combined Vegetation Rapid Assessment and Relevé Field Forms).

5.2.1 Non-sensitive Natural Communities

Non-sensitive Natural Communities were not identified during the site visit. Two (2) Sensitive Natural Communities were identified and described below in section 5.2.2, Sensitive Natural Communities.

5.2.2 Sensitive Natural Communities

Two (2) Sensitive Natural Communities was identified during the site visit using the *Combined Vegetation Rapid Assessment and Relevé Field Form*. These communities are listed on the *List of California Natural Communiti*es (CDFW 2021) and may be considered ESHA within the Coastal Zone. Recommendations for Sensitive Natural Communities and other ESHA are discussed in Section 6 (Appendix F: Map 5, MCV2 Natural Communities).

Descriptions from *A Manual of California Vegetation* (MCV2) of observed Sensitive Natural Communities are as follows:

Sequoia sempervirens Forest and Woodland Alliance: Redwood forest and woodland: State Rarity S3.2. Global Rarity G3 (S3.2 G3). Approximately 3.99 acres within the Study Area.

- Characteristic species: *Sequoia sempervirens is dominant or co-dominant in the tree canopy with Abies grandis, Acer macrophyllum, Alnus rubra, Arbutus menziesii, Chrysolepis chrysophylla, Notholithocarpus densiflorus, Picea sitchensis, Pseudotsuga menziesii, Tsuga heterophylla and Umbellularia californica*
- Habitat: Raised stream terraces, benches, all slopes and aspects, ridges.
- Membership Rules:
    - *Sequoia sempervirens > 50% relative cover in the tree canopy, or > 30% relative cover with other conifers such as Pseudotsuga menziesii or with a lower tier of hardwood trees such as Notholithocarpus densiflorus.*
    - *Sequoia sempervirens is characteristic in the tree canopy, rarely with as little as 5% absolute cover.*

Pinus muicata-Pinus radiata Forest and Woodland Alliance: Bishop pine-Monterey pine forest and woodland:. State Rarity: S3.2. Global Rarity: G3 (S3.2 G3). Approximately 3.56 acres within the Study Area

- Characteristic species: *Pinus muricata* or *Pinus radiata* is dominant or co-dominant in the tree canopy with *Abies grandis, Acer macrophyllum, Alnus rhombifolia, Arbutus menziesii, Hesperocyparis goveniana, Hesperocyparis pigmaea, Notholithocarpus densiflorus, Pinus attenuata, Pinus contorta ssp. bolanderi, Pinus contorta ssp. contorta, Pinus muricata, Pinus radiata, Pseudotsuga menziesii, Quercus agrifolia, Quercus tomentella, Quercus wislizeni, Salix lasiolepis, Salix scouleriana, Sequoia sempervirens, Tsuga heterophylla* or *Umbellularia californica.*

- Habitat: Dry ridges, headlands, maritime terraces, rocky ridges, and sand dunes. Soils in dry sites are shallow and acidic; soils on seasonally flooded sites are sterile with cemented hardpans

- Membership rules:

    - *Pinus muricata* > 15% relative cover with trees evenly spaced in the tree canopy.
    - *Pinus radiata* > 25% cover in the tree layer.
    - *Pinus muricata* > 30% relative cover in the tree canopy.
    - *Pinus muricata* > 50% relative cover in an open to dense canopy; or *Pinus muricata* > at least 10% relative cover with *Quercus agrifolia*.
    - *Pinus muricata* has 30-60% relative cover in the tree layer with *Notholithocarpus densiflorus* in the overstory or regenerating tree layers; *Hesperocyparis pigmaea* not significant in cover.

5.3 Special-status Species

5.3.1 Special-status Plant Species

Upon review of the resource databases listed in Section 4.2, fifty-three (53) special-status plant species have been documented within the nine-quad vicinity of the Study Area. Of the fifty-three (53) special-status species documented within the vicinity of the Study Area, twenty-three (23) special-status species are unlikely or have no potential to occur due to:

- Hydrologic conditions (e.g., vernal pools, riverine) necessary to support the special-status plant species are not present within the Study Area;
- Edaphic conditions (soils, e.g., rocky outcrops, serpentinite) necessary to support the special-status plant species are not present within the Study Area;

- Topographic conditions (e.g., montane) necessary to support the special-status plant species are not present within the Study Area;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present within the Study Area;
- Associated vegetation communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not, present within the Study Area;
- The Study Area is geographically isolated (e.g., outside of required elevations, coastal environment) from the documented range of the special-status plant species;

The twenty-three (23) special-status plant species with moderate or high potential to occur within the Study Area are described in the table below:

Table 1: Special-status Plant Species with Moderate or High Potential to Occur

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Humboldt County milk-vetch *Astragalus agnicidus*	Rank 1B.1 SE G2 S2	Broadleaved upland forest, north coast coniferous forest, often in disturbed openings of partially timbered forest lands, also along ridgelines, often on south aspects. Elevation ranges from 378 to 2198 feet (115 to 670 meters). A perennial herb, the blooming period is from Apr-Sep.	**Moderate Potential.** The Study Area contains some habitat that may be suitable for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Bolander's reedgrass *Calamagrostis bolanderi*	Rank 4.2 G4 S4	Closed-cone coniferous forest, north coast coniferous forest, broadleaved upland forest, coastal scrub, marshes and swamps, meadows and seeps (mesic), occurs usually in bogs/fens, riparian areas, wetlands, occasionally in non-wetlands. Elevation ranges from 0 to 1493 feet (0 to 455 meters). A perennial grass (rhizomatous), the blooming period is from May-Aug.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
pink star-tulip *Calochortus uniflorus*	Rank 4.2 G4 S4	Coastal scrub, coastal prairie, north coast coniferous forest, meadows and seeps. Seasonally moist meadows, sometimes within coastal scrub or forested habitats, usually in wetlands or at low elevations on the coast. *C. uniflorus* has a weak serpentine affinity of 1.7 and a USACE wetland status of FACW. Elevation ranges from 33 to 3511 feet (10 to 1070 meters). A perennial herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
coastal bluff morning-glory *Calystegia purpurata ssp. saxicola*	Rank 1B.2 Rank 1B.2 BLM: S G4T2T 3 S2S3	Coastal dunes, coastal scrub, coastal bluff scrub, north coast coniferous forest. Elevation ranges from 13 to 542 feet (4 to 165 meters). A perennial herb, the blooming period is from May-Sep.	**High Potential.** The Study Area contains suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
swamp harebell *Campanula californica*	Rank 1B.2 BLM: S G3 S3	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marsh, north coast coniferous forest. Uncommon where it occurs. Elevation ranges from 3 to 1706 feet (1 to 520 meters). A perennial herb (rhizomatous), the blooming period is from Jun-Oct.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
California sedge *Carex californica*	Rank 2B.2 G5 S2	Bogs and fens, closed cone-coniferous forest, coastal prairie, meadows and seeps, marshes (along margins) and drier areas of swamps. Elevation ranges from 115 to 1690 feet (35 to 515 meters). A perennial grasslike herb (rhizomatous), the blooming period is from May-Aug.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
Mendocino Coast paintbrush *Castilleja mendocinensis*	Rank 1B.2 G2 S2	Coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, coastal dunes, often on sea bluffs or cliffs. Elevation ranges from 10 to 230 feet (3 to 70 meters). A perennial herb (hemiparasitic), the blooming period is from Apr-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles the Study Area.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Point Reyes ceanothus *Ceanothus gloriosus var. gloriosus*	Rank 4.3 G4T4 S4	Closed-cone coniferous forest, coastal dunes, coastal scrub, coastal bluff scrub, usually on bluffs along the coast in sandy soils, also known from inland sites. Elevation ranges from 17 to 1706 feet (5 to 520 meters). A shrub, the blooming period is from Mar-May.	**Moderate Potential.** The Study Area contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
Oregon goldthread *Coptis laciniata*	Rank 4.2 G4? S3?	North coast coniferous forest, meadows and seeps, often in mesic sites (i.e. streambanks). Elevation ranges from 0 to 3281 feet (0 to 1000 meters). A perennial herb, the blooming period is from Mar-Apr.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
streamside daisy *Erigeron biolettii*	Rank 3 G3? S3?	Broadleaved upland forest, cismontane woodland, north coast coniferous forest, often on dry slopes, rocks and ledges along rivers (mesic sites). Elevation ranges from 99 to 3609 feet (30 to 1100 meters). A perennial herb, the blooming period is from Jun-Oct.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
harlequin lotus *Hosackia gracilis*	Rank 4.2 G3G4 S3	Broadleaved upland forest, coast bluff scrub, coast prairie, cismontane woodland, coastal scrub, closed-cone coniferous forest, north coast coniferous forest, valley and foothill grassland, meadows, seeps, marshes and swamps. Occurs usually in wetlands, occasionally in non-wetlands. Elevation ranges from 0 to 2297 feet (0 to 700 meters). A perennial herb, the blooming period is from Mar-Jul.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
island tube lichen *Hypogymnia schizidiata*	Rank 1B.3 G3G3 S2	Chaparral, closed-cone coniferous forest, on bark and wood of hardwoods and conifers. Elevation ranges from 837 to 1788 feet (255 to 545 meters). A lichen, there is no distinct blooming period.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
small groundcone *Kopsiopsis hookeri*	Rank 2B.3 G4? S1S2	North coast coniferous forest, open woods, shrubby places, generally on Gaultheria shallon. Elevation ranges from 394 to 4708 feet (120 to 1435 meters). A perennial herb, the blooming period is from Apr-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
Baker's goldfields *Lasthenia californica ssp. bakeri*	Rank 1B.2 G3T1 S1	Closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps, often in openings. Elevation ranges from 197 to 1706 feet (60 to 520 meters). An annual herb, the blooming period is from Apr-Oct.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
marsh pea *Lathyrus palustris*	Rank 2B.2 G5 S2	Bogs and fens, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, coastal prairie, coastal scrub. Elevation ranges from 7 to 460 feet (2 to 140 meters). A perennial herb, the blooming period is from Mar-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
coast lily *Lilium maritimum*	Rank 1B.1 BLM: S G2 S2	Closed-cone coniferous forest, coastal prairie, coastal scrub, broadleaved upland forest, north coast coniferous forest, marshes and swamps, historically in sandy soil, often on raised hummocks or bogs, mostly in roadside ditches. Elevation ranges from 13 to 1608 feet (4 to 490 meters). A perennial herb (bulb), the blooming period is from May-Aug.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within the Study Area dated 2019.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
running-pine *Lycopodium clavatum*	Rank 4.1 IUCN: LC G5 S3	Lower montane coniferous forest, north coast coniferous forest, marshes and swamps, forest understory, edges, openings, roadsides (mesic sites) with partial shade and light. Elevation ranges from 148 to 4019 feet (45 to 1225 meters). A fern (rhizomatous), the blooming period is from Jun-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
marsh microseris *Microseris paludosa*	Rank 1B.2 BLM: S G2 S2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 2002 feet (3 to 610 meters). A perennial herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
white-flowered rein orchid *Piperia candida*	Rank 1B.2 G3 S3	North Coast coniferous forest, lower montane coniferous forest, broadleaved upland forest, sometimes on serpentine. Often found in forest duff, mossy banks, rock outcrops and muskeg. Elevation ranges from 66 to 5299 feet (20 to 1615 meters). A perennial herb, the blooming period is from May-Sep.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
maple-leaved checkerbloom *Sidalcea malachroides*	Rank 4.2 G3 S3	Broadleaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest, mixed evergreen forest, redwood forest, riparian forest, often in woodlands and clearings near the coast, in disturbed areas. Elevation ranges from 13 to 2510 feet (4 to 765 meters). A perennial herb, the blooming period is from Apr-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
twisted horsehair lichen *Sulcaria spiralifera*	Rank 1B.2 G3G4 S2 BLM:S	Coastal Dunes, north coast coniferous forest. Usually on conifers. Elevation ranges form 0-295 feet (0-90 meters). A fruticose lichen (epiphytic), no distinct blooming period.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

SPECIES	Status	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Monterey clover *Trifolium trichocalyx*	Rank 1B.1 FE SE G1 S1	Openings of closed-cone coniferous forest, often in burned areas and along roadsides in sandy soils. Elevation ranges from 100 to 1000 feet (30-305 meters). An annual herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.
Methuselah's beard lichen *Usnea longissima*	Rank 4.2 G4 S4	North coast coniferous forest, broadleaved upland forest. Often grows in the "redwood zone" on tree branches of a variety of trees, including bigleaf maple (*Acer macrophyllum*), various oaks (*Quercus spp.*), ash (*Fraxinus spp.*), Douglas-fir (*Pseudotsuga menziesii*) and California bay (*Umbellularia californica*). Elevation ranges from 148 to 4807 feet (45 to 1465 meters). A lichen, no distinct blooming period.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed.** This species was not observed during the botanical surveys conducted for this Project. No further recommendations for this species.

Please refer to Appendix A for a table of all special-status plant species within a nine-quad vicinity of the Study Area as well as a discussion of the potential for each species to occur within the Study Area based on habitat present.

Please refer to Appendix B for a complete list of all floristic species observed within the Study Area during Biological Assessment site visit.

Of the twenty-three (23) special-status species with moderate or high potential to occur, one (1) special-status plant species was observed within the Study Area during the Rare and Special-Status Plant Survey conducted on June 15. Recommendations for this special status plant species is discussed in Section 6.

5.3.2 Special-status Animal species

Upon review of the resource databases listed in Section 4.2, forty-five (45) special-status wildlife species have been documented within the vicinity of the Study Area. Please refer to Appendix A for a table of all special-status wildlife species with a potential to occur, as well as a discussion of the likelihood for each species to occur within the Study Area based on habitat assessment.

Seven (7) special-status wildlife species have the moderate or high potential to occur within the Study Area. The remaining thirty-eight (38) special-status wildlife species do not have the potential to occur due to one or more of the following reasons:

- Aquatic Habitats (e.g., streams, rivers, vernal pools) necessary to support special-status wildlife species are not present within the Study Area;
- Vegetation Habitats (e.g., forested area, riparian, grassland) that provide nesting and/or foraging resources necessary to support special-status wildlife species are not present within the Study Area;
- Physical Structures and Vegetation (e.g., caves, old-growth trees) that provide nesting, cover, and/or foraging habitat necessary to support special-status wildlife species are not present within the Study Area;
- Host Plants (e.g., *Cirsium sp.*) that provide larval and nectar resources necessary to support special-status wildlife species are not present within the Study Area;
- Historic and Contemporary Disturbance (e.g., cattle grazing, agriculture) deter the presence of the special-status wildlife species from occupying the Study Area;
- The Study Area is outside the documented nesting range of special-status wildlife species.

The seven (7) special-status wildlife species with moderate or high potential to occur within the Study Area are described in the table below:

Table 2: Special-status Wildlife Species with Moderate or High Potential to Occur

SPECIES	Status*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Amphibians				
California giant salamander *Dicamptodon ensatus*	CDFW: SSC IUCN: NT G3 S2S3	*D. ensatus* are found in meadows and seeps, north coast coniferous forest and riparian forested habitats. *D. ensatus* occur in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages. Adults leave terrestrial habitats to reproduce and both the reproduction and larval stages are aquatic with breeding occurring mostly in the spring.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for avian species.
Avifauna				
osprey *Pandion haliaetus*	CDF: S CDFW: WL IUCN: LC G5 S4	*P. haliaetus* are strictly associated with large, fish-bearing waters, primarily in ponderosa pine and mixed conifer stands. Foraging habitat consists of open, clear waters, rivers, lakes, reservoirs, estuaries, lagoons, swamps, marshes, and bays. Diet consists almost exclusively of live fish. Large trees, snags, and blown-out treetops are used for cover and nesting. Nests are located on or near the tops of trees, snags, cliffs, or human-made structures.	**Moderate Potential.** The Study Area contains some suitable habitat requirements for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	Status*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
purple martin *Progne subis*	CDFW: SSC IUCN: LC G5 S3	*P. subis* often inhabit tall old-growth trees or snags in coniferous forests with multilayered canopy and are second-cavity nesters using old woodpecker cavities, crevices in rocks, trees and cactus. Typically, *P. subis* forage in open areas near water, and their diet consists primarily of invertebrates (dragonflies, beetles, flies etc.).	**Moderate Potential.** The Study Area contains some suitable habitat requirements for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.
Insects				
pop. 1 monarch - California overwintering population *Danaus plexippus*	USFS: S G4T2T3 S2S3	*D. plexippus* are a migratory species, making massive migrations from August-October to hibernate along the California coast and central Mexico. *D. plexippus* feed on flower nectar from all milkweeds, dogbane, lilac, red clover, lantana, thistles, goldenrods, blazing stars, ironweed and tickseed sunflower. This species can be found in many habitats including fields, meadows, weedy areas, marshes and roadsides. The majority of overwintering sites are found within 1.5 miles of the Pacific Ocean or San Francisco Bay which moderates temperatures. Sites are typically found at low elevations (200-300ft) and situated on slopes oriented to the south, southwest, or west which provide the most solar radiation, or in shallow canyons or gullies.	**Moderate Potential.** The Study Area contains some suitable habitat requirements for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

		Monarchs require very specific microclimatic conditions at overwintering sites including dappled sunlight, high humidity, fresh water, and an absence of freezing temperatures or high winds. Fall or winter-blooming flowers provide nectar which may be needed to maintain lipid levels necessary for spring migration. Suitable microclimate conditions are often found at sites consisting of roost trees, in which monarchs cluster, surrounded by a larger grove of windrow trees. The trees most commonly used for roosting are the blue gum eucalyptus (*Eucalyptus globulus),* Montery pine (*Pinus radiata),* Monterey cypress (*Cupressus macrocarpa*). Clusters have also been found on red eucalyptus (*Eucalyptus camadulensis)* western sycamore (*Platanus racemose),* cost redwood (*Sequoia sempervirens*), coast live oak (*Quercus agrifolia*) and others.		

SPECIES	Status*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Mammals				
Sonoma tree vole *Arborimus pomo*	CDFW: SSC IUCN: NT G3 S3	*A. pomo* lives only in humid coastal forests consisting of Douglas-fir, grand fir, western hemlock, and/or Sitka spruce. This species requires Douglas-fir and grand fir needles as a food source and nesting materials. Nests are frequently found in trees along the bole, in branch crotches, or in the top of snags. Nests are most often found along roads, skid trails, or forest edges; however, they could exist further in the forest with dense canopies making nest identification difficult. This species is distributed along the North Coast from Sonoma County north to the Oregon border, being practically restricted to the fog belt.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for further recommendations.
Townsend's big-eared bat *Corynorhinus townsendii*	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H G4 S2	*C. townsendii* is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Moderate Potential.** The Study Area does not contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for further recommendations.

SPECIES	Status*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
North American porcupine *Erethizon dorsatum*	IUCN: LC G5 S3	*E. dorsatum* are commonly found in coniferous and mixed forested areas, and can also inhabit shrublands, tundra and deserts, albeit less frequently as this species tends to spend much of its time in trees. This herbivore eats leaves, twigs, and green plants like Skunk cabbage (*Symplocarpus foetidus*) and clovers (*Trifolium spp.*). This species makes its dens in hollow trees, decaying logs and caves in rocky areas. Recognized as primarily solitary and nocturnal, *E. dorsatum* may be seen foraging during daytime.	**Moderate Potential.** The Study Area does not contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for further recommendations.

No (0) special-status wildlife species were observed within the Study Area during the Biological Assessment site visit on November 24, 2021 or during botanical surveys on April 5, June 15 and June 16. Recommendations for special-status wildlife species are discussed in Section 6.

Please refer to Appendix B for a complete list of all wildlife species observed during the site assessments of the Study Area.

Section 6.0: Assessment Summary and Recommendations/Mitigations

Jacobszoon & Associates, Inc. performed a Biological Assessment (BA) and Environmentally Sensitive Habitat Area (ESHA) survey for 33101 Highway 1, Gualala, CA 95445 (APN: 143-050-15) for the purpose of obtaining a Coastal Development Permit (CDP) for a proposed single-family homesite development. The survey was conducted on November 24, 2021 and consisted of approximately 5 survey hours. A Rare and Special-Status Plant Survey was completed on April 5, June 15 and June 16.

The proposed project includes the construction of a 1,200 square-foot house, and a 12-foot-wide gravel driveway and parking area on the approximately 7.55-acre parcel. The parcel contains an existing access road, well, pumphouse, 550-gallon water tank, septic tank, leach field, and two outbuildings measuring 10'x 12'and 12'x 8' respectively. The proposed development is consistent with low density residential land uses of neighboring parcels and utilizes existing footprints of land disturbance to the maximum extent feasible.

6.1 ESHA Recommendations

Aquatic Resources:

Three (3) class III watercourses were identified within the Study Area (Appendix F, Map 2, Plot Plan).

Recommendations for aquatic resources are listed below:

- It is recommended that proposed development be conducted in compliance with a 50-foot buffer Reduced Buffer Analysis (Appendix D: Reduced Buffer Analysis).
- It is recommended that all earthwork within 100-ft of any watercourse adhere to standard methods of erosion and sediment control and, if possible, to complete all work while the channel is dry to reduce sediment load downstream.
- It is recommended that any work proposed within a watercourse with the potential to impact aquatic resources be conducted in compliance with a 401/404 CWA permit and/or CDFW 1600 Lake or Streambed Alteration Agreement.

Riparian Resource Areas:

Riparian vegetation along the central watercourse system is restricted to a relatively small area along the stream channel consisting primarily of chain fern (*Woodwardia fimbriata*) and deer fern (*Struthiopteris spicant*).

Riparian vegetation along the class III watercourse on the southern border of the property boundary consists primarily of wax myrtle (*Morella californica*) and western labrador tea (*Rhododendron columbianum*).

Recommendations for Riparian Resource Areas are listed below:

- It is recommended that the proposed development be conducted in compliance with a 50-foot buffer with a Reduced Buffer Analysis (Appendix D: Reduced Buffer Analysis).
- There is no riparian vegetation removal proposed at this time.
- It is recommended that any future removal or disturbance to riparian vegetation be avoided if possible or mitigated at a ratio of 3:1 total vegetative cover.

Wetlands:
Wetlands, as defined by the USACE or CCC, are not present within the Study Area (Appendix F: Map 4, National Wetland Inventory).

Recommendations for wetland habitats are listed below:

- There are no recommendations for wetland habitats at this time.

Other ESHA:
Other ESHA's such as coastal sand dunes, pygmy forest, rookeries, and marine mammal haul outs are not present within the Study Area.

Recommendations for other ESHA are listed below:

- There are no recommendations for other ESHA at this time.

See Appendix F: Map 2, Plot Plan for 50-and-100-foot buffers from sensitive resources.

6.2 Natural Communities

The Study Area and immediate surroundings were assessed during a site visit on November 24, 2021 to determine local natural communities present. Natural communities observed were classified using data collected in the field and the *Manual of California Vegetation Online Edition* (MCV2 Alliances, CNPS 2021b). The Study Area contains no (0) non-sensitive natural communities and two (2) sensitive natural communities (Appendix F: Map 5, MCV2 Natural Communities).

6.2.1 Non-Sensitive Natural Communities

Non-sensitive natural communities are those communities that are not afforded special protection under CEQA, and/or other Federal, State, and local laws, regulations, and ordinances. No (0) non-sensitive natural communities were observed within the Study Area.

Recommendations for non-sensitive natural communities are listed below:

- There are no recommendations for non-sensitive natural communities within the Study Area at this time.

6.2.1 Sensitive Natural Communities

Sensitive natural communities include those that are listed in CNDDB as well as observed MCV2 alliances or associations with state rarity ranks of S1-S3 and are listed on CDFW's *List of California Sensitive Natural Communities* (CDFW 2021). Two (2) sensitive natural communities were observed within the Study Area and are listed below:

Sequoia sempervirens Forest and Woodland Alliance: Redwood forest and woodland: State Rarity S3.2, Global Rarity G3.

Sequoia sempervirens attains a height of 120 m, and an age of at least 2200 years. Roots are shallow without a taproot. Trees begin bearing cones by 5 to 15 years of age. Seed production is generally high, and seed viability is low. Wind and gravity disperse the seeds, with most falling within 120 m of the parent tree. Seedling establishment is best on moist soil lacking litter but can occur on duff or logs. Plants are moderately shade tolerant, but they grow faster in higher light levels if soil moisture is present.

Sequoia sempervirens is one of the signature trees of California, with 95% of its range existing within the state. Years of logging have left less than 90% of the original forest. Old-growth stands exist mainly in protected areas including parks, experimental forests, and private reserves. Asexual regeneration is prolific and many stands of younger trees exist, but many areas are on the third cycle of regeneration with collateral impacts of erosion, streambed siltation, and alteration to watershed and wildlife values. Residential development is an increasing concern

The redwood forest within the Study Area was once logged as evidenced by large redwood stumps scattered throughout the property and second growth redwood trees growing in fairy ring patterns around each stump. There is a dense lower-tier layer of same age tanoak (*Notholithocarpus densiflorus)* trees and brush that may be the result of natural fire regime suppression.

Recommendations for *Sequoia sempervirens* Forest and Woodland Alliance: Redwood forest and woodland:

- It is recommended that this community be managed to retain at least 50 percent redwood (*Sequoia sempervirens)* relative cover in the tree canopy or retain redwood as a characteristic species within the tree canopy.
- Land managers could consider thinning suppressed tanoak (*Notholithocarpus densiflorus*) trees and brush or suppressed redwood tree stems within each fairy ring to encourage the growth and expansion of large redwoods in the canopy.
- There are no redwood trees proposed for removal at this time.

Pinus muicata-Pinus radiata Forest and Woodland Alliance: Bishop pine-Monterey pine forest and woodland: State Rarity: S3.2. Global Rarity: G3.

Pinus muricata grows on the mainland from Santa Barbara to Humboldt County, as well as on the Santa Cruz and Santa Rosa islands. It grows in areas with spring and summer fog, which is important to its survival. *Pinus muricata* is a moderate-sized, closed-cone conifer that can attain a height of 25 meters. Plants produce cones at 5-6 years of age; cones remain closed for several years and open after fire or on hot days.

Periodic fire is an important factor for the recruitment of replacement stands of Bishop pine and localized fire suppression may have a long-term deteriorating effect on this community. Ongoing draught and public safety concerns make the reintroduction of periodic fires within the Study Area less feasible. Recruitment of Bishop pine saplings should be encouraged. Residential development is also listed as a potential threat to this community by the *Manual of California Vegetation,* so mitigations are recommended if Bishop pine tree removal is proposed.

It is proposed to remove approximately 6 Bishop pine trees (3 18” DBH, 2 24” DBH and 1 30” DBH) within the Study Area (Appendix F, Map 9, Signed Plan).

Recommendations for *Pinus muicata-Pinus radiata* Forest and Woodland Alliance: Bishop pine-Monterey pine forest and woodland:

- It is recommended that this alliance be managed to retain at least 30 percent *Pinus muricata* relative cover in the tree canopy. Thinning of species other than *Pinus muricata* within the Bishop pine forest should be considered to achieve the desired abundance of healthy Bishop pine trees.

- It is recommended that any proposed removals of *Pinus muricata* trees larger than 6 inches dbh within this community be mitigated by planting *Pinus muricata* saplings obtained from local stock in the area. Planted Bishop pine saplings should be planted by hand, with workers using hand tools and/or digging through the soil with a portable augur without the usage of heavy construction machinery that could trample and/or compact ground layer plants and underlying soil. Newly planted Bishop pine individuals should be protected by "protective tubes"

- A replanting ratio of 3:1 should be implemented for every tree removed. It is proposed to remove 6 Bishop pine trees; therefore, 18 shall be replanted.

- An 80% survival rate for the newly planted replacement Bishop pine trees shall occur and be monitored for five consecutive years annually in October by a qualified biologist. Results of restoration activities shall be submitted to CDFW, the County and the California Coastal Commission on an annual basis no later than December 31 for each of the five monitoring years (2022 through 2026, for example, if construction begins and this Plan's mitigation measure actions are initiated by spring 2021). CDFW may provide comments on each annual summary letter and require planting of new Bishop pine trees based on results noted in each of the annual summary letter. For example, in the event that an 80% survival rate of the Bishop pine trees is not achieved in the first five years, the monitoring period will be extended until compliance is demonstrated.

- Supplemental watering will be conducted if necessary, as well as thinning if necessary, to release crowded individuals for more rapid tree growth. During the monitoring visit, the qualified biologist will remove any non-native species that may have encroached within the Project Area.

6.3 Special-Status Species

Twenty-three (23) special-status plant species and seven (7) wildlife species have moderate or high potential to occur within the Study Area based on habitat requirements present. Please refer to the tables in section 5.2, Special-Status Species, for a complete list, state rarity ranks, and habitat descriptions of species with moderate or high potential to occur within the Study Area.

Recommendations for special-status species are discussed below.

6.3.1 Special-Status Plant Species

Many special-status plant species are afforded special protections under CEQA Section 15380 and the Native Plant Protection Act (NPPA). Special-status plant species are protected as ESHA under the California Coastal Act (CCA).

Twenty-three (23) special-status plant species have moderate of high potential to occur within the Study Area. One (1) coast lily (*Lilium maritum*) was located along Highway 1 in a roadside ditch approximately 52 feet from where the proposed driveway during botanical surveys on June 15, 2022 (Appendix F: Map 2, Plot Plan). A population was recorded on the CNDDB in this location in 2019 by Caltrans. Only one (1) plant was located during the surveys in 2022. It is speculated that roadside mowing conducted by Caltrans may be the reason for only one plant in 2022.

Recommendations for Special-status plant species are listed below:

- It is recommended that a 50-foot buffer Reduced Buffer be maintained around the location of the coast lily to not disturb this plant.

6.3.2 Special-Status Wildlife Species

Seven (7) special-status wildlife species have moderate or high potential to occur within the Study Area. No (0) special-status wildlife species were identified within the Study Area during the site visit on November 24, 2021.

Recommendations to protect special-status wildlife species with moderate or high potential to occur within the Study Area are discussed below.

Amphibians

One (1) special-status amphibian species, the California giant salamander *(Dicamptodon ensatus*), has moderate potential to occur along class III watercourses within the Study Area. Recommendations for special-status amphibian species are listed below:

- It is recommended that all earthwork within or adjacent to any watercourse adhere to standard methods of erosion and sediment control and, if possible, to complete all work while the channel is dry to reduce sediment load downstream.
- It is recommended that major earthwork not be conducted during qualifying rain events when amphibian species are more likely migrate away from aquatic habitats. A qualifying rain event is defined as 0.5 inches of precipitation or more within a 48-hour time period.
- It is recommended that any work within a watercourse with the potential to impact aquatic resources be conducted in compliance with a CDFW Lake or Streambed Alteration Agreement.

No (0) special-status amphibians were observed during the site visit on November 24, 2021.

Avifauna

Two (2) special-status avian species have moderate or high potential to occur within the Study Area based on habitat types present. These species include the osprey (*Pandion haliaetus*), and purple martin (*Progne subis*). Additionally, most non-game bird species in California are protected under the Migratory Bird Treaty Act (MBTA) which prohibits the deliberate destruction of active nests belonging to protected species. Groundbreaking activities, specifically vegetation removal, within the Study Area during avian breeding periods have the potential to significantly impact nesting migratory bird species.

Recommendations for special-status avian species and migratory bird species are listed below:

- It is recommended that any active bird nest not be removed, relocated, or otherwise disturbed for any purpose until all fledglings have left the nest.
- It is recommended that nesting bird surveys be conducted by a qualified biologist prior to the commencement of any activity that results in the removal of vegetation during nesting bird season. Nesting bird season is between February 1st and August 15th of any year.
- Nesting bird surveys should be conducted no more than 14 days prior to initiation of tree/vegetation removal or ground disturbance and should cover the entire work area and surrounding areas within 500 feet. No-disturbance buffers for active bird nests should be established by a qualified biologist.

No (0) special-status avian species were observed during the site visit on November 24, 2021, as well as no (0) avian nests were observed during the site visit on November 24, 2021.

Insects

One (1) special-status insect species has moderate or high potential to occur within the Study Area. This species includes the monarch-California overwintering population 1 (*Danaus plexippus*).

Recommendations for special-status insect species are listed below:

- It is recommended that trees or other vegetation occupied by overwintering populations of monarch not be removed or otherwise disturbed until all monarchs have left the site.
- It is recommended that monarch surveys be conducted by a qualified biologist no more than 14 days prior to the commencement of tree/vegetation removal from November 1st-January 31st of any year when monarchs are most likely to be found overwintering.

No (0) special-status insects or monarch overwintering populations were observed during the site visit on November 24, 2021.

Mammals

Three (3) special-status mammal species have moderate or high potential to occur within the Study Area. These species include the Sonoma tree vole (*Arborimus pomo*), Townsend's big-bat (*Corynorhinus townsendii*), and North American porcupine (*Erethizon dorsatum*).

Recommendations for special-status mammal species are listed below:

- It is recommended that Sonoma tree vole surveys be conducted by a qualified biologist no more than 14 days prior to the commencement of tree removal. The surveys should cover all potential habitat where tree removal is proposed and surrounding areas within 50 feet. Buffers and or mitigation measures for identified nests should be established by a qualified biologist.
- If evidence of bat roosts are observed (i.e. bat guano, ammonia odor, grease stained cavities) around trees, cavities, or structures proposed for removal, it is recommended that pre-construction bat surveys be conducted no more than 14 days prior to groundbreaking activities. If bat roosts are identified, buffer or mitigation measures should be established by a qualified biologist.
- If evidence of special-status mammal borrows or denning activity is observed, it is recommended that pre-construction surveys be conducted by a qualified biologist for activities that may affect den sites.

No (0) special-status mammals were observed during the site visit on November 23, 2021. No (0) evidence of special-status mammal species was observed during the site visit on November 23, 2021.

6.4 Wildlife Corridors

No change to foraging or wintering habitat for migratory birds is expected as a result of the proposed development. Additionally, no significant impacts to migratory corridors for amphibian, aquatic, avian, mammalian, or reptilian species is expected as a result of the proposed project.

6.5 Critical Habitat

The Study Area does not contain any critical habitat for federal or state-listed species.

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Miles Hartnett received a Bachelor's of Science degree in Environmental Science and Ecological Restoration form Humboldt State University in 2011 with multiple studies pertaining to plant taxonomy, biology, ecology, soils, wetland soils, and watershed management. He has also completed basic wetland delineation training through the Wetland Training Institute in 2020. He is an Environmental Analyst and Staff Biologist and Botanist at Jacobszoon and Associates Inc. with six years of professional experience in fisheries biology, forestry, botany, and environmental compliance. Mr. Hartnett holds a Rare Plant Voucher Collecting Permit (No. 2081 a-20-090-V). Prior to joining Jacobszoon and Associates Inc., Mr. Hartnett worked for the Sonoma County Water Agency and the California Department of Fish and Wildlife (CDFW).

Sincerely,

Miles Hartnett
Staff Biologist/Botanist
Jacobszoon & Associates, Inc.

Appendix A: List of Potential Special-Status Species

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Amphibians				
Pacific tailed frog *Ascaphus truei*	CDFW: SSC IUCN: LC G4 S3S4	Coastal tailed frogs are primarily associated with perennial, cold, swift flowing streams in mature or old-growth forest stands. Other stream habitat characteristics which may predict presence include but are not limited to high canopy cover, coarse substrates such as cobble, boulder, and/or bedrock, low fine sediment loads, and steep gradients. Streams are typically perennial due to the prolonged time to metamorphose, which can vary between 1 to 3 years. *A. truei* populations have been shown to persist in streams which dry infrequently, even though these frogs are extremely intolerant of both desiccation and warm temperatures.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
California giant salamander *Dicamptodon ensatus*	CDFW: SSC IUCN: NT G3 S2S3	*D. ensatus* are found in meadows and seeps, north coast coniferous forest and riparian forested habitats. *D. ensatus* occur in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages. Adults leave terrestrial habitats to reproduce and both the reproduction and larval stages are aquatic with breeding occurring mostly in the spring.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for amphibian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
foothill yellow-legged frog *Rana boylii*	*SE/ST BLM: S CDFW: SSC IUCN: NT USFS: S G3 S3	The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types. *CESA listing status varies by clade as follows: Southwest/South Coast, West/Central Coast, and East/Southern Sierra clades are endangered; northeast/Northern Sierra and Feather River clades are threatened; listing of the Northwest/North Coast clade is not warranted.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for amphibian species.
California red-legged frog *Rana draytonii*	FT CDFW: SSC IUCN: VU G2G3 S2S3	California red-legged frogs (CRLF) primarily inhabit permanent or nearly permanent water sources (quiet streams, marshes, and ponds). Breeding tends to occur primarily in ponds, less likely in streams, and happens from November to April. This ranid frog will also use upland habitats outside of the breeding season and may be discovered under logs, rocks, and other debris during wet conditions.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for amphibian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
southern torrent salamander *Rhyacotriton variegatus*	CDFW: SSC IUCN: LC USFS: S G3G4 S2S3	*R. variegatus* inhabit coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats, often within old-growth forest. This species is primarily aquatic and prefers cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water. Eggs are laid loosely, found under rocks in streams with gravel substrates. Larvae develop in the water and *R. variegatus* are extremely moisture-dependent, they tend to burrow into streambed substrates to reduce desiccation.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for amphibian species.
red-bellied newt *Taricha rivularis*	CDFW: SSC IUCN: LC G2 S2	*T. rivularis* inhabits coastal forests, typically in redwood (*Sequoia sempervirens*) forest habitat although also found in other forest types (hardwood etc.). Adults are terrestrial and fossorial. Transformed juveniles leave aquatic environments and go into hiding in underground shelters, often until ready to reproduce. Breeding occurs in streams often with relatively strong flows.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for amphibian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Avifauna				
grasshopper sparrow *Ammodramus savannarum*	CDFW: SSC IUCN: LC G5 S3	*A. savannarum* are an uncommon and local, summer resident in foothills and lowlands west of the Cascade-Sierra Nevada crest from Mendocino and Trinity Counties south to San Diego County. *A. savannarum* nests on the ground in grasslands, prairie, cultivated fields, and grassy clearings in forests; particularly in areas with a variety of grasses and tall forbs and scattered shrubs for singing perches. Nests are typically found at the base of a small clump of overhanging grass or other vegetation, perhaps in close proximity to other breeding grasshopper sparrows, and this species may double or triple clutch.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
golden eagle *Aquila chrysaetos*	BLM: S CDF: S CDFW: FP, WL IUCN: LC USFWS: BCC G5 S3	Golden eagles live in open and semi-open country featuring native vegetation across most of the Northern Hemisphere. They avoid developed areas and uninterrupted stretches of forest. They are found primarily in mountains up to 12,000 feet, canyonlands, rimrock terrain, and riverside cliffs and bluffs. Golden eagles nest on cliffs and steep escarpments in grassland, chapparal, shrubland, forest, and other vegetated areas.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.
great blue heron *Ardea herodias*	CDF: S IUCN: LC G5 S4	*A. herodias* are commonly found in shallow estuaries and fresh and saline emergent wetlands. Foraging areas include river and creek banks, ponds, lakes, and watercourses in mountainous areas. Diet consists primarily of aquatic invertebrates, frogs, snakes and fish. This species often nests in colonies within a rookery tree.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
short-eared owl *Asio flammeus*	CDFW: SSC IUCN: LC G5 S3	*A. flammeus* are typically found in Great Basin grassland, marsh and swamp (both fresh and saline), meadow and seep, valley and foothill grasslands, lowland meadows, irrigated alfalfa fields. Tule patches/tall grass areas are needed for nesting/daytime seclusion. Nests are on the ground in depressions concealed in vegetation.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.
burrowing owl *Athene cunicularia*	BLM: S CDFW: SSC IUCN: LC USFWS: BCC G4 S3	*A. cunicularia* are often found in coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean/Sonoran Desert scrub and valley and foothill habitats, often in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. *A. cunicularia* are subterranean nesters (fossorial), dependent on burrowing mammals, usually California ground squirrel burrows, but can also use burrows from prairie dogs, badgers, marmots, skunks or other small mammals.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
marbled murrelet *Brachyramphus marmoratus*	FT SE CDF: S IUCN: EN NABCI: RWL G3 S2	*B. marmoratus* forage in the ocean, often close to shore during the summer months. In the nonbreeding season murrelets forage further off-shore and will fly inland (up to 35 miles) to nest in old-growth redwood-dominated forests. Murrelet nests are a depression partly encircled by guano, commonly located on large, limbs in Douglas-fir (*Pseudotsuga menziesii*). Additionally, nests have been located on witch's broom (mistletoe), old squirrel nests and on large burls that have collected organic debris. USFWS has determined that for the long-term survival of the species, *B. marmoratus* require greater than 500 acres of old-growth forest with potential nest trees greater than 32" dbh. Over 40% overstory canopy is necessary to protect the nest site from predation and other environmental conditions.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.
rhinoceros auklet *Cerorhinca monocerata*	CDFW: WL IUCN: LC G5 S1S2	*C. monocerata* are mostly pelagic and nests on offshore islands and rocks along the California coast in ground burrows. This species is a surface diver and their diet is exclusively fish.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
northern harrier *Circus hudsonius*	CDFW: SSC IUCN: LC G5 S3	*C. hudsonius* are year-long residents of Mendocino and Lake County. They frequent meadows, alpine meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands and are seldom found in wooded areas. This species usually hunts by flying low over fields, scanning the ground for small prey. Breeding occurs on meadows and marshland, both salt and freshwater. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
western snowy plover *Charadrius nivosus nivosus*	FT CDFW: SSC NABCI: RWL USFWS: BCC G3T3 S2	The Pacific coast population of the snowy plover is defined as those individuals that nest adjacent to tidal waters of the Pacific Ocean, and includes all nesting birds on the mainland coast, peninsulas, offshore islands, adjacent bays, estuaries, and coastal rivers. The current known breeding range of this population extends from Damon Point, Washington, to Bahia Magdelena, Baja California, Mexico. The Pacific coast population of the western snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. The population breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Less common nesting habitat includes bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars. Suitable nesting habitat is distributed throughout the listed range but may be widely separated by areas of rocky shoreline.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
yellow-billed cuckoo *Coccyzus americanus*	FT SE BLM: S NABCI: RWL USFS: S USFWS: BCC G5T2T3 S1	An uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Along the Colorado River, breeding population on California side was estimated at 180 pairs in 1977. Additional pairs reside in the Sacramento and Owens valleys; along the South Fork of the Kern River, Kern Co.; along the Santa Ana River, Riverside Co.; and along the Amargosa River, Inyo and San Bernardino cos. Also, may nest along San Luis Rey River, San Diego Co. Formerly much more common and widespread throughout lowland California, but numbers drastically reduced by habitat loss. Current population estimations show about 50 pairs existing in California.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
tufted puffin *Fratercula cirrhata*	CDFW: SSC IUCN: LC G5 S1S2	*F. cirrhata* occurs sparsely along the California coast from Prince Island in Del Norte county to Point Conception. *F. cirrhata* nests on islands and, less commonly, on coastal cliffs. They are most common on nesting colonies, and nearby marine pelagic and subtidal waters, from late March to September. F. cirrhata feed on medium-sized fish such as smelt, herring, and sea perch, some crustaceans and squid.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
long-billed curlew *Numenius americanus*	CDFW: WL IUCN: LC NABCI: YWL USFSW: BCC G5 S2	*N. americanus* is an uncommon to locally very common in winter from early July to early April along most of the California coast, and in the Central and Imperial valleys, where the largest flocks occur. Preferred winter habitats include large coastal estuaries, upland herbaceous areas, and croplands. On estuaries, feeding occurs mostly on intertidal mudflats. At coastal estuaries, this species requires high salt marsh, pastures, and salt ponds for roosting during high tide periods	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
osprey *Pandion haliaetus*	CDF: S CDFW: WL IUCN: LC G5 S4	*P. haliaetus* are strictly associated with large, fish-bearing waters, primarily in ponderosa pine and mixed conifer stands. Foraging habitat consists of open, clear waters, rivers, lakes, reservoirs, estuaries, lagoons, swamps, marshes, and bays. Diet consists almost exclusively of live fish. Large trees, snags, and blown-out treetops are used for cover and nesting. Nests are located on or near the tops of trees, snags, cliffs, or human-made structures.	**Moderate Potential.** The Study Area contains some suitable habitat requirements for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Bryant's savannah sparrow *Passerculus sandwichensis alaudinus*	CDFW: SSC G5T2T3 S2	*P. sandwichensis alaudinus* occupies low tidally influenced habitats, adjacent ruderal areas, moist grasslands within and just above the fog belt, and, infrequently, drier grasslands. Bay-shore habitats are composed primarily of broad expanses of higher parts of Pickleweed marsh, often where the Pickleweed community merges into grasslands. Plants typical of this habitat are Pickleweed and Saltgrass (*Distichlis spicata).* Adjacent to the salt marsh habitat, this sparrow also occupies weed spoil areas, canal banks, and bottomland pastures.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
California brown pelican *Pelecanus occidentalis californicus*	BLM: S CDFW: FP USFS: S SD FD G4T3T4 S3	*P. occidentalis californicus* is typically found on rocky, sandy or vegetated offshore islands, beaches in estuarine, marine subtidal, and marine pelagic waters along the California coast. They breed on the Channel Islands: Anacapa, Santa Barbara, and Santa Cruz from March to early August. *P. occidentalis californicus* typically build a nest on the ground or on native shrubs, and occasionally in trees on inaccessible slopes, canyons, and high bluff tops and edges.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
purple martin *Progne subis*	CDFW: SSC IUCN: LC G5 S3	*P. subis* often inhabit tall old-growth trees or snags in coniferous forests with multilayered canopy and are second-cavity nesters using old woodpecker cavities, crevices in rocks, trees and cactus. Typically, *P. subis* forage in open areas near water, and their diet consists primarily of invertebrates (dragonflies, beetles, flies etc.).	**Moderate Potential.** The Study Area contains some suitable habitat requirements for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.
bank swallow *Riparia riparia*	ST BLM: S IUCN: LC G5 S2	*R. riparia* are colonial nesters, primarily in riparian scrub and riparian woodland habitats at low areas. They require vertical banks/cliffs with fine-textured/sandy soils to dig nesting holes near streams, rivers, lakes, and ocean. Foraging occurs in open areas and void places with tree cover.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
northern spotted owl *Strix occidentalis caurina*	FT, ST CDF: S IUCN: NT NABCI: YWL G3G4T3 S2	*S. occidentalis caurina* are year-round residents in dense, structurally complex forests, primarily with old-growth conifers. Nests on snags and within tree cavities, and often is associated with existing structures (old raptor nests, squirrel nests and *A. pomo* nests).	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species. The closest known Activity Center is approximately 3.4 miles away.	**Not Observed**: See Section 6 for general recommendations for avian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Crustaceans				
California freshwater shrimp *Syncaris pacifica*	FE SE IUNC: EN G2 S2	Historically, California freshwater shrimp were common in low elevation (less than 380 feet), perennial freshwater streams in Marin, Sonoma and Napa counties. Today, it is found in four general geographic regions: tributary streams in the lower Russian river drainage which flows westward into the Pacific Ocean, coastal streams flowing westward directly in the Pacific Ocean, streams draining into Tomales Bay and streams flowing southward into northern San Pablo Bay. They have evolved to survive a broad range of stream and water temperature conditions characteristic of small, perennial coastal streams. Excellent habitat conditions include streams 12 to 36 inches in depth with exposed live roots of trees such as alder and willow along undercut banks greater than 6 inches. The banks have overhanging woody debris or stream vegetation and vines such as stinging nettle, grasses, vine maple and mint.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present**: There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Fish				
Pacific lamprey *Entosphenus tridentatus*	AFS: VU BLM: S CDFW: SSC USFS: S G4 S4	*E. tridentatus* are anadromous, but also with a number of permanent freshwater resident populations. This species is parasitic as adults, feeding on blood and body fluids of its prey. To breed, *E. tridentatus* migrate into fresh water and dig nests. Adults die post-breeding. Larvae/juveniles live 5-6 years in freshwater before returning to the ocean.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
tidewater goby *Eucyclogobius newberryi*	FE AFS: EN IUCN: VU G3 S3	*E. newberryi* are found in brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Typically, this species is found in shallow lagoons, estuaries, marshes and lower stream reaches, requiring fairly-still but not stagnant water and high oxygen levels. This species is benthic in nature, preferring a sandy substrate for breeding, but they can be found on rocky, mud, and silt substrates as well. Vegetation is generally sparse, consisting of several species of submerged or emergent plants including *Ruppia maritima, Scirpus sp., and Potomogeton sp*.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Gualala roach *Hesperoleucus parvipinnis*	CDFW: SSC G4T1T2 S2S3	California roach are generally found in small, warm intermittent streams, and dense populations are frequently found in isolated pools. Roach are tolerant of relatively high temperatures (30-35 C) and low oxygen levels (1-2 ppm). However, they are habitat generalists, also being found in cold, well-aerated clear "trout" streams, in human-modified habitats and in the main channels of rivers. Gualala roach is a form of California roach and is common in the Gualala River and is the dominant fish in some headwater areas.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
pink salmon *Oncorhynchus gorbuscha*	G5 S1	*O. gorbuscha* are anadromous, spawning in intertidal or lower reaches of streams and rivers in September and October. This species typically inhabits rivers with moderate to fast current and gravel bottom. Spawning occurs in riffles or at head of riffles in shallow water with current up to 1.5 m/s and clean, coarse gravel. Optimal temperatures for this species are between 5.6-14.4°C and embryos/alevins require fast-flowing, well oxygenated water for development and survival.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
coho salmon – central California coast ESU *Oncorhynchus kisutch pop. 4*	FE, SE AFS: EN G5T2T3Q S2	Coho are anadromous, migrating and spawning in streams that flow directly into the ocean or tributaries of larger rivers. Migration peaks around mid-May till mid-June. The fish will spend two to three years at sea before migrating back to their natal stream to spawn. Coho lay egg masses (redds), often located between a pool and a riffle. *O. kisutch* juveniles' diet consists primarily of insects. Upon reaching the sea, young feed primarily on planktonic crustaceans, and as they age *O. kisutch* will migrate farther into the sea and hunt larger organisms such as jellyfish, squid, and fishes.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
steelhead – northern California DPS *Oncorhynchus mykiss irideus pop. 16*	FT AFS: TH G5T2T3Q S2S3	Steelhead are anadromous coastal rainbow trout. As adults, this species requires high flows, with depths of at least 18cm for passage (Bjornn and Reiser 1991). Clean well-aerated gravel beds, typically in steep, rocky reaches of upper tributaries are needed for spawning. The central California coast DPS are found from the Russian River south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins. This DPS does not include summer-run steelhead.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
longfin smelt *Spirinchus thaleichthys*	FCE ST G5 S1	*S. thaleichthys* are a euryhaline, nektonic and anadromous species. Often found in open waters of estuaries, mostly in middle or bottom of water column and prefers salinities of 15-30ppt but can be found in completely freshwater to almost pure seawater.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Insects				
obscure bumble bee *Bombus caliginosus*	IUCN: VU G4? S1S2	*Bombus caliginosus* inhabits open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests. Males patrol circuits in search of mates. This species is classified as a medium long-tongued species, whose food plants include *Ceanothus, Cirsium, Clarkia, Keckiella, Lathyrus, Lotus, Lupinus, Rhododendron, Rubus, Trfolium*, and *Vaccinium*.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for insect species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
western bumble bee *Bombus occidentalis*	SCE USFS: S Xerces: IM G2G3 S1	The habitat for this species is described as open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. typically nests underground in abandoned rodent burrows or other cavities Rangewide, example food plants of *Bombus occidentalis* include *Ceanothus, Centaurea, Chrysothamnus, Cirsium, Geranium, Grindellia, Lupinus, Melilotus, Monardella, Rubus, Solidago*, and *Trifolium.*	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for insect species.
pop. 1 monarch - California overwintering population *Danaus plexippus*	USFS: S G4T2T3 S2S3	*D. plexippus* are a migratory species, making massive migrations from August-October to hibernate along the California coast and central Mexico. *D. plexippus* feed on flower nectar from all milkweeds, dogbane, lilac, red clover, lantana, thistles, goldenrods, blazing stars, ironweed and tickseed sunflower. This species can be found in many habitats including fields, meadows, weedy areas, marshes and roadsides. The majority f overwintering sites are found within 1.5 miles of the Pacific Ocean or San Francisco Bay which moderates temperatures. Sites are typically found at low elevations (200-300ft) and situated on slopes oriented to the south, southwest, or west which provide the most solar radiation, or in shallow canyons or gullies.	**Moderate Potential.** The Study Area contains some suitable habitat requirements for this species.	**Not Observed**: See Section 6 for general recommendations for insect species.

		Monarchs require very specific microclimatic conditions at overwintering sites including dappled sunlight, high humidity, fresh water, and an absence of freezing temperatures or high winds. Fall or winter-blooming flowers provide nectar which may be needed to maintain lipid levels necessary for spring migration. Suitable microclimate conditions are often found at sites consisting of roost trees, in which monarchs cluster, surrounded by a larger grove of windrow trees. The trees most commonly used for roosting are the blue gum eucalyptus (Eucalyptus globulus), Montery pine (Pinus radiata), Monterey cypress (Cupressus macrocarpa). Clusters have also been found on red eucalyptus (Eucalyptus camadulensis) western sycamore (Platanus racemose), cost redwood (Sequoia sempervirens), coast live oak (Quercus agrifolia) and others (Xerces 2016).		

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
lotis blue butterfly *Plebejus idas lotis*	FE Xerces: CI G5TH SH	*P. idas lotis* is possibly already extinct. The Lotis Blue has not been seen alive since 1983. It is only known from a few sites near the Mendocino coast. It was known to associate with wet meadows and coastal bog habitat and the last known location was at a sphagnum bog surrounded by a closed-cone pine forest, dominated primarily by bishop pine (*Pinus muricata*). Nothing is known for certain about food habits of the lotis blue butterfly, as the larval host plant is not confirmed, but evidence suggests that it was the seaside bird's-foot trefoil (*Lotus formosissimus*).	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for insect species.
Behren's silverspot butterfly *Speyeria zerene behrensii*	FE Xerces: CI G5 S1	*S. zerene behrensii* inhabits coastal terrace prairie habitat, restricted to the Pacific side of the Coast Ranges from Point Arena to Cape Mendocino within Mendocino County. Typical foodplant for *S. zerene behrensii are Viola* sp.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for insect species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Mammals				
Point Arena mountain beaver *Aplodontia rufa nigra*	FE CDFW: SSC IUCN: LC G5T1 S2	*A. rufa nigra* occur in deciduous riparian zones with a relatively open canopy and a dense understory. Deep soils are required for burrowing, along with a cool, moist microclimate. Mountain beavers feed on the vegetative parts of plants: thimbleberry, salmonberry, blackberry, dogwood, salal, ferns, lupines, willows, and grasses. Mountain beavers do not concentrate urine and require a large daily intake of water. Mountain beavers breed from December through March with the peak being in February. Young are born from February to June with the peak being from March through May. There is only one litter per year.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for mammalian species.
Sonoma tree vole *Arborimus pomo*	CDFW: SSC IUCN: NT G3 S3	*A. pomo* lives only in humid coastal forests consisting of Douglas-fir, grand fir, western hemlock, and/or Sitka spruce. This species requires Douglas-fir and grand fir needles as a food source and nesting materials. Nests are frequently found in trees along the bole, in branch crotches, or in the top of snags. Nests are most often found along roads, skid trails, or forest edges; however, they could exist further in the forest with dense canopies making nest identification difficult. This species is distributed along the North Coast from Sonoma County north to the Oregon border, being practically restricted to the fog belt.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for mammalian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Townsend's big-eared bat *Corynorhinus townsendii*	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H G4 S2	*C. townsendii* is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Moderate Potential.** The Study Area does not contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for mammalian species.
North American porcupine *Erethizon dorsatum*	IUCN: LC G5 S3	*E. dorsatum* are commonly found in coniferous and mixed forested areas, and can also inhabit shrublands, tundra and deserts, albeit less frequently as this species tends to spend much of its time in trees. This herbivore eats leaves, twigs, and green plants like Skunk cabbage (*Symplocarpus foetidus*) and clovers (*Trifolium spp.*). This species makes its dens in hollow trees, decaying logs and caves in rocky areas. Recognized as primarily solitary and nocturnal, *E. dorsatum* may be seen foraging during daytime.	**Moderate Potential.** The Study Area does not contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for mammalian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Steller sea lion Eumetopias jubatus	FD IUCN: EN MMC: SSC G3 S2	*E. jubatus* breed on Ano Nuevo, San Miguel and Farallon islands, Point St. George and Sugarloaf. This species hauls-out on islands and rocks with breeding sites that have unrestricted access to water, near aquatic food supply and with no human disturbance	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
western red bat Lasiurus blossevillii	CDFW: SSC IUCN: LC WBWG: H G4 S3	Western Red Bats roost almost exclusively in trees, where their coloring helps them blend among the leaves and branches. They prefer riparian habitat near water, and roost in sycamore, cottonwood, velvet ash, and elder trees. Western Red Bats can also be found in fruit and nut orchards, particularly in California's Central Valley. Individuals roost mostly alone, though can sometimes be spotted roosting in small clusters.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for mammalian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Pacific marten *Martes caurina*	USFS S IUCN: LC G4G5 S3	Uncommon to common, permanent resident of North Coast regions and Sierra Nevada, Klamath, and Cascades Mts. Optimal habitats are various mixed evergreen forests with more than 40% crown closure, with large trees and snags. Important habitats include red fir, lodgepole pine, subalpine conifer, mixed conifer, Jeffrey pine, and eastside pine.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for mammalian species.
fringed myotis *Myotis thysanodes*	BLM: S IUCN: LC USFS: S WBWG: H G4 S3	*M. thysanodes* are widespread in California, occurring in a wide variety of habitats including pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally found at 1300-2200m elevations (4000-7000ft). They forage around streams, lakes, and ponds and their prey consists mainly of beetles and other insects. Typical roosting habitat includes caves, mine tunnels, rock crevices and old buildings.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for mammalian species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
American badger *Taxidea taxus*	CDFW: SSC IUCN: LC G5 S3	*T. taxus* are most abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils. *T. taxus* dig burrows in the friable soils and frequently reuse old burrows. *T. taxus* are non-migratory and are found throughout most of California, except the northern North Coast area.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for mammalian species.
Mollusks				
Pinto abalone *Haliotis kamtschatkana*	IUCN: EN NMFS: SC G2G4 S2	*H. kamtschatkana* are found near shore marine areas along the length of the California coastline, often on hard substrates, usually subtidal.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Pomo bronze shoulderband *Helminthoglypta arrosa pomoensis*	IUCN: DD G2G3T1 S1	*H. arrosa pomoensis* are a terrestrial mollusk endemic to Mendocino County, known from type specimens from Big River, Navarro River, and Russian Gulch watersheds. This gastropod is known to occupy heavily redwood-timbered canyons of Mendocino County, generally well inland. Its microhabitat is under the redwoods. Snails in the genus Helminthoglypta are known to use a "love dart" in their mating rituals. Otherwise, our lack of basic knowledge of this species' life history, habitat selection, and larval food preference, make implementation of effective protection measures difficult. Current conservation measures entail protecting potential Pomo bronze shoulderband habitat.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Chace juga *Juga chacei*	USFS: S G1 S1	*J. chacei* are found in spring-fed small, permanent streams at low to middle elevations, generally on gravel substrate, always in cold, clear, highly oxygenated, unpolluted, running water in heavily shaded areas. It is closely associated with relatively intact redwood forest.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Reptiles				
green sea turtle *Chelonia mydas*	FT G3 S4	Marine; near shore, pelagic; tidal flat/shore, bay/sound; sand/dune. Feeding occurs in shallow, low-energy waters with abundant submerged vegetation, and also in convergence zones in the open ocean. Nesting occurs on beaches, usually on islands but also on the mainland. Beach development and illumination often make beaches unsuitable for successful nesting. In the eastern North Pacific, green turtles have been sighted as far north as southern Alaska, but most commonly occur from southern California to northwestern Mexico.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
leatherback sea turtle *Dermochelys coricea*	FE G2 SNA	Marine; open ocean, often near edge of continental shelf; also seas, gulfs, bays, and estuaries. Mainly pelagic, seldom approaching land except for nesting. Nests on sloping sandy beaches backed up by vegetation, often near deep water and rough seas. Leatherbacks occupy U.S. waters in the Northwest Atlantic, West Pacific, and East Pacific. Western Pacific leatherbacks feed off the Pacific coast of North America, and migrate across the Pacific to nest in Indonesia, Papua New Guinea, and the Solomon Islands.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
western pond turtle *Emys marmorata*	BLM: S CDFW: SSC IUCN: VU USFS: S	*E. marmorata* are associated with permanent ponds, lakes, streams, stock ponds, marshes, seasonal wetlands, artificial areas including reservoirs or irrigation ditches, or permanent pools along intermittent streams in a wide variety of habitats. This species requires basking sites in the aquatic environment or upland, grassy openings with loose soil for nesting and overwintering. Nest sites can be found from 100-500 meters from aquatic habitat.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for mammalian species.
Plants				
pink sand-verbena *Abronia umbellata var. breviflora*	*Rank 1B.1* *BLM: S* *G4G5T2* *S2*	Coastal dunes and coastal strand, foredunes and interdunes with sparse cover. *A. umbellata var. breviflora* is often the closest plants to the ocean. Elevation ranges from 0 to 246 feet (0 to 75 meters). A perennial herb, the blooming period is from Jun-Oct.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Bladsdale's bent grass *Agrostis blasdalei*	Rank 1B.2 BLM: S G2 S2	Coastal dunes, coastal bluff scrub, coastal prairie, Coastal Strand community, sandy or gravelly soil close to rocks, often in nutrient-poor soil with sparse vegetation. Elevation ranges from 17 to 1198 feet (5 to 365 meters). A perennial herb, the blooming period is from May-Jul.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
pygmy manzanita *Arctostaphylos nummularia ssp. mendocinoensis*	Rank 1B.2 G3?T1 S1	Closed-cone coniferous forest, often on acidic, sandy-clay soils in dwarf coniferous forest. Elevation ranges from 296 to 607 feet (90 to 185 meters). A shrub, this species blooms in Jan.	**Low Potential.** The Study Area contains some habitat requirements suitable for this species; however, does not have pygmy soil present.	**Not Observed**: See Section 6 for general recommendations for plant species.
Humboldt County milk-vetch *Astragalus agnicidus*	Rank 1B.1 SE G2 S2	Broadleaved upland forest, north coast coniferous forest, often in disturbed openings of partially timbered forest lands, also along ridgelines, often on south aspects. Elevation ranges from 378 to 2198 feet (115 to 670 meters). A perennial herb, the blooming period is from Apr-Sep.	**Moderate Potential.** The Study Area contains some habitat that may be suitable for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for plant species.
Rattan's milk-vetch *Astragalus rattanii var. rattanii*	Rank 4.3 G4T4 S4	Chaparral, cismontane woodland, lower montane coniferous forest, often found on open grassy hillsides, gravelly flats in the valleys and gravel bars of stream beds. Elevation ranges from 99 to 2707 feet (30 to 825 meters). A perennial herb, the blooming period is from Apr-Jul.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Bolander's reedgrass *Calamagrostis bolanderi*	Rank 4.2 G4 S4	Closed-cone coniferous forest, north coast coniferous forest, broadleaved upland forest, coastal scrub, marshes and swamps, meadows and seeps (mesic), occurs usually in bogs/fens, riparian areas, wetlands, occasionally in non-wetlands. Elevation ranges from 0 to 1493 feet (0 to 455 meters). A perennial grass (rhizomatous), the blooming period is from May-Aug.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
pink star-tulip *Calochortus uniflorus*	Rank 4.2 G4 S4	Coastal scrub, coastal prairie, north coast coniferous forest, meadows and seeps. Seasonally moist meadows, sometimes within coastal scrub or forested habitats, usually in wetlands or at low elevations on the coast. *C. uniflorus* has a weak serpentine affinity of 1.7 and a USACE wetland status of FACW. Elevation ranges from 33 to 3511 feet (10 to 1070 meters). A perennial herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
coastal bluff morning-glory *Calystegia purpurata ssp. saxicola*	Rank 1B.2 BLM: S G4T2T3 S2S3	Coastal dunes, coastal scrub, coastal bluff scrub, north coast coniferous forest. Elevation ranges from 13 to 542 feet (4 to 165 meters). A perennial herb, the blooming period is from May-Sep.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
swamp harebell *Campanula californica*	Rank 1B.2 BLM: S G3 S3	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marsh, north coast coniferous forest. Uncommon where it occurs. Elevation ranges from 3 to 1706 feet (1 to 520 meters). A perennial herb (rhizomatous), the blooming period is from Jun-Oct.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
California sedge *Carex californica*	Rank 2B.2 G5 S2	Bogs and fens, closed cone-coniferous forest, coastal prairie, meadows and seeps, marshes (along margins) and drier areas of swamps. Elevation ranges from 115 to 1690 feet (35 to 515 meters). A perennial grasslike herb (rhizomatous), the blooming period is from May-Aug.	**Moderate Potential.** The Study Area contains habitat that may be suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
Lyngbye's sedge *Carex lyngbyei*	Rank 2B.2 IUCN: LC G5 S3	Marshes and swamps (brackish or freshwater), wetlands. Elevation ranges from 0 to 656 feet (0 to 200 meters). A perennial grasslike herb, the blooming period is from Apr-Aug.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
deceiving sedge *Carex saliniformis*	Rank 1B.2 G2 S2	Coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt). Elevation ranges from 7 to 755 feet (2 to 230 meters). A perennial grasslike herb, the blooming period is in Jun.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
johnny-nip *Castilleja ambigua var. ambigua*	Rank 4.2 G4T4 S3S4	Coastal bluff scrub, coastal scrub, coastal prairie, marshes and swamps, valley and foothill grassland, vernal pool margins. This species has a USACE wetland status of FACW. Elevation ranges from 0 to 1427 feet (0 to 435 meters). An annual herb, the blooming period is from Mar-Aug	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Humboldt Bay owl's-clover *Castilleja ambigua var. humboldtiensis*	Rank 1B.2 BLM: S G4T2 S2	Marshes and swamps, in coastal saltmarsh with *Spartina sp., Distichlis sp., Salicornia sp., and Jaumea sp.* Elevation ranges from 0 to 66 feet (0 to 20 meters). An annual herb, the blooming period is from Apr-Aug.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Mendocino Coast paintbrush *Castilleja mendocinensis*	Rank 1B.2 G2 S2	Coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, coastal dunes, often on sea bluffs or cliffs. Elevation ranges from 10 to 230 feet (3 to 70 meters). A perennial herb (hemiparasitic), the blooming period is from Apr-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles the Study Area.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
glory brush *Ceanothus gloriosus var. exaltatus*	Rank 4.3 G4T4 S4	Found in chaparral, on sandy or rocky substrates. Elevation ranges from 99 to 2002 feet (30 to 610 meters). A perennial evergreen shrub, the blooming period is from Mar-Jun(Aug).	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Point Reyes ceanothus *Ceanothus gloriosus var. gloriosus*	Rank 4.3 G4T4 S4	Closed-cone coniferous forest, coastal dunes, coastal scrub, coastal bluff scrub, usually on bluffs along the coast in sandy soils, also known from inland sites. Elevation ranges from 17 to 1706 feet (5 to 520 meters). A shrub, the blooming period is from Mar-May.	**Moderate Potential.** The Study Area contains some suitable habitat for this species. There is a documented CNDDB occurrence of this species within 5 miles of the Study Area.	**Not Observed**: See Section 6 for general recommendations for plant species.
Oregon goldthread *Coptis laciniata*	Rank 4.2 G4? S3?	North coast coniferous forest, meadows and seeps, often in mesic sites (i.e. streambanks). Elevation ranges from 0 to 3281 feet (0 to 1000 meters). A perennial herb, the blooming period is from Mar-Apr.	**Moderate Potential.** The Study Area contains some suitable habitat for this species	**Not Observed**: See Section 6 for general recommendations for plant species.
Mendocino dodder *Cuscuta pacifica var. papillata*	Rank 1B.2 G5T1 S1	Coastal dunes, interdune depressions. Elevation ranges from 10 to 23 feet (3 to 7 meters). An annual herb or vine (parasitic) observed on *Gnaphalium sp., Silene sp.* and *Lupinus sp.*, the blooming period is from Jul-Oct.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
streamside daisy *Erigeron biolettii*	Rank 3 G3? S3?	Broadleaved upland forest, cismontane woodland, north coast coniferous forest, often on dry slopes, rocks and ledges along rivers (mesic sites). Elevation ranges from 99 to 3609 feet (30 to 1100 meters). A perennial herb, the blooming period is from Jun-Oct.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
supple daisy *Erigeron supplex*	Rank 1B.2 G2 S2	Coastal bluff scrub, coastal prairie, usually in grassy sites. Elevation ranges from 17 to 607 feet (5 to 185 meters). A perennial herb, the blooming period is from May-Jul.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
bluff wallflower *Erysimum concinnum*	Rank 1B.2 BLM: S G3 S2	Coastal dunes, coastal bluff scrub, coastal prairie, a coastal generalist with coastal habitat types. Elevation ranges from 10 to 197 feet (3 to 60 meters). A perennial herb, the blooming period is from Mar-May.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
Roderick's fritillary Fritillaria roderickii	Rank 1B.1 SE G1Q S1	Coastal bluff scrub, coastal prairie, valley and foothill grassland, often on grassy slopes, mesas. Elevation ranges from 66 to 2002 feet (20 to 610 meters). A perennial herb (bulb), the blooming period is from Mar-May.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Pacific gilia *Gilia capitata ssp. pacifica*	Rank 1B.2 Rank 1B.2 G5T3 S2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. Elevation ranges from 17 to 4413 feet (5 to 1345 meters). An annual herb, the blooming period is from Apr-Aug.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
woolly-headed gilia *Gilia capitata ssp. tomentosa*	Rank 1B.1 G5T2 S2	Coastal bluff scrub, valley and foothill grassland, often on rocky, serpentine outcrops on the coast. Elevation ranges from 66 to 410 feet (20 to 125 meters). An annual herb, the blooming period is from May-Jul.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
American glehnia *Glehnia littoralis ssp. leiocarpa*	Rank 4.2 G5T5 S2S2	Coastal dunes. Elevation ranges from 0 to 66 feet (0 to 20 meters). A perennial herb, the blooming period is from May-Aug.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
American manna grass *Glyceria grandis*	Rank 2B.3 G5 S3	Bogs and fens, meadows and seeps, marshes and swamps, wetlands, wet meadows, ditches, streams and ponds (mesic sites), often found in valleys and lower elevations in the mountains. Elevation ranges from 197 to 6710 feet (60 to 2045 meters). A perennial grass (rhizomatous), the blooming period is from Jun-Aug.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
short-leaved evax *Hesperevax sparsiflora var. brevifolia*	Rank 1B.2 BLM: S G4T3 S3	Coastal bluff scrub, coastal dunes, coastal prairie, often on sandy bluffs and flats. Elevation ranges from 0 to 2100 feet (0 to 640 meters). An annual herb, the blooming period is from Mar-Jun.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
pygmy cypress *Hesperocyparis pygmaea*	Rank 1B.2 BLM: S G1 S1	Closed-cone coniferous forest, on podzol-like blacklock soil in pygmy cypress forest community. Elevation ranges from 99 to 1411 feet (30 to 430 meters). A tree, there is no distinct blooming period.	**Low Potential**. The Study Area contains some habitat requirements suitable for this species; however, pygmy soil is not present.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Point Reyes horkelia *Horkelia marinensis*	Rank 1B.2 G2 S2	Coastal dunes, coastal prairie, coastal scrub, often on sandy flats and dunes near the coastline, in grassland or scrub plant communities. Elevation ranges from 7 to 2543 feet (2 to 775 meters). A perennial herb, the blooming period is from May-Sep.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
thin-lobed horkelia *Horkelia tenuiloba*	Rank 1B.2 G2 S2	Broadleaved upland forest, chaparral, valley and foothill grassland, often on sandy soils in mesic openings. Elevation ranges from 148 to 2100 feet (45 to 640 meters). A perennial herb, the blooming period is from May-Jul.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
harlequin lotus *Hosackia gracilis*	Rank 4.2 G3G4 S3	Broadleaved upland forest, coast bluff scrub, coast prairie, cismontane woodland, coastal scrub, closed-cone coniferous forest, north coast coniferous forest, valley and foothill grassland, meadows, seeps, marshes and swamps. Occurs usually in wetlands, occasionally in non-wetlands. Elevation ranges from 0 to 2297 feet (0 to 700 meters). A perennial herb, the blooming period is from Mar-Jul.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
island tube lichen *Hypogymnia schizidiata*	Rank 1B.3 G3G3 S2	Chaparral, closed-cone coniferous forest, on bark and wood of hardwoods and conifers. Elevation ranges from 837 to 1788 feet (255 to 545 meters). A lichen, there is no distinct blooming period.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
small groundcone *Kopsiopsis hookeri*	Rank 2B.3 G4? S1S2	North coast coniferous forest, open woods, shrubby places, generally on Gaultheria shallon. Elevation ranges from 394 to 4708 feet (120 to 1435 meters). A perennial herb, the blooming period is from Apr-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
Burke's goldfields *Lasthenia burkei*	Rank 1B.1 FE SE G1 S1B.2	Vernal pools and swales, meadows and seeps. Elevation ranges from 49 to 1969 feet (15 to 600 meters). An annual herb, the blooming period is from Apr-Jun.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Baker's goldfields *Lasthenia californica ssp. bakeri*	Rank 1B.2 G3T1 S1	Closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps, often in openings. Elevation ranges from 197 to 1706 feet (60 to 520 meters). An annual herb, the blooming period is from Apr-Oct.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
perennial goldfields *Lasthenia californica ssp. macrantha*	Rank 1B.2 BLM: S G3T2 S2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 17 to 607 feet (5 to 185 meters). An annual herb, the blooming period is from Jan-Nov.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Contra Costa goldfields *Lasthenia conjugens*	Rank 1B.1 FE G1 S1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodlands, often found in swales and low depressions in open grassy areas. Elevation ranges from 4 to 1477 feet (1 to 450 meters). An annual herb, the blooming period is from Mar-Jun.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
marsh pea *Lathyrus palustris*	Rank 2B.2 G5 S2	Bogs and fens, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, coastal prairie, coastal scrub. Elevation ranges from 7 to 460 feet (2 to 140 meters). A perennial herb, the blooming period is from Mar-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
coast lily *Lilium maritimum*	Rank 1B.1 BLM: S G2 S2	Closed-cone coniferous forest, coastal prairie, coastal scrub, broadleaved upland forest, north coast coniferous forest, marshes and swamps, historically in sandy soil, often on raised hummocks or bogs, mostly in roadside ditches. Elevation ranges from 13 to 1608 feet (4 to 490 meters). A perennial herb (bulb), the blooming period is from May-Aug.	**High Potential.** The Study Area contains suitable habitat requirements for this species. There is a documented CNDDB occurrence of this species within the Study Area dated 2019.	**Not Observed**: See Section 6 for further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
running-pine *Lycopodium clavatum*	Rank 4.1 IUCN: LC G5 S3	Lower montane coniferous forest, north coast coniferous forest, marshes and swamps, forest understory, edges, openings, roadsides (mesic sites) with partial shade and light. Elevation ranges from 148 to 4019 feet (45 to 1225 meters). A fern (rhizomatous), the blooming period is from Jun-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
marsh microseris *Microseris paludosa*	Rank 1B.2 BLM: S G2 S2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 2002 feet (3 to 610 meters). A perennial herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
Wolf's evening-primrose *Oenothera wolfii*	Rank 1B.1 G2 S1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest, often on sandy substrates, usually mesic sites. Elevation ranges from 0 to 410 feet (0 to 125 meters). A perennial herb, the blooming period is from May-Oct.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
California Gairdner's yampah *Perideridia gairdneri ssp. gairdneri*	Rank 4.2 G5T3T4 S3S4	Broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Often found on adobe flats or grasslands, wet meadows and vernal pools, under *Pinus radiata* along the coast; mesic sites. Elevation ranges from 0 to 2002 feet (0 to 610 meters). A perennial herb, the blooming period is from Jun-Oct.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for avian species.
white-flowered rein orchid *Piperia candida*	Rank 1B.2 G3 S3	North Coast coniferous forest, lower montane coniferous forest, broadleaved upland forest, sometimes on serpentine. Often found in forest duff, mossy banks, rock outcrops and muskeg. Elevation ranges from 66 to 5299 feet (20 to 1615 meters). A perennial herb, the blooming period is from May-Sep.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
Nuttall's ribbon-leaved pondweed *Potamogeton epihydrus*	Rank 2B.2 IUCN: LC G5 S2S3	Marshes and swamps, shallow water, ponds, lakes, streams, irrigation ditches, wetlands and mesic sites. Elevation ranges from 968 to 8662 feet (295 to 2640 meters). A perennial herb (rhizomatous), the blooming period is from Jul-Sep.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	Rank 1B.2 G5T2 S2	Marshes (freshwater) and swamps near the coast. Elevation ranges from 17 to 312 feet (5 to 95 meters). A perennial herb (rhizomatous), the blooming period is from Apr-Sep.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
maple-leaved checkerbloom *Sidalcea malachroides*	Rank 4.2 G3 S3	Broadleaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest, mixed evergreen forest, redwood forest, riparian forest, often in woodlands and clearings near the coast, in disturbed areas. Elevation ranges from 13 to 2510 feet (4 to 765 meters). A perennial herb, the blooming period is from Apr-Aug.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
purple-stemmed checkerbloom *Sidalcea malviflora ssp. purpurea*	Rank 1B.2 BLM: S G5T1 S1	Broadleaved upland forest, coastal prairie. Elevation ranges from 49 to 279 feet (15 to 85 meters). A perennial herb (rhizomatous), the blooming period is from May-Jun.	**Low Potential**. The Study Area contains only marginal habitat requirements suitable for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
twisted horsehair lichen *Sulcaria spiralifera*	Rank 1B.2 G3G4 S2 BLM_S	Coastal Dunes, north coast coniferous forest. Usually on conifers. Elevation ranges form 0-295 feet (0-90 meters). A fruticose lichen (epiphytic), no distinct blooming period.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
showy Indian clover *Trifolium amoenum*	Rank 1B.1 FE G1 S1	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite). Elevation ranges from 15-1360 feet (5-415 meters). An annual herb, the blooming period is from Apr-Jun.	**No Potential.** The Study Area does not contain suitable habitat for this species	**Not Present:** There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Santa Cruz clover *Trifolium buckwestiorum*	Rank 1B.1 BLM: S G2 S2	Coastal prairie, broadleaved upland forest, cismontane woodland, often found in moist grasslands along gravelly margins. Elevation ranges from 100 to 2640 feet (30 to 805 meters). An annual herb, the blooming period is from Apr-Oct.	**No Potential.** The Study Area does not contain suitable habitat for this species.	**Not Present:** There are no further recommendations for this species.
Monterey clover *Trifolium trichocalyx*	Rank 1B.1 FE SE G1 S1	Openings of closed-cone coniferous forest, often in burned areas and along roadsides in sandy soils. Elevation ranges from 100 to 1000 feet (30-305 meters). An annual herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.
Methuselah's beard lichen *Usnea longissima*	Rank 4.2 G4 S4	North coast coniferous forest, broadleaved upland forest. Often grows in the "redwood zone" on tree branches of a variety of trees, including bigleaf maple (*Acer macrophyllum*), various oaks (*Quercus spp.*), ash (*Fraxinus spp.*), Douglas-fir (*Pseudotsuga menziesii*) and California bay (*Umbellularia californica*). Elevation ranges from 148 to 4807 feet (45 to 1465 meters). A lichen, no distinct blooming period.	**Moderate Potential.** The Study Area contains some suitable habitat for this species.	**Not Observed**: See Section 6 for general recommendations for plant species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
fringed false-hellebore *Veratrum fimbriatum*	Rank 4.3 G3 S3	Coastal scrub, north coast coniferous forest, bogs and fens, meadows and seeps, often in wetland-riparian habitat. Marine terrace deposits (mesic sites). Most common in wet meadows in coastal scrub. Elevation ranges from 10 to 984 feet (3 to 300 meters). A perennial herb, the blooming period is from Jul-Sep.	**Low Potential.** The Study Area contains some suitable habitat for this species; however, wet meadows in coastal scrub habitat is not present.	**Not Observed**: See Section 6 for further recommendations.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	RESULTS/ RECOMMENDATIONS
Coastal and Valley Freshwater Marsh (Holland 1987) 52410	DESCRIPTION: Dominated by perennial, emergent monocots to 4-5 m tall. Often forming completely closed canopies. *Scirpus* and *Typha* dominated types and their environmental and floristic distinctions require clarification. SITE FACTORS: Quiet sites (lacking significant current) permanently flooded by fresh water. Prolonged saturation permits accumulation of deep, peaty soils. CHARACTERISTIC SPECIES: *Carex lanuginose, C. senta, Cyperus esculentus, C. eragrostis, Eleocharis spp., Hydrocotyl verticillate triradiata, Limosella aqutica, Phragmites australis, Scirpus acutus, S. americanus, S. californicus, S. robustus, Sparganium eurycarpum, Typha angustifolia, T. damingensis, T. latifolia, Verbena bonariensis.* DISTRIBUTION: Occasional along the coast and in coastal valleys near river mouths and around the margins of lakes and springs. Most extensive in the upper portion of the Sacramento-San Joaquin River Delta. Common in the Sacramento and San Joaquin Valleys in river oxbows and other areas on the flood plain. Occasional along the Colorado River on the California-Arizona border. Now much reduced in area through its entire range.	**Not Present:** There are no further recommendations for this community.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
Coastal Brackish Marsh (Holland 1986) 52200	DESCRIPTION: Dominated by perennial, emergent, herbaceous monocots to 2 meters tall. Cover is often complete and dense. Similar to salt Marshes (52100) and to Freshwater Marshes (52400) with sane plants characteristic of each. SITE FACTORS: Similar to Coastal Salt Marshes, but brackish from freshwater input. Salinity may vary considerably and may increase at high tide or during seasons of low freshwater runoff or both. Usually intergrades with Coastal Salt Marshes toward the ocean and occasionally with Freshwater Marshes (52400) at the mouths of rivers, especially in the Sacramento-San Joaquin River Delta. CHARACTERISTIC SPECIES: *Carex harfordii, Carex obnupta, Carex* spp., *Distichlis spicata* var. *spicata*, *Juncus* spp., *Salicornia* spp., *Scirpus* spp., *Typha latifolia* DISTRIBUTION: Usually at the interior edges of coastal bays and estuaries or in coastal lagoons. Adjacent to several salt Marshes (52110 and 52120). Most extensively developed around Suisun Bay at the mouth of the Sacramento-San Joaquin Delta.	**Not Present:** There are no further recommendations for this community.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
Coastal Terrace Prairie Holland 1986 41100	Description: Coastal terrace prairie is typically comprised of a dense, tall grassland dominated by both sod- and tussock-forming native perennial grasses. It is naturally patchy in occurrence and variable in composition, reflecting differences in slope aspect, soil texture, and moisture availability. Site Factors: This vegetation community occurs on sandy loam soils of marine terraces near the coast and is restricted to cooler, more mesic sites within the zone of fog incursion. Although coastal terrace prairie consists of many of the same native species that comprise valley/foothill needlegrass grassland, annual species are less important in community structure. Coastal terrace prairie is distributed from Santa Cruz County to Oregon and its range closely matches that of northern coastal scrub, with which it is generally associated. Characteristic species: California oatgrass (Danthonia californica), red fescue (Festuca rubra), Idaho fescue (Festuca idahoensis), California brome (Bromus carinatus), coastal tufted hairgrass (Deschampsia cespitosa ssp. holciformis), blue wildrye (Elymus glaucus var. glaucus and E. g. var. jepsonii), big squirreltail (Elymus multisetus), Torrey melic (Melica torreyana), Pacific reedgrass (Calamagrostis nutkaensis), purple needlegrass (Nassella pulchra), foothill needlegrass (Nassella lepida), and one-sided bluegrass (Poa secunda). Distribution: Discontinuous from Santa Cruz County north into 0regon.	**Not Present:** There are no further recommendations for this community.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
Northern Coastal Bluff Scrub Holland 1986 31100	Description: A low, often, prostrate, scrub 5-50 cm high, forming continuous mats or more scattered. Dwarf shrubs, herbaceous perennials, and annuals are represented. Varying degrees of succulence are shown. Most growth and flowering occur in late spring and early summer but can occur almost year-round. Site Factors: Exposed to nearly constant winds with high salt content. Soil usually rocky and poorly developed. Intergrades in less exposed situations with Coastal Prairie (41000), Northern Coastal Scrub (32100), or North Coast coniferous forest (8200) and Coastal closed-cone coniferous forest (83100). Characteristic Species: *Aria praecox, Alliun dichlanydeum, Amsinckia spectablis, Arneria maritima var. californica, Castilleja latifolia, Ceanothus gloriosus, Chrysopsis villosa bolanderi, Dudleya farinosa, Erigeron glaucus, Eriogonun latifoliun, Eriophyllum staechadifolium Grindela stricta ssp. venulosa, Hypochoeriss radicata, Lashenia chrysostama, Lupinus variicolor, Plantago maritima, Polypodun scouleri, Spergularia maritima.* Distribution: At localized sites along the Coast, between Pt. Conception and Point Mendocino: Cape Mendocino; Mendocino County coastline;	**Not Present:** There are no further recommendations for this community.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
Northern Coastal Salt Marsh (Holland 1987) 52110	DESCRIPTION: Highly productive, herbaceous and suffructescent, salt-tolerant hydrophytes forming moderate to dense cover and up to 1 meter tall. Most species are active in summer, dormant in winter. Usually segregated horizontally with *Spartina* nearer the open water, *Salicornia* at mid-littoral elevations, and a richer mixture closer to high ground. SITE FACTORS: Usually found along sheltered inland margins of bays, lagoons, and estuaries. These hydric soils are subject-to regular tidal inundation by salt water for at least part of each year.· CHARACTERISTIC SPECIES: *Cuscuta salina, Distichlis spicata spicata, Eleocharis parvula, Frankenia grandifolia, Grindelia paludosa, Jaumea carnosa, Juncus lesueurii, Limonium californicum, Plantago maritima, Potentilla egedii, Salicornia virginica, Spartina foliosa, Triglochin maritima.* DISTRIBUTION: Along the coast from the Oregon border south to about Point Conception. Intergrades with Southern Coastal Salt Marsh (52120) over a considerable portion of the south central coast. Extensively developed around Humboldt Bay and other Humboldt Co. areas; Tomales Bay, Marin Co.; Elkhorn Slough, Monterey Co,; Morro Bay, San Luis Obispo Co.; and very extensively in the San Francisco Bay area	**Not Present:** There are no further recommendations for this species.

Abbreviation	Organization
FC	Federal Candidate
FE	Federal Endangered
FT	Federal Threatened
FPE	Federally Proposed for listing as Endangered
FPT	Federally Proposed for listing as Threatened
FPD	Federally Proposed for delisting
FD	Federally Delisted
SE	State Endangered
ST	State Threatened
SR	State Rare
SCE	State Candidate for listing as Endangered
SCT	State Candidate for listing as Threatened
SCD	State Candidate for delisting
SD	State Delisted
AFS_EN	American Fisheries Society - Endangered
AFS_TH	American Fisheries Society - Threatened
AFS_VU	American Fisheries Society – Vulnerable
BLM_S	Bureau of Land Management – Sensitive
BCC	USFWS Birds of Conservation Concern
CDF_S	Calif. Dept. of Forestry & Fire Protection – Sensitive
CDFW_SSC	Calif. Dept. of Fish & Wildlife – Species of Special Concern
CDFW_FP	Calif. Dept. of Fish & Wildlife – Fully Protected
CDFW_WL	Calif. Dept. of Fish & Wildlife – Watch List
IUCN_CD	IUCN – Conservation Dependent
IUCN_CR	IUCN – Critically Endangered
IUCN_DD	IUCN – Data Deficient
IUCN_EN	IUCN – Endangered
IUCN_EW	IUCN – Extinct in the Wild
IUCN_EX	IUCN – Extinct
IUCN_LC	IUCN – Least Concern
IUCN_NE	IUCN – Not Evaluated
IUCN_NT	IUCN – Near Threatened

IUCN_VU	IUCN – Vulnerable
NABCI_RWL	North American Bird Conservation Initiative – Red Watch List
NABCI_YWL	North American Bird Conservation Initiative – Yellow Watch List
NMFS_SC	National Marine Fisheries Service – Species of Concern
USFS_S	U. S. Forest Service – Sensitive
USFWS_BCC	U. S. Fish & Wildlife Service – Birds of Conservation Concern
WBWG_H	Western Bat Working Group – High Priority
WBWG_MH	Western Bat Working Group – Medium-High Priority
Abbreviation	**Organization**
WBWG_M	Western Bat Working Group – Medium Priority
WBWG_LM	Western Bat Working Group – Low-Medium Priority
Xerces: CI	Xerces Society – Critically Imperiled
Xerces: IM	Xerces Society – Imperiled
Xerces: VU	Xerces Society – Vulnerable
Xerces: DD	Xerces Society – Data Deficient
CA Rare Plant Rank (CRPR)	California Native Plant Society (CNPS)

California Rare Plant Ranks (CRPRs) are a ranking system developed by the California Native Plant Society (CNPS) to define and categorize rarity in the California flora. All plants that are assigned to a California Rare Plant Rank category are tracked by the CNDDB; however, element occurrence (EO) information is only maintained for CRPR 1 and 2 plants, and some CRPR 3 plants. Most CRPR 3 and 4 plants that have EO information in this Inventory and the CNDDB were previously assigned to CRPR 1 or 2; their EO data reflect their prior rank and have generally not been updated since the date of their change to CRPR 3 or 4.

Rank 1A	CRPR Rank 1A: Presumed Extirpated or Extinct — Plants presumed extirpated in California and either rare or extinct elsewhere. These plants have not been seen or collected in the wild in California for many years. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California but may still occur elsewhere in its range.
Rank 1B	CRPR Rank 1B: Rare or Endangered — Plants rare, threatened, or endangered in California and elsewhere. These plants are rare throughout their entire range with the majority also being endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century.
Rank 2A	CRPR Rank 2A: Extirpated in California — Plants presumed extirpated in California but common elsewhere. These plants are presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California but are common elsewhere in their range outside of the state.
Rank 2B	CRPR Rank 2B: Rare or Endangered in California — Plants rare, threatened, or endangered in California but common elsewhere.

	Except for being common beyond the boundaries of California, 2B plants would have been ranked 1B.
Rank 3	CRPR Rank 3: Needs Review — Plants about which more information is needed. These plants are united by one common theme—we lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic, yet if taxonomically valid would demonstrably qualify for rank 1B or 2B.
Rank 4	CRPR Rank 4: Uncommon in California — Plants of limited distribution, a watch list. These plants are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly.

Threat Rank
California Rare Plant Ranks at each level also include a threat rank (e.g., CRPR 4.3) and are assigned as follows:

THREAT RANK	DESCRIPTION
0.1	Seriously threatened in California — Over 80% of occurrences threatened / high degree and immediacy of threat.
0.2	Moderately threatened in California — 20-80% of occurrences threatened / moderate degree and immediacy of threat.
0.3	Not very threatened in California — Less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known.

Global Rank
The Global Rank (G-rank) is an indication of the overall condition and imperilment of an element throughout its global range. It is a letter+number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heavier on the rarity factors. The Global Ranks are assigned by NatureServe in coordination with the state program(s) where the element occurs.

GLOBAL RANK	DEFINITION
GX	Presumed Extinct — Not located despite intensive searches and virtually no likelihood of rediscovery.
GH	Possibly Extinct — Known from only historical occurrences but still some hope of rediscovery. There is evidence that the species may be extinct or the ecosystem may be eliminated throughout its range, but not enough to state this with certainty.
G1	Critically Imperiled — At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, very restricted range, very severe threats, or other factors.
G2	Imperiled — At high risk of extinction due to restricted range, very few populations or occurrences (often 20 or fewer), steep declines, severe threats, or other factors.
G3	Vulnerable — At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, threats, or other factors.

G4	Apparently Secure — At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
G5	Secure — At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
GNR	Unranked — Global rank not yet assessed.
GU	Unrankable — Currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
G#G#	Range Rank — A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty about the exact status of a taxon or community.
G#T#	Infraspecific Taxon — The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' Global Rank.
?	Qualifier: Inexact Numeric Rank — A question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.
Q	Qualifier: Questionable Taxonomy — The distinctiveness of this entity as a taxon or community at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.
C	Qualifier: Captive or Cultivated Only — The taxon or community at present is presumed or possibly extinct or eliminated in the wild across its entire native range but is extant in cultivation, in captivity, as a naturalized population (or populations) outside its native range, or as a reintroduced population or ecosystem restoration, not yet established.

State Rank

The State Rank (S-rank) is an indication of the condition and imperilment of an element throughout its range within the state. As with the G-rank, it is a letter+number score that reflects a combination of Rarity, Threat and Trend factors, weighted more heavily on rarity. The State Ranks are assigned by the CNDDB biologists using standard natural heritage methodology.

STATE RANK	DESCRIPTION
SX	Presumed Extirpated — Species is believed to be extirpated from the state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH	Possibly Extirpated (Historical) — Species occurred historically in the state, and there is some possibility that it may be rediscovered. All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists.
S1	Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
S2	Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.
S3	Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4	Apparently Secure — At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5	Secure — At very low or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SNR	Unranked — State conservation status not yet assessed.
SU	Unrankable — Currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
S#S#	Range Rank — A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.
?	Qualifier: Inexact or Uncertain — A question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.

Ultramafic (serpentine) Affinity:

≥ 5.5		strict endemic	taxa with 95% of their occurrences on ultramafics
< 5.5	≥ 4.5	broad endemic	taxa with 85-94% of their occurrences on ultramafics
< 4.5	≥ 3.5	transition from broad endemic to strong indicator	taxa with 75-84% of their occurrences on ultramafics
< 3.5	≥ 2.5	strong indicator	taxa with 65-74% of their occurrences on ultramafics
< 2.5	≥ 1.5	weak indicator	taxa with 55-64% of their occurrences on ultramafics
< 1.5	≥ 1.0	weak indicator / indifferent	taxa with 50-54% of their occurrences on ultramafics

National Wetland Plant List Indicator Rating Definitions

OBL (Obligate Wetland Plants)—Almost always occur in wetlands.

FACW (Facultative Wetland Plants)—Usually occur in wetlands but may occur in non-wetlands.

FAC (Facultative Wetland Plants)—Occur in wetlands and non-wetlands.

FACU (Facultative Upland Plants)—Usually occur in non-wetlands but may occur in wetlands.

UPL (Upland Plants)—Almost never occur in wetlands.

Potential to Occur:

No Potential. Habitat on and within 100 feet adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and within 100 feet adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or within 100 feet adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or within 100 feet adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:
Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.
Not Present. Species is assumed to not be present due to a lack of key habitat components.
Not Observed. Species was not observed during surveys.

Appendix B: List of Species Observed

SPECIES NAME	COMMON NAME
Plants	
Abies grandis	grand fir
Anisocarpus madiodes	woodland madia
Acmispon brachycarpus	short podded lotus
Anthoxanthum odoratum	sweet vernal grass
Arbutus manziesii	pacific madrone
Arctostaphylos columbiana	redwood manzanita
Athyrium filix-femina	common lady fern
Baccharis pilularis	coyote brush
Briza maxima	rattlesnake grass
Bromus diandrus	ripgut
Bromus hordeaceus	Soft chess
Bromus sitchensis ssp. carinatus	California brome
Calamagrostis nutkaensis	Pacific reedgrass
Cardamine hirsuta	bittercress
Carex gynodynama	wonder-woman sedge
Carex leptopoda	slender-footed sedge
Carex obnupta	slough sedge
Carex tumulicola	split-awn sedge
Caypso bulbosa	Calypso orchid
Cortaderia jubata	pampas grass
Cotoneaster pannosus	cotoneaster
Cynosurus echinatus	dogtail grass
Dactylis glomerta	orchard grass
Elymus glaucus	blue wildrye
Equisetum arvense	common horsetail
Equisetum telmateia	giant horsetail
Festuca arundinaea	reed fescue
Festuca bromoides	brome fecue
Festuca microstachys	small fescue
Festuca occidentalis	western fescue
Foeniculum vulgare	sweet fennel
Fragaria vesca	California strawberry
Frangula californica	coffeeberry

SPECIES NAME	COMMON NAME
Galium triflorum	sweet bedstraw
Gaultheria shallon	shalal
Genista monspessulana	french broom
Geranium core-core	Alderney crane's-bill
Goodyera oblongifolia	rattlesnake plantain
Hedra helix	english ivy
Holcus lanatus	common velvetgrass
Hypochaeris glabra	smooth cats ear
Hypochaeris radicata	hairy cats ear
Ilex aquifolium	English holly
Iris douglasiana	Douglas iris
Juncus effusus	common bog rush
Juncus patens	common rush
Lilium maritime	coast lily
Lomatium utriculatum	hog fennel
Lonicera hispidula	pink honeysuckle
Lotus corniculatus	bird's foot trefoil
Lupinus bicolor	miniture lupine
Lupinus littoralis	seashore lupine
Luzula comosa	common woodrush
Lysimachia latifolia	starflower
Morella californica	California wax myrtle
Notholithocarpus densiflorus	tanoak
Oxalis incarnata	crimson woodsorrel
Oxalis oregana	redwood sorrel
Paspalum dilatatum	dallis grass
Pinus muricata	bishop pine
Plantago lanceolata	ribwort
Poa annua	annual blue grass
Plantago lanceolata	plaintain
Polypodium californicum	California polypody
Polystichum munitum	western sword fern
Pseudognaphalium luteoalbum	Jersey cudweed
Pseudognaphalium stramineum	Cottonbatting plant
Pseudotsuga menziesii	Douglas fir

SPECIES NAME	COMMON NAME
Pteridium aquilinum	western brackenfern
Rhododendron columbianum	western labrador tea
Rhododendron macrophyllum	Pacific rhododendron
Rhododendron occidentale	westen azalea
Rubinus ursinus	California blackberry
Rubus leucodermis	western raspberry
Rubus parviflorus	thimbleberry
Salix sitchensis	Coulter willow
Scophularia californica	California bee plant
Sequoia sempervirens	redwood
Solidago spathulata	dune goldenrod
Struthiopteris spicant	deer fern
Symphoricarpos mollis	creeping snowberry
Torilis arvensis	sock destroyer
Toxicoscordian fremontii	Fremont's death camas
Trifolium angustifolium	narrow leaved clover
Trifolium repens	white clover
Trillium ovatum	trillium
Urtica dioica	stinging nettle
Vaccinium ovatum	evergreen huckleberry
Vancouveria planipetala	inside out flower
Vicia benghalensis	puple vetch
Viola sempervirens	redwood violet
Whipplea modesta	modesty
Woodwardia fimbriata	western chain fern
Wildlife	
Avifauna	
Aphelocoma californica	scrub jay
Buteo jamaicensis	red-tailed hawk
Calypte anna	Anna's hummingbird
Cathartes aura	turkey vulture
Corvus corax	common raven
Sitta carolinensis	white-breasted nuthatch

SPECIES NAME	COMMON NAME
Mammals	
Odocoileus hemionus	mule deer
Otospermophilus beecheyi	California ground squirrel
Procyon lotor	raccoon

Appendix C: Combined Vegetation Rapid Assessment and Relevé Field Form

Appendix D: Reduced Buffer Analysis

Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria	
(A)	***Buffer Areas.*** *A buffer area shall be established adjacent to all environmentally sensitive habitat areas. The purpose of this buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from degradation resulting from future developments and shall be compatible with the continuance of such habitat areas.*
	Three class III watercourse ESHAs were identified within the Study Area. • A 50-foot buffer area is proposed for this ESHA to allow for the continued use of existing structures and footprint of development. • Proposed development is approximately 86-feet away from the class III watercourse ESHA. There is an existing outbuilding 50-feet away from the class III watercourse ESHA. Two MCV2 Sensitive Natural Communities were identified as potential ESHAs and encompass the entire 7.55-acre parcel (Study Area). • Redwood forest (G3 S3) – 3.99 acres • Bishop pine forest (G3 S3) – 3.56 acres • Proposed development is located within these two MCV2 Sensitive Natural Communities. The development plan utilizes the existing footprint of past development and seeks to minimize and mitigate potential impacts to these communities. • Please see section 6.2.1, Sensitive Natural Community Recommendations/Mitigations of the Biological Assessment (BA) for details. One (1) coast likely was approximately 52 feet from the proposed driveway • A 50-foot buffer area is proposed for this ESHA to not disturb this plant.
(1)	***Width.*** *The width of the buffer area shall be a minimum of one hundred (100) feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game, and County Planning staff, that one hundred (100) feet is not necessary to protect the resources of that particular habitat area from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the Environmentally Sensitive Habitat Areas and shall not be less than fifty (50) feet in width. New land division shall not be allowed which will create new parcels entirely within a buffer area. Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent Environmentally Sensitive Habitat Area.*

	Recommended buffer area widths are listed below with the implementation of mitigation measures discussed in the Biological Assessment and Reduced Buffer Analysis:
	
	• Class III watercourse ESHA: 50-foot buffer
	• Redwood forest (G3 S3) MCV2 Sensitive Natural Community: Buffer width N/A.
	  o The proposed project area is located partially within this MCV2 Community.
	  o Please see section 6.2.1, Sensitive Natural Community Recommendations/Mitigations of the Biological Assessment (BA) for details.
	• Bishop pine forest (G3 S3) MCV2 Sensitive Natural Community: Buffer width N/A
	  o The proposed project area is located partially within this MCV2 Community.
	  o Please see section 6.2.1, Sensitive Natural Community Recommendations/Mitigations of the Biological Assessment (BA) for details.
	• Coast lily ESHA: 50-foot buffer

1(a)	***Biological Significance of Adjacent Lands.*** *Lands adjacent to a wetland, stream, or riparian habitat area vary in the degree to which they are functionally related to these habitat areas. Functional relationships may exist if species associated with such areas spend a significant portion of their life cycle on adjacent lands. The degree of significance depends upon the habitat requirements of the species in the habitat area (e.g., nesting, feeding, breeding, or resting).* *Where a significant functional relationship exists, the land supporting this relationship shall also be considered to be part of the ESHA, and the buffer zone shall be measured from the edge of these lands and be sufficiently wide to protect these functional relationships. Where no significant functional relationships exist, the buffer shall be measured from the edge of the wetland, stream, or riparian habitat that is adjacent to the proposed development.*
	The closest stream or riparian habitat to the proposed Project Area is a class III watercourse approximately 86 feet from the proposed project area. The water course has deeply cut banks and lacks significant riparian vegetation. Most of the vegetation adjacent to the watercourse is comprised of tanoak trees and brush, though there is some chain fern and deer fern present within the stream channel. The 50-foot buffer zone will be measured from outermost edge of the channel or riparian vegetation associated with or functionally related to the watercourse ESHA. The coast lily is located within a roadside ditch along Highway 1 with existing vegetation of velvet grass, chain fern and thimbleberry. The 50-foot buffer zone will be measured from outermost edge of the inside ditch or riparian vegetation associated with the coast lily ESHA.

1(b)	***Sensitivity of Species to Disturbance.*** *The width of the buffer zone shall be based, in part, on the distance necessary to ensure that the most sensitive species of plants and animals will not be disturbed significantly by the permitted development. Such a determination shall be based on the following after consultation with the Department of Fish and Game or others with similar expertise:* *(1b-i) Nesting, feeding, breeding, resting, or other habitat requirements of both resident and migratory fish and wildlife species;* *(1b-ii) An assessment of the short-term and long-term adaptability of various species to human disturbance;* *(1b-iii) An assessment of the impact and activity levels of the proposed development on the resource.*
	1b-i) Seven (7) special-status wildlife species have moderate or high potential to occur within the Study Area including the California giant salamander, osprey, purple martin, monarch California overwintering population, Sonoma tree vole, Townsends big eared bat, and North American porcupine. No special status animal species were observed in the project area during the site visit on November 24, 2021, however, there is potential for some special status animal species to occur within the project area. The following mitigation measures should be sufficient in protecting sensitive animal species: **Amphibians** The Project Area is located in an upland area and is approximately 86 feet away from a class III watercourse that may be suitable for amphibian species of special concern such as the California giant salamander during rain events. All earthwork should adhere to standard methods of erosion and sediment control. Earthwork and other construction related activities should cease during qualifying rain events when amphibians are more likely to migrate further from water sources. **Avifauna** The Migratory Bird Treaty Act (MBTA) and CDFW Fish and Game Codes (CFGC) provide for the protection of most nesting birds, including both common and special-status species, from incidental take which includes the removal, relocation, or disturbance of nests. Removal of trees and other vegetation could destroy active bird nests, harm individual birds and eggs, or cause nest abandonment during the nesting season (March 1- August 15). Active bird nests, if encountered, should never be removed, relocated, or otherwise disturbed. Approximately six (6) Bishop pine trees, two (2) Douglas fir trees and two (2) tanoak trees are proposed for removal at this time. If additional minor vegetation removal is necessary to complete the work it should occur outside of the general bird nesting season (March 1-August 15), to the greatest extent feasible. If vegetation removal during this time is not feasible, a pre-construction survey should be performed by a qualified biologist no more than 14 days prior to the initiation of vegetation removal or ground disturbance. The survey shall encompass the Project Area and surrounding areas within 500 feet. If active nesting activity is detected within the Project Area or within 500 feet of construction activities, an appropriate no-disturbance buffer shall be established by the qualified biologist. Once it is determined that the young have fledged (left the nest) or the nest has otherwise become inactive (e.g., due to predation), the buffer may be lifted, and work may resume. If construction or stockpiling is proposed during nesting bird season (March 1-August 15), stockpiled materials should be covered, checked regularly, and moved carefully to preemptively identify and deter nesting birds from establishing active nests within the Project Area. There are no northern spotted owl activity centers or critical habitat for marbled murrelet within 0.7 miles of the Project Area. **Fish**

	The Project Area does not provide aquatic habitat suitable for fish species, however, standard methods of sediment and erosion control should be implemented to avoid or reduce sediment loads into the watershed. **Mammals** The Project Area is located mostly in an existing sparsely vegetated clearing within Bishop pine and redwood forest communities. Approximately six (6) Bishop pine trees two (2) tanoak trees and two (2) Douglas-fir trees are proposed to be removed for the proposed road alignment. Habitat within the Project Area may be suitable for three (3) special-status mammal species including the Sonoma tree vole, Towsend's big eared bat, and North American porcupine. It is recommended that Sonoma tree vole surveys be conducted by a qualified biologist no more than 14 days prior to the commencement of tree removal. The surveys should cover all potential habitat where tree removal is proposed and surrounding areas within 50 feet. Buffers and or mitigation measures for identified nests should be established by a qualified biologist. The Townsend's big eared bat are known to roost in buildings, caves, and mines, none of which occur within the Project Area. No evidence or suitable habitat for North American porcupine denning activity was observed within the project area during the site visit on November 24, 2021. There are no further recommendations for these species at this time. **Plants** Twenty-three (23) special-status plant species have moderate or high potential to occur within the Study Area. One (1) special status plant species (coast lily) was observed adjacent to the project area during botanical surveys on June 15, 2022. There is a mapped CNDDB occurrence from 2019 of the coast lily (*Lilium maritimum*) that includes a portion of the Study Area located along Highway 1. This species was located along the CALTRANS Right of Way and drainage ditch adjacent to Highway 1. This species will have a 50-foot buffer from the proposed activites.
	1b-ii) Adaptability to human disturbance: The Project Area is located in a remote residential area adjacent to Highway 1. There has been some level of human disturbance and activity within the Study Area for many years. Aerial photographs accessed through Google Earth Pro show some vegetative clearing occurring prior to 2012. The Study Area has also previously been logged. Properties adjacent to the Study Area mostly have some level of development and/or residences. The proposed use of the Project Area is expected to be similar to existing and neighboring uses. Wildlife currently existing in this area are likely somewhat adapted to the proposed level of human disturbance.

	1b-iii: Impacts of proposed activity on the project area: The proposed development consists of a modest single-family residence and associated road development. The development plan seeks to have the lowest level of impact to natural resources as possible and the use of the property is expected to be similar to existing neighboring uses. To minimize construction impacts to a less than significant level, recommended mitigation measures include: • Erosion control fencing should be installed 50 feet outside of the class II watercourse ESHA prior to construction. • Stockpiled materials should be removed, covered, or otherwise secured during qualifying rain events to prevent hazardous materials or sediment from being delivered into the class III watercourse ESHA. • Young bishop pine trees should be allowed to become re-established wherever they are present outside the construction site. • Trees larger than 6 inches dbh removed during construction should be mitigated for by planting replacement saplings at a ratio of 3:1 and should have an 80 percent survival rate over 5 years. • Landscaping on the parcel should not include any invasive plants and should ideally consist of native plants compatible with the adjacent plant communities. No plants listed on California Invasive Plant Council (Cal-IPC) Inventory should be included in landscaping. Native plants used for landscaping should be native to coastal Mendocino county. Additionally, any trees proposed for planting should be pest free to reduce introduction of potentially devastating pest to bishop pine forest. The mitigation measures listed above should be sufficient in protecting and maintaining the integrity and functionality of sensitive habitats.
1(c)	***Susceptibility of Parcel to Erosion.*** *The width of the buffer zone shall be based, in part, on an assessment of the slope, soils, impervious surface coverage, runoff characteristics, and vegetative cover of the parcel and to what degree the development will change the potential for erosion. A sufficient buffer to allow for the interception of any additional material eroded as a result of the proposed development should be provided.*
	According to the United States Department of Agriculture, Natural Resources Conservation Service's *Web Soil Survey,* the Study Area is underlain by two (2) soil mapping units: 198-Seaside-Rock outcrop complex, 5 to 30 percent slopes, and 199-Shiglemill-Gibney complex, 2 to 9 percent slopes <u>Seaside-Rock outcrop complex, 5 to 30 percent slopes, (Map Unit Symbol: 198):</u> This map unit is on coastal hills and mountains. Seaside soil is very shallow to bedrock, somewhat excessively drained, and formed in material derived from sandstone. Water erosion on this soil is moderate if the soil is left bare. Rock outcrop consists of hard sandstone and is areas that support little to no vegetation. Native vegetation on this unit is typically manzanita and stunted cypress. Included areas comprise approximately 6.5 acres or 85 percent of the total acreage of the Study Area. <u>Shiglemill-Gibney complex, 2 to 9 percent slopes (Map Unit Symbol: 199):</u> This map unit is on marine terraces. Shinglemill soils are very deep, poorly drained, and formed in marine sediments. Water erosion on this soil is slight to moderate if the soil is left bare. Gibney soils are very deep, somewhat

	poorly drained, and formed in marine sediments. Water erosion on this soil is slight to moderate if the soil is left bare. Included within this map unit are small areas of Blacklock, Gibwell, and Treegoing soils and Tropaquepts. Native vegetation is typically bishop pine and huckleberry. The map unit comprises approximately 1.1 acres or 14 percent of the total acreage of the Study Area. The proposed construction will result in a 1200 square foot impervious surface area consisting of a single family residence, a permeable gravel road 12 feet wide and approximately 285 feet in length, and an approximate 480 square-foot permeable rocked parking area. The Project Area slopes gently to moderately in a westerly direction, towards the ocean. It is recommended that erosion control fencing be placed along the 50 ft buffer boundary for the class II watercourse ESHA. The fencing will prevent sediment caused from ground disturbance activities from entering the class III watercourse ESHA buffer. Road drainage should be dispersed evenly across gentle, well vegetated slopes whenever possible. The surrounding forest habitat has approximately 90 percent vegetative cover, mostly composed of sword fern, tanoak brush, and huckleberry shrubs, which will provide additional protection from sedimentation. Revegetating disturbed areas around construction sites as soon as possible will help to control erosion.
1(d)	***Use of Natural Topographic Features to Locate Development.*** *Hills and bluffs adjacent to ESHAs shall be used, where feasible, to buffer habitat areas. Where otherwise permitted, development should be located on the sides of hills away from ESHAs. Similarly, bluff faces should not be developed, but shall be included in the buffer zone.*
	The class III watercourse ESHA buffer zone is located on the hill slope south east of the proposed Project Area. Slopes within the Project Area less than 20 percent slopes. Recommendations for using natural topographic features is as follows: • Surface, building design, and access road drainage features should be directed away from the wetland ESHA, when possible. The appropriate design of drainage features that work with natural and existing topography can aid in reducing impacts to the wetland ESHA.
1(e)	***Use of Existing Cultural Features to Locate Buffer Zones.*** *Cultural features (e.g., roads and dikes) shall be used, where feasible, to buffer habitat areas. Where feasible, development shall be located on the side of roads, dikes, irrigation canals, flood control channels, etc., away from the ESHA.*
	The proposed development is adjacent to Highway 1. The proposed development plan seeks to utilize the existing footprint of prior disturbance to the greatest extent possible.

1(f)	***Lot Configuration and Location of Existing Development.*** *Where an existing subdivision or other development is largely built-out and the buildings are a uniform distance from a habitat area, at least that same distance shall be required as a buffer zone for any new development permitted. However, if that distance is less than one hundred (100) feet, additional mitigation measures (e.g., planting of native vegetation) shall be provided to ensure additional protection. Where development is proposed in an area that is largely undeveloped, the widest and most protective buffer zone feasible shall be required.*
	Existing residential structures on neighboring parcels also located in forested areas or adjacent to coastal bluff. They appear to observe similar setbacks setbacks from watercourse ESHAs. There is an existing outbuilding on the parcel, measuring 10 ft x 12 ft, that is 50 feet from the class III watercourse ESHA. Additional planting of native vegetation in this area could increase the effectiveness of the 50 ft ESHA buffer.
1(g)	***Type and Scale of Development Proposed.*** *The type and scale of the proposed development will, to a large degree, determine the size of the buffer zone necessary to protect the ESHA. Such evaluations shall be made on a case-by-case basis depending upon the resources involved, the degree to which adjacent lands are already developed, and the type of development already existing in the area.*
	The proposed development consists of construction of a single-family residence and the associated infrastructure including a gravel driveway, connection to utilities and septic, and the use of an existing leach field. Proposed development includes a 30 ft x 40 ft single family house, An approximate 18 ft x 26 ft gravel parking area, and a 12 ft wide gravel driveway approximately 285 ft in length. The proposed development is consistent with the type and scale of nearby residences.
(2)	***Configuration.*** *The buffer area shall be measured from the nearest outside edge of the ESHA (e.g., for a wetland from the landward edge of the wetland; for a stream from the landward edge of riparian vegetation or the top of the bluff).*

	• Class III watercourse ESHA – The proposed buffer is measured 50 feet from the edge of the riparian vegetation associated with the watercourse or outmost edge of the active channel if riparian vegetation is not present.
	• Redwood forest (G3 S3) MCV2 Sensitive Natural Community: Buffer width N/A.
	  o The proposed project area is located partially within this MCV2 Community.
	  o Please see section 6.2.1, Sensitive Natural Community Recommendations/Mitigations of the Biological Assessment (BA) for details.
	• Bishop pine forest (G3 S3) MCV2 Sensitive Natural Community: Buffer width N/A
	  o The proposed project area is located partially within this MCV2 Community.
	  o Please see section 6.2.1, Sensitive Natural Community Recommendations/Mitigations of the Biological Assessment (BA) for details.
	• Coast lily ESHA: 50-foot buffer

(3)	***Land Division.*** *New subdivisions or boundary line adjustments shall not be allowed which will create or provide for new parcels entirely within a buffer area.*
	A boundary line adjustment or new subdivision is not proposed for this development.
(4)	***Permitted Development.*** Development permitted within the buffer area shall comply at a minimum with the following standards:
4(a)	*Development shall be compatible with the continuance of the adjacent habitat area by maintaining the functional capacity, their ability to be self-sustaining and maintain natural species diversity.*
	Proposed development within the Project Area will not encroach upon the established ESHA boundaries. The proposed 50-foot buffer area around the class III watercourse ESHA and recommended mitigation measures should be sufficient in maintaining the integrity, functional capacity, and self-sustaining nature of the habitats present.
4(b)	*Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel.*
	The entire parcel is located within redwood or bishop pine forest. No development or structures are proposed within the 50-foot class III watercourse ESHA buffer. The proposed location for the homesite, and associated driveway is the most feasible and least impactful location within the parcel. It utilizes an existing footprint of disturbance, is immediately accessed from Highway 1 without being visible to highway traffic, and does not require any watercourse crossings.
4(c)	*Development shall be sited and designed to prevent impacts, which would degrade adjacent habitat areas. The determination of the best site shall include consideration of drainage, access, soil type, vegetation, hydrological characteristics, elevation, topography, and distance from natural stream channels. The term "best site" shall be defined as the site having the least impact on the maintenance of the biological and physical integrity of the buffer strip or critical habitat protection area and on the maintenance of the hydrologic capacity of these areas to pass a one hundred (100) year flood without increased damage to the coastal zone natural environment or human systems.*
!	The “best site” for the Project Area is as proposed. This is the best location that will be sufficient for the proposed development and provide the least impact. The area was chosen to minimize additional disturbance, earthwork, and removal of vegetation. It utilizes an existing footprint of disturbance, is immediately accessed from Highway 1 without being visible to highway traffic, and does not require any watercourse crossings.

	The Project Area is located approximately 86 feet from the class III watercourse ESHA. No work or other disturbance is proposed within the class III watercourse ESHA boundary that would impact the resources' ability to pass the waterflow and associated debris of a 100-year flood event. The zone between the Project Area and stream channel contains a continuous, well vegetated, forested area that and shall remain undisturbed.
4(d)	*Development shall be compatible with the continuance of such habitat areas by maintaining their functional capacity and their ability to be self-sustaining and to maintain natural species diversity.*
	The class III watercourse ESHA will remain a self-sustaining system requiring little to no maintenance with standard methods of sediment and erosion control and the mitigations listed above. Young bishop pine trees will be allowed to become re-established wherever they are present outside the construction site and will be replaced at a ratio of 3:1 for each tree removed. Mitigation planting will have an 80 percent survival rate over 5 years to ensure the species diversity and composition of the community remains intact. Landscaping on the parcel should not include any invasive plants and should ideally consist of native plants compatible with the adjacent plant communities. No plants listed on California Invasive Plant Council (Cal-IPC) Inventory should be included in landscaping. Native plants used for landscaping should be native to coastal Mendocino county. Additionally, any trees proposed for planting should be pest free to reduce introduction of potentially devastating pest to bishop pine and grand fir.
4(e)	*Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel. Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel, at a minimum ratio of 1:1, which are lost as a result of development under this solution.*
	The "best site" for the Project Area is as proposed. This is the best location that will be sufficient for the proposed homesite and development and provide the least impact. The area was chosen to minimize the footprint of development and removal of healthy native trees. Young bishop pine trees will be allowed to become re-established wherever they are present outside the construction site and will be replaced at a ratio of 3:1 for each tree removed. Mitigation planting will have an 80 percent survival rate over 5 years to ensure the species diversity and composition of the community remains intact. The Project Area is located approximately 86 feet from the class III watercourse ESHA. Minimization and mitigation measures will maintain the integrity of the watercourse ESHA. The forested habitat between the Project Area and the watercourse shall be left undisturbed to increase to effectiveness of the buffer zone.
4(f)	*Development shall minimize the following: impervious surfaces, removal of vegetation, amount of bare soil, noise, dust, artificial light, nutrient runoff, air pollution, and human intrusion into the wetland and minimize alteration of natural landforms.*

	The proposed Project Area utilizes an existing developed footprint and minimizes and mitigates major vegetation removal to the highest extent possible. Impervious surfaces will be limited to the footprint of the 30 ft x 40ft single family residential unit within the Project Area. Bare soil will be minimized and reduced by the planting of native erosion control seed as soon as possible after construction. The Coastal Zoning Code requires exterior lights to be downcast and shielded. Building and air quality requirements addressing dust, air pollution, and nutrient runoff shall be observed. The project is not expected to result in significant areas of bare soil, noise, dust, artificial light, nutrient runoff, air pollution or human intrusion into sensitive areas.
4(g)	*Where riparian vegetation is lost due to development, such vegetation shall be replaced at a minimum ratio of one to one (1:1) to restore the protective values of the buffer area.*
	Riparian vegetation removal is not proposed for this project.
4(h)	*Aboveground structures shall allow peak surface water flows from a one hundred (100) year flood to pass with no significant impediment.*
	The proposed development is not within a 100 year flood zone.
4(i)	*Hydraulic capacity, subsurface flow patterns, biological diversity, and/or biological or hydrological processes, either terrestrial or aquatic, shall be protected.*
	The proposed development is not expected to impact any terrestrial or aquatic hydrologic flow patterns or biological or hydrological processes.
4(j)	*Priority for drainage conveyance from a development site shall be through the natural stream environment zones, if any exist, in the development area. In the drainage system design report or development plan, the capacity of natural stream environment zones to convey runoff from the completed development shall be evaluated and integrated with the drainage system wherever possible. No structure shall interrupt the flow of groundwater within a buffer strip. Foundations shall be situated with the long axis of interrupted impermeable vertical surfaces oriented parallel to the groundwater flow direction. Piers may be allowed on a case-by-case basis.*
	The proposed project will not change natural topography or drainage patterns. Surface drainage from the Project Area shall be directed onto well vegetated slopes to prevent rilling and erosion. The proposed structure shall be designed with the principles listed above so as to not interrupt the flow of ground water. The project shall respect and avoid the natural stream environment.

4(k)	*If findings are made that the effects of developing an ESHA buffer area may result in significant adverse impacts to the ESHA, mitigation measures will be required as a condition of project approval. Noise barriers, buffer areas in permanent open space, land dedication for erosion control, and wetland restoration, including off-site drainage improvements, may be required as mitigation measures for developments adjacent to environmentally sensitive habitats. (Ord. No. 3785 (part), adopted 1991)*
	This project is not expected to result in significant adverse impacts to any ESHA.

Appendix E: Representative Photos of the Study Area

Photo 1: **Description:** Proposed Project Area; Proposed single-family unit location: 1200 sq. ft. **Location:** N 38.82419 W 123.60369 **Date: 11/24/2021**	
Photo 2: **Description:** Proposed Project Area; Proposed gravel road location: 12 ft wide, approx. 285 feet long **Location:** N 38.82387 W 123.60462 **Date: 11/24/2021**	

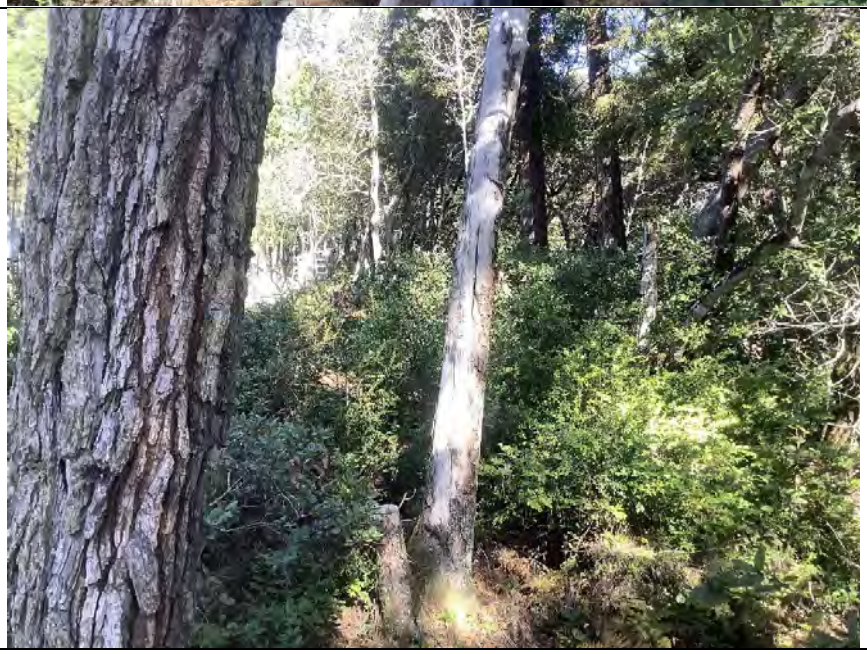
Photo 3: **Description:** *Pinus muricata-Pinus radiata* Forest and Woodland Alliance. Bishop Pine Forest and Woodland. (S3 G3) **Location:** Direction North N 38.823917 W 123.605223 **Date: 11/24/2021**	
Photo 4: **Description:** *Pinus muricata-Pinus radiata* Forest and Woodland Alliance. Bishop Pine Forest and Woodland. (S3 G3) **Location:** Direction East N 38.823917 W 123.605223 **Date: 11/24/2021**	

Photo 5: **Description:** *Pinus muricata-Pinus radiata* Forest and Woodland Alliance. Bishop Pine Forest and Woodland. (S3 G3) **Location:** Direction South N 38.823917 W 123.605223 **Date: 11/24/2021**	
Photo 6: **Description:** *Pinus muricata-Pinus radiata* Forest and Woodland Alliance. Bishop Pine Forest and Woodland. (S3 G3) **Location:** Direction West N 38.823917 W 123.605223 **Date: 11/24/2021**	

Photo 7: **Description:** *Sequoia sempervirens* Forest and Woodland Alliance. Redwood Forest and Woodland. (S3 G3) **Location:** Direction North N 38.824220 W 123.604251 **Date: 11/24/2021**	
Photo 8: **Description:** *Sequoia sempervirens* Forest and Woodland Alliance. Redwood Forest and Woodland. (S3 G3) **Location:** Direction East N 38.824220 W 123.604251 **Date: 11/24/2021**	

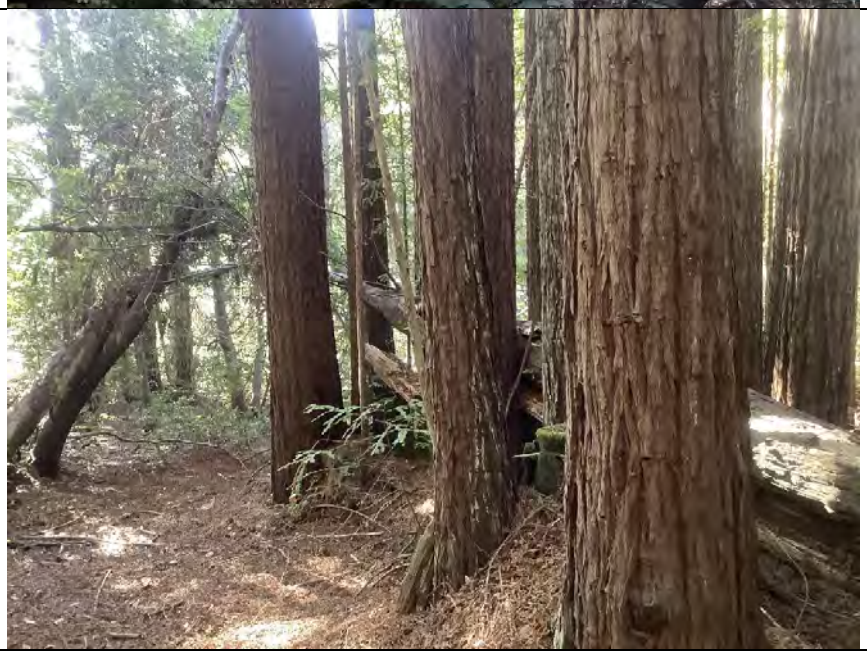
Photo 9: **Description:** *Sequoia sempervirens* Forest and Woodland Alliance. Redwood Forest and Woodland. (S3 G3) **Location:** Direction South N 38.824220 W 123.604251 **Date: 11/24/2021**	
Photo 10: **Description:** *Sequoia sempervirens* Forest and Woodland Alliance. Redwood Forest and Woodland. (S3 G3) **Location:** Direction West N 38.824220 W 123.604251 **Date: 11/24/2021**	

Photo 11: **Description:** Class III watercourse closest to the Project Area. Riparian vegetation consists primarily of chainfern (*W. fimbriata*). **Location:** Direction Upstream N 38.824343 W 123.604633 **Date: 11/24/2021**	
Photo 12: **Description:** Class III watercourse closest to the Project Area. Riparian vegetation consists primarily of chainfern (*W. fimbriata*). **Location:** Direction Downstream N 38.824343 W 123.604633 **Date: 11/24/2021**	

Photo 13: **Description:** Class III watercourse. Lacks riparian vegetation. **Location:** Direction Upstream N 38.824472 W 123.604369 **Date: 11/24/2021**	
Photo 14: **Description:** Class III watercourse. Lacks riparian vegetation. **Location:** Direction Downstream N 38.824472 W 123.604369 **Date: 11/24/2021**	

Photo 15: **Description:** Class III watercourse along southern parcel boundary. Riparian vegetation includes wax myrtle (*M. californica*) and western labrador tea (*R. columbianum*) **Location:** Direction Upstream N 38.823416 W 123.604418 **Date: 11/24/2021**	
Photo 16: **Description:** Class III watercourse along southern parcel boundary. Riparian vegetation includes wax myrtle (*M. californica*) and western labrador tea (*R. columbianum*) **Location:** Direction Downstream N 38.823416 W 123.604418 **Date: 11/24/2021**	

Photo 17: **Description:** Coast lily located in roadside ditch along Highway 1. Riparian vegetation includes chain fern and thimbleberry **Location:** Direction east N 38.823416 W 123.604418 **Date: 06/15/2022**	

Appendix F: Supporting Figures (Maps)

Vicinity

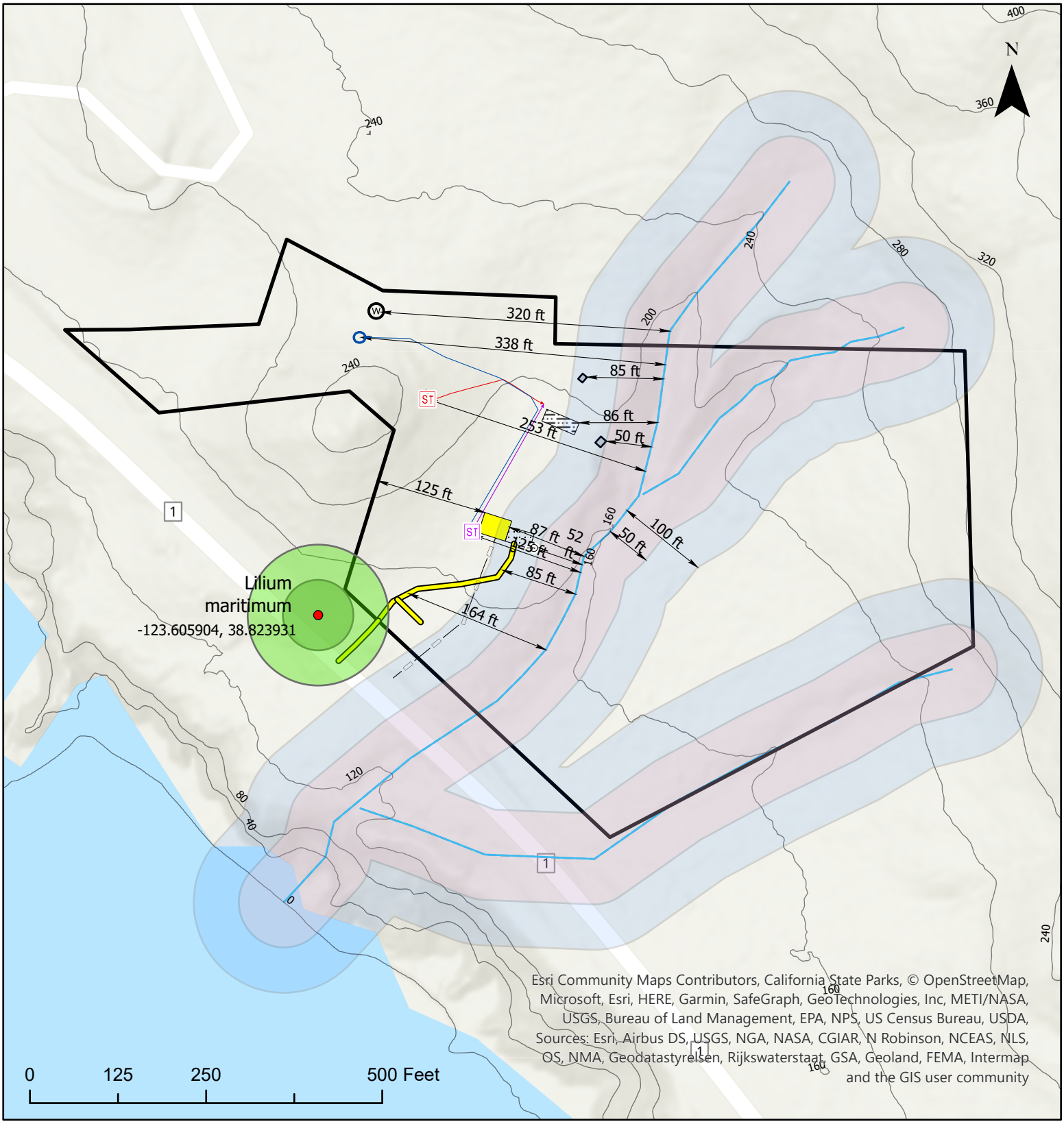
Prepared for: Douglas Herting
APN: 143-050-15, Parcel Size: ~7.55 acres
Section 1 & 2, T11N, R16W, MD B&M
Gualala USGS 7.5 Minute Quadrangle

Parcel Boundary
USGS 7.5 Minute Quadrangle

JACOBSZOON & ASSOCIATES, INC.
natural resource planning & management

0 5,000 10,000 Feet

MH 11/23/2021



Herting Assessment: Plot Plan

Applicant: Douglas Herting
APN(s): 143-050-15
Parcel Area Acreage: 7.55
Sections 1 and 2, T11N, R16W MDBM
Gualala USGS 7.5 Minute Quadrangle

- Lilium maritimum
- Well Existing
- Septic Tank Proposed
- Septic Tank Existing
- Propane Tank Proposed
- Watertank Existing
- Distance to Features
- Electric Service Proposed
- Water Line Proposed
- Septic Line Proposed
- Septic Line Existing
- Road Proposed
- Parking Proposed
- Watercourse Buffer 50ft
- Watercourse Buffer 100ft
- Outbuilding Existing
- Leach Field Existing
- House Proposed
- Approximate Parcel Boundary
- Contour 40 ft
- Watercourse
- Rare Plant Buffer (50ft)
- Rare Plant Buffer (100ft)

Drawn by Evan Carlson

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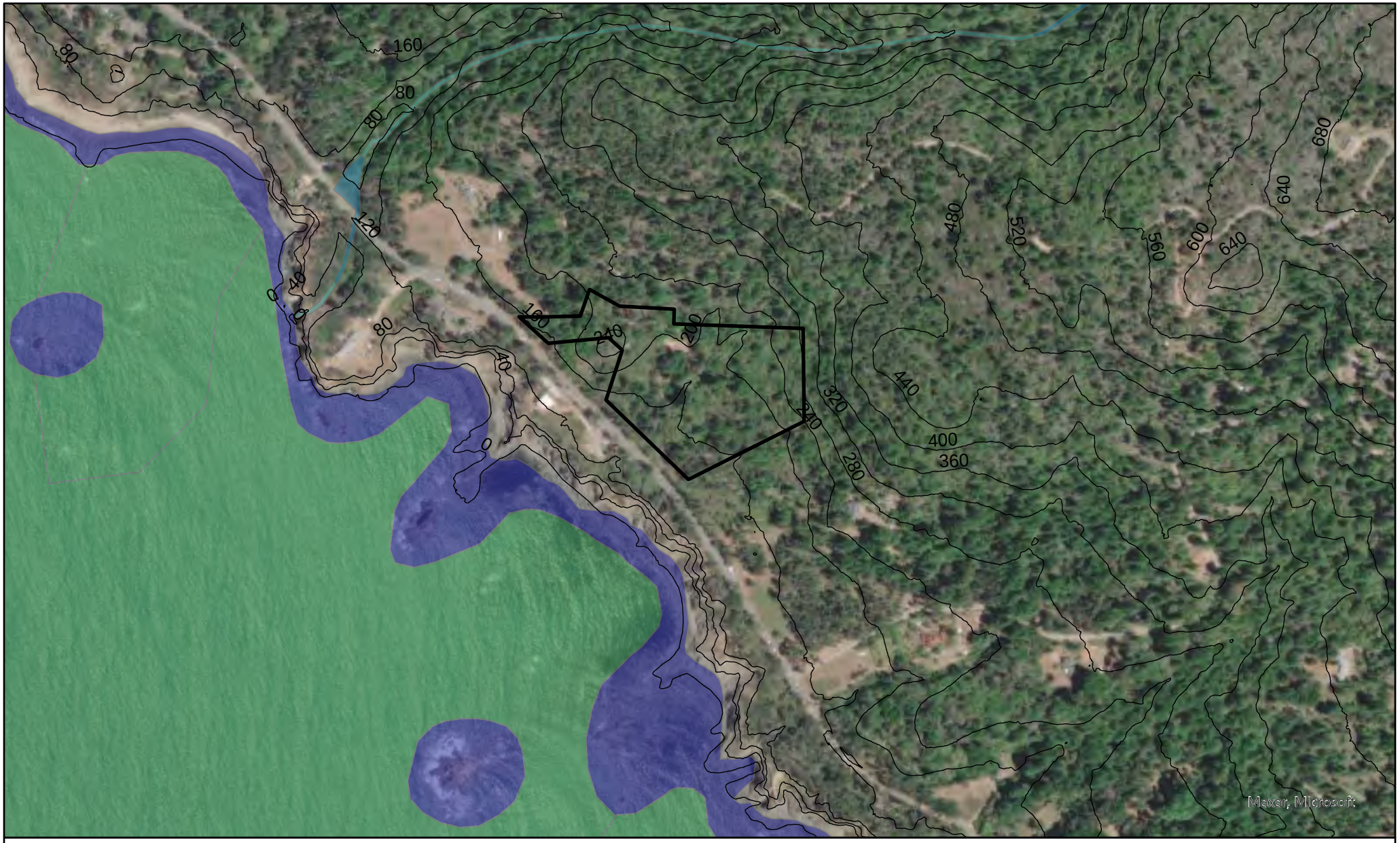


National Wetland Inventory

Prepared for: Douglas Herting
APN: 143-050-15, Parcel Size: ~7.55 acres
Section 1 & 2, T11N, R16W, MD B&M
Gualala USGS 7.5 Minute Quadrangle

JACOBSZOON & ASSOCIATES, INC.
natural resource planning & management

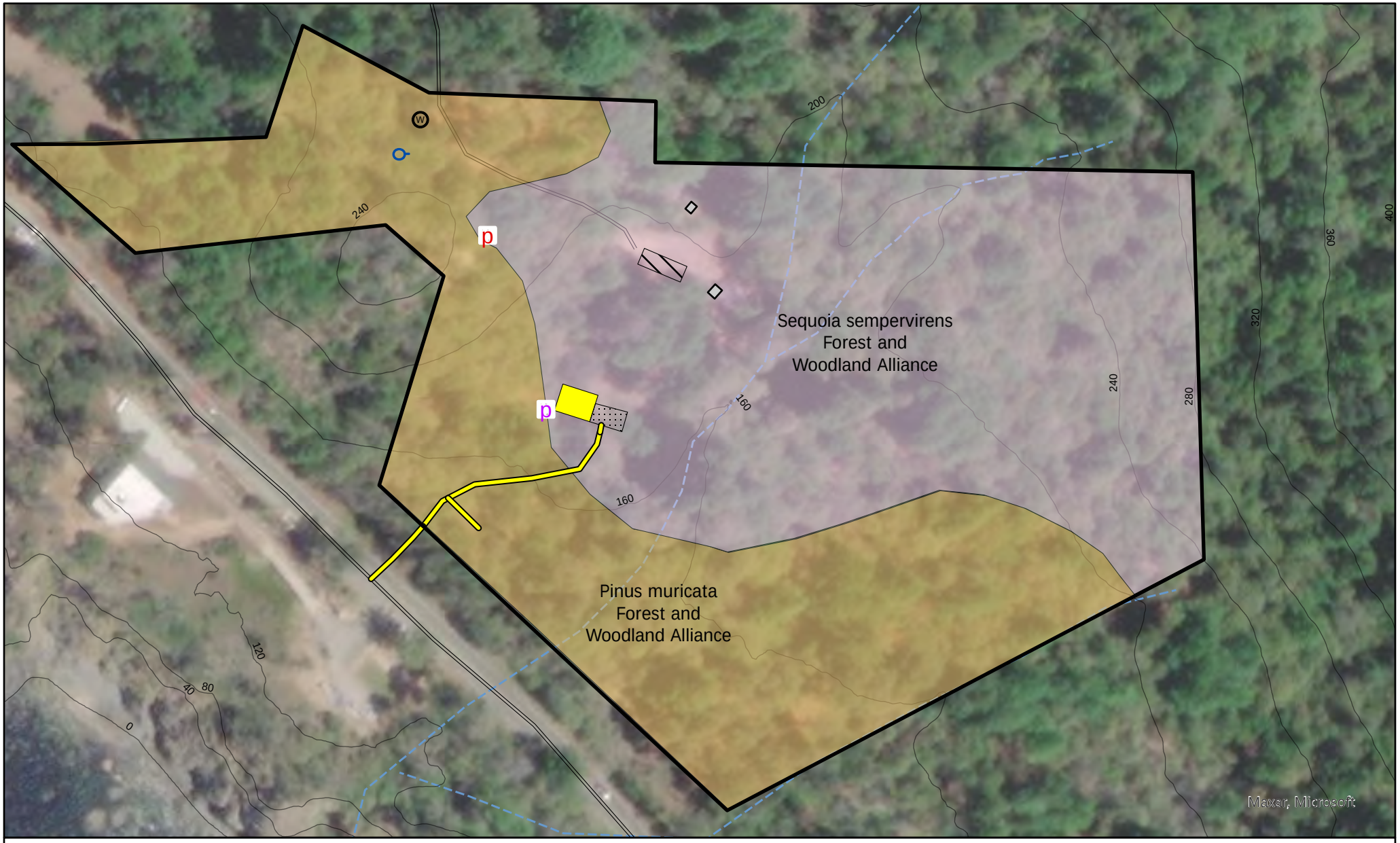
Parcel Boundary

NWI WETLAND TYPE

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- <all other values>
- Contour 40 ft

0 1,000 2,000 Feet

MH 01/06/2022



Natural Communities (MCV2)

Prepared for: Douglas Herting
APN: 143-050-15, Parcel Size: ~7.55 acres
Section 1 & 2, T11N, R16W, MD B&M
Gualala USGS 7.5 Minute Quadrangle

JACOBSZOON & ASSOCIATES, INC.
natural resource planning & management

- Approximate Parcel Boundary
- Pinus muricata Forest and Woodland Alliance
- Sequoia sempervirens Forest and Woodland Alliance
- House Proposed
- Outbuilding Existing
- Leach Field Existing
- Parking Proposed
- Road Existing
- Road Proposed
- Watercourse
- Contour 40 ft
- Well Existing
- Watertank Existing
- p Septic Tank Existing
- p Septic Tank Proposed

0 150 300 450 600 Feet

MH 01/05/2022

CNDDB 5-miles Vicinity

Prepared for: Douglas Herting
APN: 143-050-15, Parcel Size: ~7.55 acres
Section 1 & 2, T11N, R16W, MD B&M
Gualala USGS 7.5 Minute Quadrangle

Parcel Boundary
5-mile Radius

Layer
- Plant (80m)
- Plant (specific)
- Plant (non-specific)

- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)

- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)

- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

0 20,000 40,000 Feet

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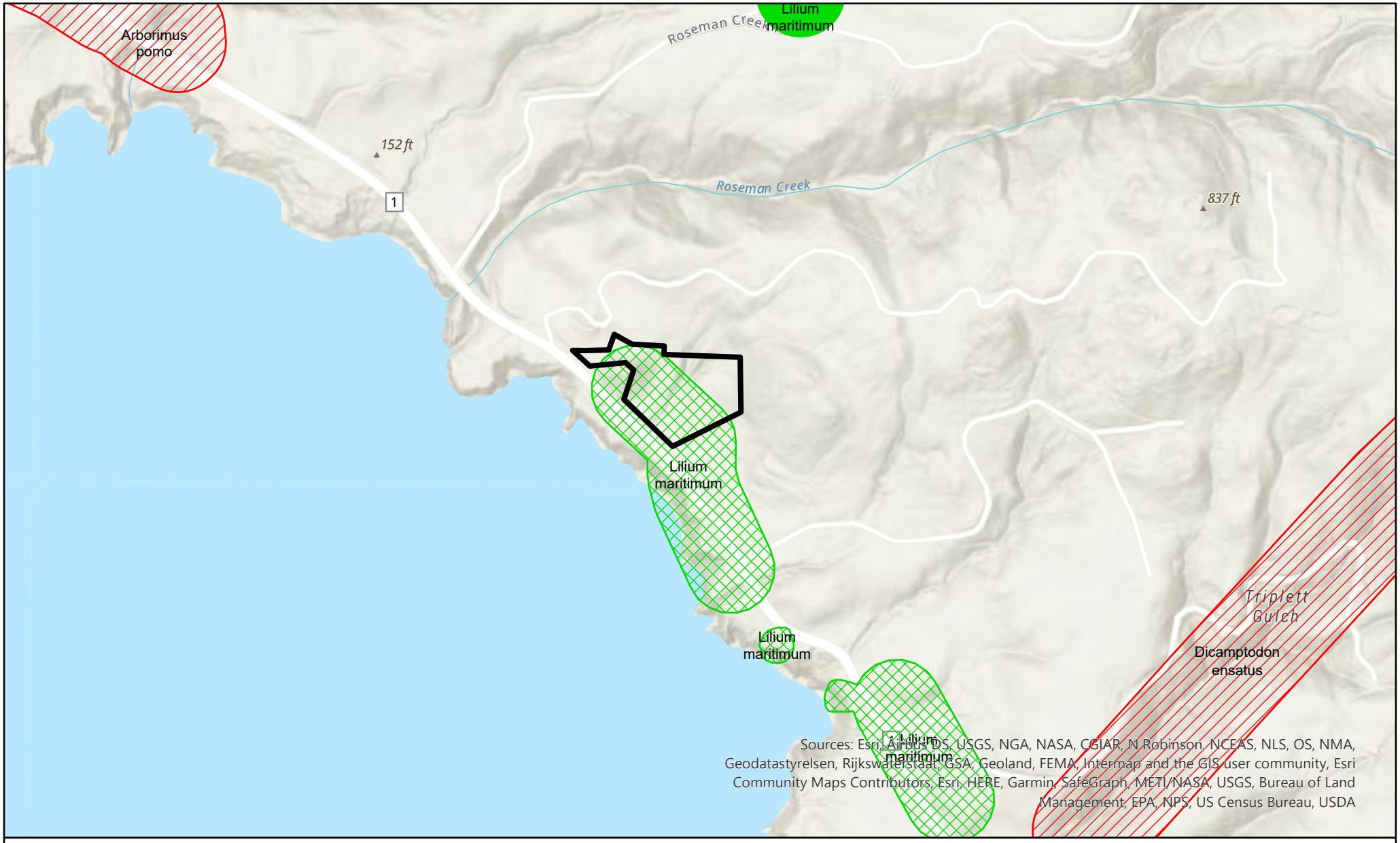
MH 12/17/2021



CNDDB Parcel

Prepared for: Douglas Herting
APN: 143-050-15, Parcel Size: ~7.55 acres
Section 1 & 2, T11N, R16W, MD B&M
Gualala USGS 7.5 Minute Quadrangle

Parcel Boundary

Layer

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

JACOBSZOON & ASSOCIATES, INC.
natural resource planning & management

0 1,000 2,000 Feet

MH 12/17/2021

Soil Map—Mendocino County, Western Part, California
(APN: 43-050-15)

Map Scale: 1:1,700 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

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 16, Sep 6, 2021

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
198	Seaside-Rock outcrop complex, 5 to 30 percent slopes	6.5	85.8%
199	Shinglemill-Gibney complex, 2 to 9 percent slopes	1.1	14.2%
Totals for Area of Interest		**7.5**	**100.0%**

COUNTY OF MENDOCINO COASTAL ZONE

ADOPTED BY BOARD OF SUPERVISORS
AUGUST 17, 1983

CHAIRMAN

REVISED
APRIL 9, 1984
JULY 3, 1985

AMENDMENTS
NOVEMBER 15, 1990
OCTOBER 26, 1992
AUGUST 26, 1996
SEPTEMBER 23, 1996

CERTIFIED BY THE COASTAL COMMISSION
NOVEMBER 20, 1985

Note A: Development of the site with more than six visitor units will require an amendment to the Local Coastal Plan.

TIMBER AND AGRICULTURE BUFFER POLICIES (3.3-9 & 3.2-13) - Will affect parcels adjacent to Timber Preserve Zones (TPZ) and Agriculture Preserves (WA) and will be considered along with other policies of this plan prior to any further development.

CRITICAL GROUNDWATER AREA - Density may be increased only upon proof of public water service or a positive hydrological study. (See policy 3.8-9 & 3.8-10)

DATE	REVISIONS	KEY MAP
		MENDOCINO COUNTY

SCALE 1" = 600
0 1000 2000 FEET 3000
0 1/4 MILES 1/2
0 1 2 3 4 5 KILOMETERS 1.0
25 ACRES
1 SQ.

COUNTY OF MENDOCINO — PLANNING & BUILDING DEPARTMENT

MAP 30 OF 31 MAPS

Anchor Bay