



COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES

860 NORTH BUSH STREET • UKIAH • CALIFORNIA • 95482
120 WEST FIR STREET • FT. BRAGG • CALIFORNIA • 95437

IGNACIO GONZALEZ, INTERIM 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

June 19, 2018

Planning – FB
Department of Transportation
Environmental Health - Fort Bragg
Building Inspection - Fort Bragg
Assessor

Archaeological Commission
Sonoma State University
Department of Forestry/ CalFire
Department of Fish and Wildlife
Coastal Commission

Cloverdale Rancheria
Redwood Valley Rancheria
Sherwood Valley Rancheria
Redwood Coast Fire District

CASE#: CDP_2018-0009

DATE FILED: 4/5/2018

OWNER/APPLICANT: ADAM LEVY

REQUEST: Administrative Coastal Development Permit to construct a 2,795± sq. ft., single-family residence with a 456± sq. ft. attached garage and 704± sq. ft. of deck; construct a 640± sq. ft. guest cottage (to provide temporary occupancy while constructing the main residence), a 2,500± sq. ft. workshop/office and temporary occupancy of a Travel Trailer during construction.

LOCATION: On the north and south sides of Zettler Road (private), ±0.8 miles west of its intersection with Ten Mile Road (CR 506), located at 44924 Zettler Road, Point Arena (APN: 027-361-25)

ENVIRONMENTAL DETERMINATION: Categorically Exempt

STAFF PLANNER: Robert Dostalek

RESPONSE DUE DATE: July 3, 2018

PROJECT INFORMATION CAN BE FOUND AT:

<https://www.mendocinocounty.org/government/planning-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 _____

OWNER/
APPLICANT: ADAM LEVY

AGENT: WYNN COASTAL PLANNING, BLAIR FOSTER

REQUEST: Administrative Coastal Development Permit to construct a 2,795± square-foot, single-family residence with a 456± square-foot attached garage and 704± square feet of deck; construct a 640 square-foot guest cottage (to provide temporary occupancy while constructing the main residence), a 2,500± square-foot workshop/office and temporary occupancy of a Travel Trailer during construction of the guest cottage. (**FULL PROJECT DESCRIPTION BELOW)

LOCATION: In the Coastal Zone, on the north and south sides of Zettler Road (private), ±0.8 miles west of its intersection with Ten Mile Road (CR 506) at 44924 Zettler Road, Point Arena (APN: 027-361-25)

ACREAGE: 20.01 acres

GENERAL PLAN: Remote Residential (RMR20:R) ZONING: Remote Residential (RMR:20)

COASTAL ZONE: YES

EXISTING USES: Temporary campingSUPERVISORIAL DISTRICT: 5

TOWNSHIP: 12NPoint ArenaRANGE: 16WSECTION: 21USGS QUAD#: 68

RELATED CASES ON SITE: n/a
RELATED CASES IN VICINITY: n/a

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES	ADJACENT USES
NORTH:	RMR:20 (Remote Residential)	RMR-20 (Remote Residential)	76.84± acres	Residential
EAST:	RMR:20 (Remote Residential)	RMR-20 (Remote Residential)	20.03± acres	Residential
SOUTH:	RMR:20 (Remote Residential)	RMR-20 (Remote Residential)	33.7± acres	Residential
WEST:	RMR:20 (Remote Residential)	RMR-20 (Remote Residential)	20.08± acres	Residential

REFERRAL AGENCIES:

☒ Planning (FB)
☒ Department of Transportation
☒ Environmental Health (FB)
☒ Building Inspection (FB)
☐ Emergency Services
☒ Assessor
☐ Farm Advisor
☐ Agriculture Commissioner
☐ Forestry Advisor
☐ Air Quality Management District
☐ ALUC
☐ County Water Agency
☒ Archaeological Commission
☒ Sonoma State University

☐ Trails Advisory Council
☐ Native Plant Society
☐ State Clearinghouse
☐ Caltrans
☒ CalFire
☒ Department of Fish & Wildlife
☒ Coastal Commission
☐ RWQCB
☐ Division of Mines & Geology
☐ Department of Health Services
☐ Department of Parks & Recreation
☐ Department of Conservation
☐ Soil Conservation Service
☐ Army Corps of Engineers

☐ CHP
☐ MTA
☐ County Addresser
☐ LAFCO
☐ Gualala MAC
☐ Laytonville MAC
☐ Westport MAC
☐ Sierra Club
☒ Cloverdale Rancheria
☒ Redwood Valley Rancheria
☒ Sherwood Valley Pomo
☒ Redwood Coast Fire District
☐ Community Svcs
☐ City Planning

****ADDITIONAL INFORMATION:** Administrative Coastal Development Permit (CDP) for the following: (1) construction of a new ±2,795 square-foot, single-family residence with ±456 square-foot attached garage and ±704 square feet of deck. Maximum average height of the residence would be 28 feet above finished grade; (2) installation of a 4-bedroom septic system, primary leach field, and replacement leach field; 3) installation of 2 propane tanks and connection to existing utilities (water and power); (4) construction of a 640 square-foot single-family residence to provide temporary occupancy while constructing the main residence to be converted to a guest cottage upon completion of the main residence; (5) construction of a ±2,500 square-foot workshop and office; (6) installation of a 3,000 gallon water tank; (7) construction of an additional ±2,204 square feet of driveway area to the main residence, guest cottage and workshop. (8) Convert existing test well to production well; (9) installation of solar panels on roofs of dwellings (main residence = 971 square feet; guest cottage = 555 square feet); (9) grading to include ±516 cubic yards of cut and ±52 cubic yards of fill; (10) removal of ±69 trees to accommodate the development sites; and (11) temporary occupancy of a Travel Trailer during construction of the guest cottage.

ASSESSOR’S PARCEL #: 027-361-25

PROJECT PLANNER: ROBERT DOSTALEK DATE: May 30, 2018

ENVIRONMENTAL DATA
(To be completed by Planner)

COUNTY WIDE		
Yes	No	
	NO	1. Alquist-Priolo Earthquake Fault Zone – Geotechnical Report #GS_____
	NO	2. Floodplain/Floodway Map –Flood Hazard Development Permit #FP_____
	NO / NO	3. Within/Adjacent to Agriculture Preserve / Timberland Production
	NO	4. Within/Near Hazardous Waste Site
	YES	5. Natural Diversity Data Base
	NO	6. Airport CLUP Planning Area – ALUC#_____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	7. Adjacent to State Forest/Park/Recreation Area.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	8. Adjacent to Equestrian/Hiking Trail.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. Hazard/Landslides Map
<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. Require Water Efficient Landscape Plan.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Biological Resources/Natural Area Map.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Fire Hazard Severity Classification: <input type="checkbox"/> LRA <input checked="" type="checkbox"/> SRA-CDF# 55-18 High Fire Hazard
<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Soil Type(s)/Pygmy Soils.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. Wild and Scenic River.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. Specific Plan Area.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	16. State Permitting Required/State Clearinghouse Review
<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. Oak Woodland Area

COASTAL ZONE		
Yes	No	
	NO	16. Exclusion Map.
	Critical Bedrock HS-C	17. Coastal Groundwater Study Zone.
		18. Highly Scenic Area/Special Communities. Conditional
<input type="checkbox"/>	<input checked="" type="checkbox"/>	19. Land Capabilities/Natural Hazards Map.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. Habitats/ESHA/Resources Map. Bishop pine forest alliance
<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. Appealable Area/Original Jurisdiction Map. The project is greater that 100 feet from coastal waters (i.e. streams)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. Blayney-Dyett Map. LCP Map 25 (Point Arena)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. Ocean Front Parcel (Blufftop Geology).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	24. Adjacent to beach/tidelands/submerged land/Public Trust Land.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	25. Noyo Harbor/Albion Harbor.

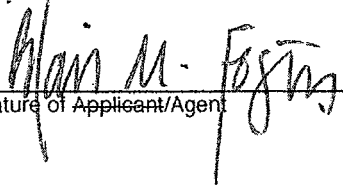

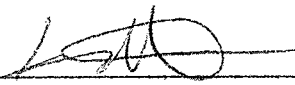
COUNTY OF MENDOCINO
DEPT OF PLANNING & BUILDING SERVICES
120 WEST FIR STREET
FORT BRAGG, CA 95437
Telephone: 707-964-5379

CDPA-2018-00
Case No(s) _____
CDF No(s) _____
Date Filed _____
Fee \$ _____
Receipt No. _____
Received by _____
Office Use Only

COASTAL DEVELOPMENT PERMIT APPLICATION FORM

Name of Applicant Adam Levy Keely Tongate	Name of Owner(s) Same	Name of Agent Blair Foster, Wynn Coastal Planning
Mailing Address 7700 Ricardo Court El Cerrito CA 94530	Mailing Address Same	Mailing Address 703 North Main Street Fort Bragg, CA 95437
Telephone Number (864) 630-5541	Telephone Number Same	Telephone Number (707) 964-2537

I certify that the information submitted with this application is true and correct:

 Signature of Applicant/Agent	4.2.2018 Date	 Signature of Owner (Adam Levy)	3/30/18 Date
		 Signature of Owner (Keeley Tongate)	3/30/18 Date

Driving Directions

After turning south on to Zettler Road, from Ten Mile Road, travel approximately .9 miles and find parcel on right.

Assessor's Parcel Number(s)

APN 027-361-25-00

Parcel Size

20.1

☐ Square Feet
☒ Acres

Street Address of Project

44924 Zettler Road
Point Arena CA 95468

Please note: Before submittal, please verify correct street address with the Planning Division in Ukiah.

COASTAL DEVELOPMENT PERMIT

APPLICATION QUESTIONNAIRE

The purpose of this questionnaire is to relate information concerning your application to the Planning & Building Services Department and other agencies who will be reviewing your project proposal. The more detail that is provided, the easier it will be to promptly process your application. Please answer all questions. Those questions which do not pertain to your project, please indicate "Not Applicable" or "N/A".

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

The proposed project requests an Administrative Coastal Development Permit (CDP) for the following: (1) construction of a new 2795 sf, single-family residence with 456 sf attached garage and 704 sf deck. Maximum average height of the SFR is 28 ft above finished grade; (2) installation of a 4 bedroom septic system, primary leach field, and replacement leach field; (3) installation of 2 propane tanks and connection to existing utilities (water and power); (4) construction of a 640sf single family residence to be converted to an accessory dwelling unit (ADU) when certificate of occupancy is signed for larger home (5) construction of a 2,500sf workshop and studio; (6) installation of a 3,000 gallon water tank; (7) construction of an additional 2,204 sf of driveway area to SFR as well as guest cottage and workshop. Convert existing test well to production well; (8) installation of solar panels on roofs of dwellings (SFR = 971 sq. feet solar; cabin = 555 sq. feet solar); (9) temporary occupancy of a Travel Trailer during construction.

2. If the project is residential, please complete the following:

TYPE OF UNIT	NO. OF STRUCTURES /UNITS	EXISTING SQ. FT.	PROPOSED SQ. FT.	TOTAL SQ. FT. PER STRUCTURE
<input checked="" type="checkbox"/> Single Family Residence		0	2795	2795
<input checked="" type="checkbox"/> Garage, attached		0	456	456
<input checked="" type="checkbox"/> Deck		320	704	1024
<input checked="" type="checkbox"/> Guest House (ADU)		0	640	640
<input checked="" type="checkbox"/> Studio/Workshop		0	2500	2500
<input checked="" type="checkbox"/> Solar Hot Water Panels		0	1526	1526
<input checked="" type="checkbox"/> Water Storage Tank		0	80	80
<input checked="" type="checkbox"/> Propane Tank (2)		0	64	64
<input checked="" type="checkbox"/> Driveway		8675	2204	10,879

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

320 square foot deck exists and will remain, Travel Trailer exists on the property that will be used during construction.

4. Utilities will be supplied to the site as follows:

A. Electricity
☒ Utility Company
☐ Utility Company (requires extension of services to site): ~ 100__ feet ____ miles
☒ On Site generation, Specify: solar panels on roofs
☐ None

B. Gas
☒ Utility Company/Tank: propane tank (2)
☐ None

C. Telephone: ☒ Yes ☐ No

5. Will there be any exterior lighting? ☒ Yes ☐ No
 If yes, describe below and identify the location of all exterior lighting on the plot plan and building plans.
 All new exterior lighting will be shielded and downcast fixtures; see attached detail and elevations for locations.

6. What will be the method of sewage disposal?

☐ Community sewage system, specify supplier ____
☒ Septic Tank (indicate primary + replacement leachfields on plot plan)
☐ Other, specify _____

7. What will be the domestic water source?

☐ Community water system, specify supplier
☒ Well ☒ On-Site ☐ Off-site
☐ Spring ☐ On-Site ☐ Off-site
☐ Other, specify Convert existing test well to production well

8. Is any grading or road/driveway construction planned? ☒ Yes ☐ No

Estimate the amount of grading in cubic yards Cut= 516 cu yds/ Fill= 52 cu yds If greater than 50 cubic yards or if greater than 2 feet of cut or 1 foot of fill will result, please provide a grading plan.

Estimate the length of the proposed road/driveway: Approximately 480 feet to sfr and 175 feet to guest cottage
 Describe the terrain to be traversed (e.g., steep, moderate slope, flat, etc.). Flat to moderate slope.

9. Will vegetation be removed on areas other than the building sites and roads? ☒ Yes ☐ No
 If yes, explain:

How many trees will be removed to implement the project: Approximately 69 trees will be felled per the attached fire safe plan, as required by CalFire that will ensure a 30' fire break around all structures and development. Indicate on the site plan all trees to be removed that are greater than 12-inches in diameter (measured four feet from the ground). If applicable, please indicate on the site plan the size, location and species of all on-site trees that provide screening from public view areas.

10. Is the proposed development visible from:

- A. State Highway 1? ☐ Yes ☒ No
B. Park, beach or recreation area? ☐ Yes ☒ No

If you answered yes to either question, explain:

11. Project Height. Maximum height of structure(s).

Maximum average heights above natural grade: SFR 28' above natural grade at highest point

12. Describe all exterior materials and colors of all structures.

All colors to match existing colors.

	Material	Color
Siding:	Horizontal Hardie Plank	Avenue Tan and Fenland
Trim:	Hardie Plank	Shoji White
Window Frames:	Andersen Windows; Vinyl	White
Doors, person:	Fiberglass and Glass	Arresting Auburn
Lighting	Shielded Downcast	Black
Roofing:	Certaanteed 50 year composition shingles	Charcoal

13. Are there any water courses, anadromous fish streams, sand dunes, rookeries, marine mammal haul-out areas, wetlands, riparian areas, pygmy vegetation, rare or endangered plants, animals or habitat which support rare and endangered species located on the project site or within 100 feet of the project site?

No. Please refer to Biological Scoping and Botanical Survey Report prepared by Wynn coastal Planning Biologist, Karen Youngblood dated January 2, 2018 for complete detail. Rare Plant Community within 100' of project area.

14. If the project is **commercial**, **industrial**, or **institutional**, complete the following:

N/A

Total square footage of all structures: _____

Estimated employees per shift: _____

Estimated shifts per day: _____

Type of loading facilities proposed: _____

Will the proposed project be phased? ☐ Yes ☐ No

If Yes, explain your plans for phasing.

Parking will be provided as follows: N/A

Number of Spaces Existing _____ Proposed _____ Total _____

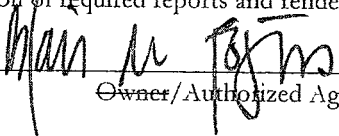
Number of standard spaces _____ Size _____

Number of handicapped spaces _____ Size _____

CERTIFICATION AND SITE VIEW AUTHORIZATION

1. I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application, and all attached appendices and exhibits, is complete and correct. I understand that the failure to provide any requested information or any misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the County.

2. I hereby grant permission for County Planning and Building Services staff and hearing bodies to enter upon and site view the premises for which this application is made in order to obtain information necessary for the preparation of required reports and render its decision.



Owner/Authorized Agent

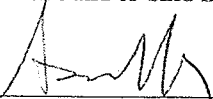
4.2.2018

Date

NOTE: IF SIGNED BY AGENT, OWNER MUST SIGN BELOW.

AUTHORIZATION OF AGENT

I hereby authorize _____ See attached Authorization of Agent form _____ to act as my representative and to bind me in all matters concerning this application.



Owner

3/30/18

Date

MAIL DIRECTION

To facilitate proper handling of this application, please indicate the names and mailing addresses of individuals to whom you wish correspondence and/or staff reports mailed if different from those identified on Page One of the application form.

Name	Name	Name
Mailing Address	Mailing Address	Mailing Address

DECLARATION OF POSTING

At the time the application is submitted for filing, the applicant must **Post**, at a conspicuous place, easily read by the public and as close as possible to the site of the proposed development, notice that an application for the proposed development has been submitted. Such notice shall contain a general description of the nature of the proposed development and shall be on the standard form provided in the application packet. If the applicant fails to post the completed notice form and sign the **Declaration of Posting**, the Department of Planning and Building Services cannot process the application.

As **Proof of Posting**, please sign and date this Declaration of Posting form when the site is posted; it serves as proof of posting. It should be returned to the Department of Planning and Building Services with the application.

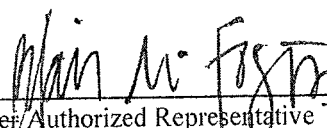
Pursuant to the requirements of Section 20.532.025(H) of the Mendocino County Code, I hereby certify that on March 9, 2018 I or my authorized representative posted the "NOTICE OF PENDING PERMIT" for application to obtain a Coastal Development Permit for the development of:

The proposed project requests an Administrative Coastal Development Permit (CDP) for the following: (1) construction of a new 2795 sf, single-family residence with 456 sf attached garage and 704 sf deck. Maximum average height of the SFR is 28 ft above finished grade; (2) installation of a 4 bedroom septic system, primary leach field, and replacement leach field; (3) installation of 2 propane tanks and connection to existing utilities (water and power); (4) construction of a 640sf single family residence to be converted to an accessory dwelling unit (ADU) when certificate of occupancy is signed for larger home (5) construction of a 2,500sf workshop and studio; (6) installation of a 3,000 gallon water tank; (7) construction of an additional 2,204 sf of driveway area to SFR as well as guest cottage and workshop. Convert existing test well to production well; (8) installation of solar panels on roofs of dwellings (SFR = 971 sq. feet solar; cabin = 555 sq. feet solar); (9) temporary occupancy of a Travel Trailer during construction.

Located at: 44924 Zettler Road
Point Arena CA 95468

The public notice was posted at: End of drive

(A conspicuous place, easily seen by the public and as close as possible to the site of proposed development)



Owner/Authorized Representative

2 April - 2018

Date

(A copy of the notice that was posted shall be attached to this form)

NOTE: YOUR APPLICATION CANNOT BE PROCESSED UNTIL THIS "DECLARATION OF POSTING" IS SIGNED AND RETURNED TO PLANNING AND BUILDING SERVICES.

NOTICE OF PENDING PERMIT

A COASTAL PERMIT APPLICATION FOR DEVELOPMENT ON THIS SITE
IS PENDING BEFORE THE COUNTY OF MENDOCINO.

Proposed Development:

The proposed project requests an Administrative Coastal Development Permit (CDP) for the following: (1) construction of a new 2795 sf, single-family residence with 456 sf attached garage and 704 sf deck. Maximum average height of the SFR is 28 ft above finished grade; (2) installation of a 4 bedroom septic system, primary leach field, and replacement leach field; (3) installation of 2 propane tanks and connection to existing utilities (water and power); (4) construction of a 640sf single family residence to be converted to an accessory dwelling unit (ADU) when certificate of occupancy is signed for larger home (5) construction of a 2,500sf workshop and studio; (6) installation of a 3,000 gallon water tank; (7) construction of an additional 2,204 sf of driveway area to SFR as well as guest cottage and workshop. Convert existing test well to production well; (8) installation of solar panels on roofs of dwellings (SFR = 971 sq. feet solar; cabin = 555 sq. feet solar); (9) temporary occupancy of a Travel Trailer during construction.

Location: 44924 Zettler Road, Point Arena CA 95468

Applicant: Adam Levy and Keely Tongate

Agent: Blair Foster, Wynn Coastal Planning; (707) 964-2537

Assessor's Parcel Number: 027-361-25-00

Date Notice Posted: April 6, 2018

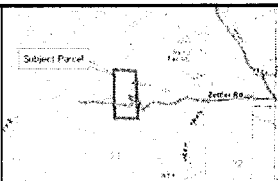
FOR FURTHER INFORMATION, PLEASE TELEPHONE OR WRITE TO:

County of Mendocino, Planning and Building Services

120 West Fir Street

Fort Bragg, CA 95437

Office 707-964-5379 Fax 707-961-2427 Hours: 8am to 12:00 and 1pm to 5pm



Lands of Levy-Tongate
Parcel 2 of Section 21, Township 12 North,
Range 16 West, Mount Diablo Meridian
Mendocino County, CA

General Notes
General Plan Designation: RMR-20:R
Zoning District: RMR-20
Urban/Rural: Rural
Highly Scenic Area: No
Proposed Land Use: SFR, Guest Cottage, Workshop, Well, Septic & Driveway

Appealable to Coastal Commission: No
Entitlement Permit Type: CDP
Yard Setbacks: 50' all sides
CalFire Setbacks: 30' all sides
Corridor Preservation Setback: 25' from centerline of Zettler Road
Height Limit: 28'
Environmental Constraints: Potential ESHA
Potential Geologic Hazards: No
Landscaping: No
Water Source: On-site well
Wastewater Disposal: On-site septic
Tree Removal: Approx. 69 trees
Approx. 28,158 sf of Tree Canopy

CDP Lot Coverage Tabulation
Gross Site Area: 20.01 ac (871,635 sf)
Maximum allowable lot coverage: 10% (87,163.50 sf)

Lot Coverage:
(P) Footprint Residences: 1,792 sf
(P) Footprint - Covered Porches/Decks: 448 sf
(P) Footprint - Accessory Dwelling Unit: 640 sf
(P) Footprint - Covered Porches/Decks: 256 sf
(P) Footprint - Barn: 1,500 sf
(P) Footprint - Shed: 200 sf
(E) Footprint - Covered Porches/Decks: 320 sf

Total Building (P) Footprint: 4836 sf
Total Building (E) Footprint: 320 sf

Total Building Footprint: 5156 sf

(E) Driveway & Parking: 8,675 sf
(P) Driveway & Parking: 2,204 sf

Total Driveway & Parking: 10,879 sf

Total Lot Coverage (Footprint): 16,035 sf (1.84%)

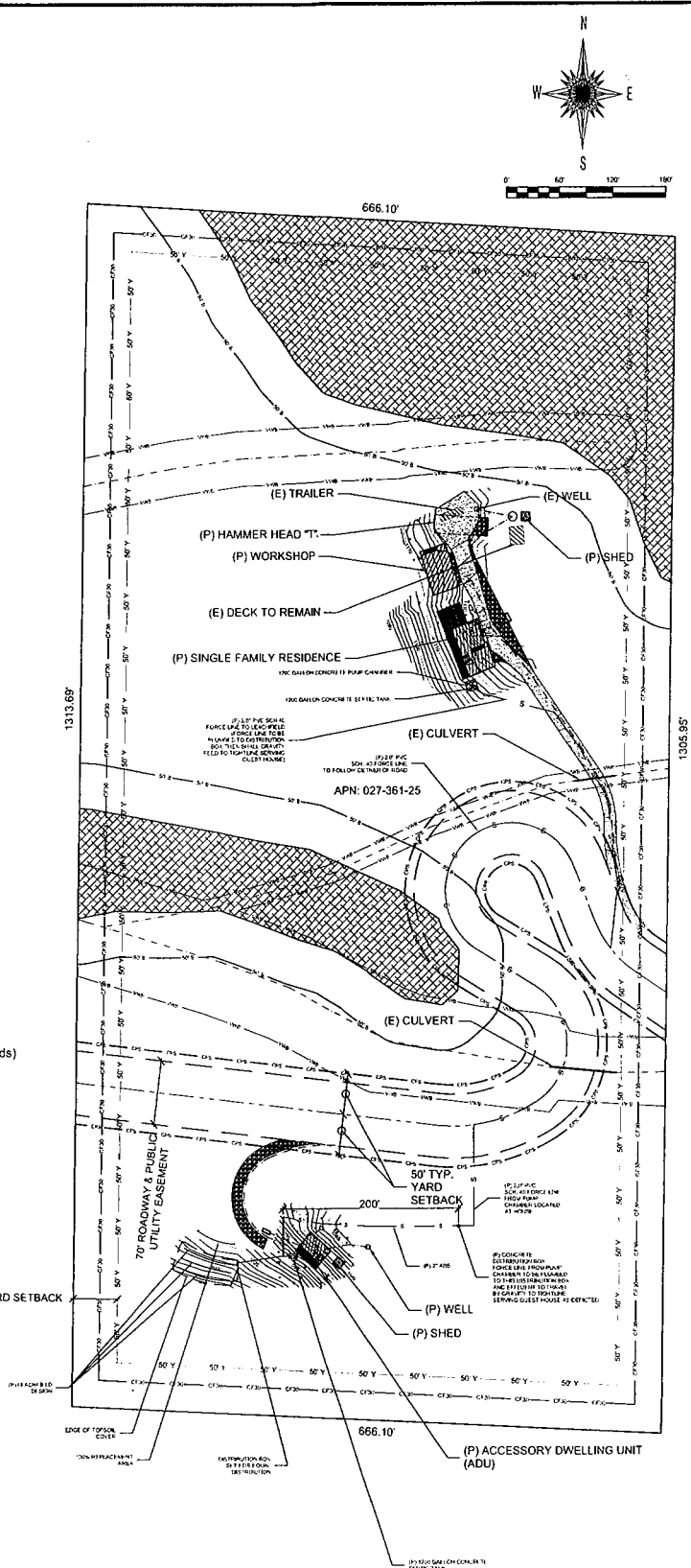
Landform Alteration:
Cut: Approx. 516 yards
(428 yards + 27 yards + 61 yards)
Fill: Approx. 52 yards (48 yards + 4 yards)

Sensitive Resources:
Legend Type Distance from Development
BISHOP PINE ALLIANCE (POTENTIAL ESHA) 127' ±

LEGEND:

- BISHOP PINE ALLIANCE (POTENTIAL ESHA)
- EPHEMERAL STREAM (NON-ESHA)
- (E) GRAVEL DRIVEWAY
- (P) GRAVEL DRIVEWAY
- (P) WATER LINE
- (P) SEPTIC LINE
- (P) POWER LINE
- (P) PROPANE LINE
- (E) TREE COVERAGE
- 50' BUFFER
- 100' BUFFER
- CORRIDOR PRESERVATION SETBACK
- YARD SETBACK
- CAL FIRE 30' YARD SETBACK

SITE PLAN 1:60



1

APN	027-361-25-00
OWNER	LEVY-TONGATE
DATE	04/11/2017
BY	WCP
FOR	CDP

LEVY-TONGATE
44924 Zettler Road
Point Arena, CA 95468



Wynn Coastal Planning, Inc.
723 N. Main Street
Fort Bragg, California 95437
707.764.2557
www.WCP.com



Design review, not meant for construction.

Title 14 Code of California Regulations: Division 1.5, Chapter 7, Subchapter 2, Article 5.
Fuel Modification and Defensible Space Standards

To reduce the intensity of a wildfire by reducing the volume and density of flammable vegetation, the strategic siting of fuel modification and greenbelts shall provide:

1. Increased safety for emergency fire equipment and evacuating civilians; and
2. a point of attack or defense from a wildfire.

Fuel Modification and Defensible Space Standards (Implementation)

Structures on parcels 1 acre and larger shall be set back from the property line at least 30 feet. Smaller parcels shall provide for comparable mitigation.

Flammable waste generated by construction or development must be lawfully disposed of before final approval of a project.

Greenbelts that are proposed as a part of a development or project shall be strategically located to separate wildland fuels and structures.

DEFENSIBLE SPACE AROUND STRUCTURES

A person that owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, shall at all times do all of the following:

- (a) Maintain around and adjacent to the building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side of the building or structure or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to any building or structure.
- (b) Maintain around and adjacent to the building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth that is located within 100 feet from the building or structure or to the property line or at a greater distance if required by state law, or local ordinance, rule, or regulation. This section does not prevent an insurance company that insures a building or structure from requiring the owner of the building or structure to maintain a firebreak of more than 100 feet around the building or structure. Grass and other vegetation located more than 30 feet from the building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a dwelling or structure.
- (c) Remove that portion of any tree that extends within 10-feet of the outlet of a chimney or stovepipe.
- (d) Maintain any tree adjacent to or overhanging a building free of dead or dying wood.
- (e) Maintain the roof of a structure free of leaves, needles, or other dead vegetative growth.
- (f) Provide and maintain at all times a screen over the outlet of every chimney or stovepipe that is attached to any fireplace, stove, or other device that burns any solid or liquid fuel. The screen shall be constructed of nonflammable material with openings of not more than one-half inch in size. (PRC 4291)

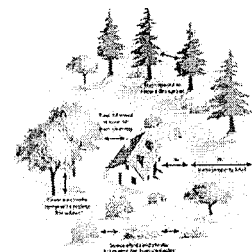
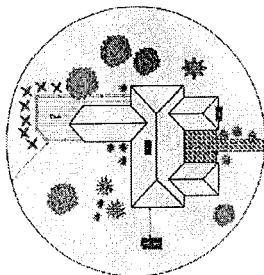
WCPLAN Biological Scoping & Botanical Report Recommendation (2018.01.02):

Fire Safe Management Zone 3:

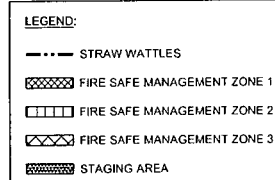
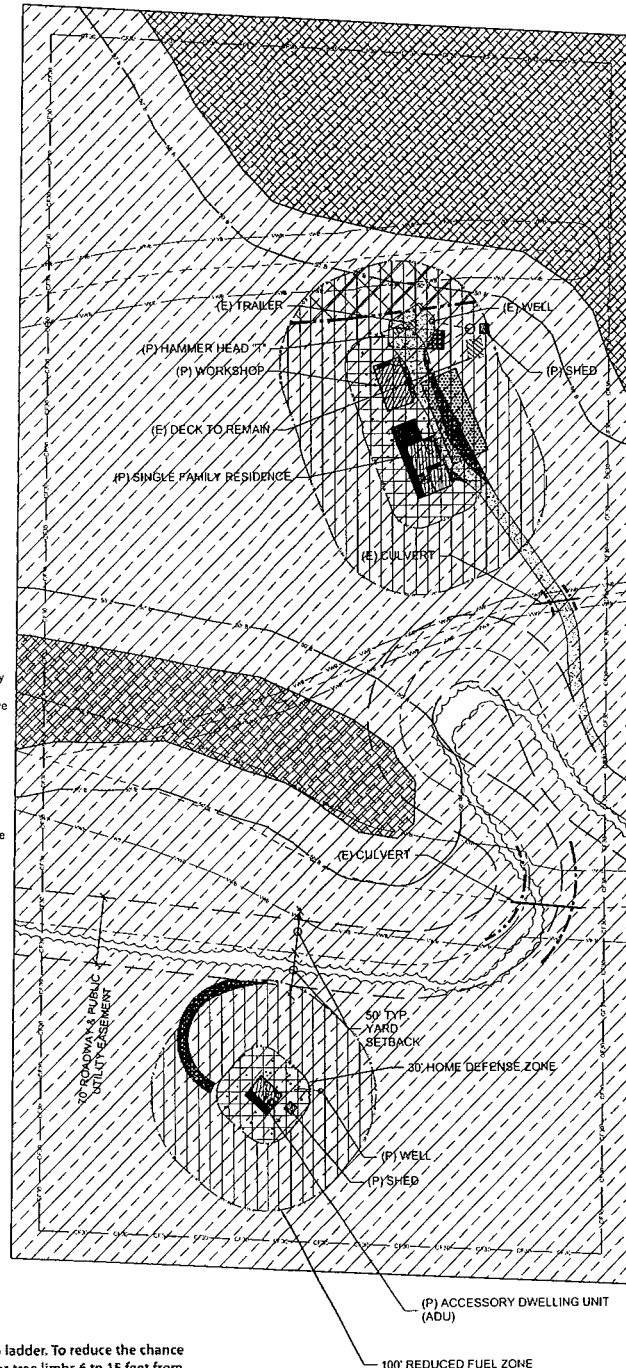
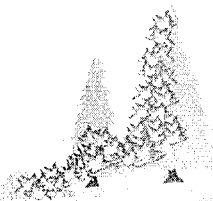
7.5 Vegetation Removal For Fire Safety Management Within the Bishop Pine Forest Buffer
 For the areas between 30 ft and 100 ft of residential structures, vegetation removal will be necessary so that fire safety is maintained, and specifically such that vertical fuel ladders are eliminated Figure 20. To eliminate fuel ladders, all dead material needs to be removed, significant spacing between live vegetation needs to be created, and remaining trees need to be limbed up to 15 ft. The recommended ESHA buffer area between the proposed structures and the Bishop Pine Forest buffer area, approximately 30 to 100 feet from the proposed structures. This area is illustrated in Figure 19 as Fire Safe Management Zone 3.

Measure 5a: To minimize impact of vegetation removal to the Bishop Pine Forest, the following is recommended:

1. Within one month prior to commencement of vegetation removal and development activities, a qualified biologist should conduct a Sonoma tree vole survey for forested areas within 300 feet of the proposed development. If Sonoma tree voles are found, CDFW should be consulted for follow-up action and clearance of the project before initial vegetation removal and construction is begun.
2. If present, leave strategically placed bishop pine seedlings to perpetuate the sustainability of the bishop pine forest.
3. Target the least healthy trees for removal first.



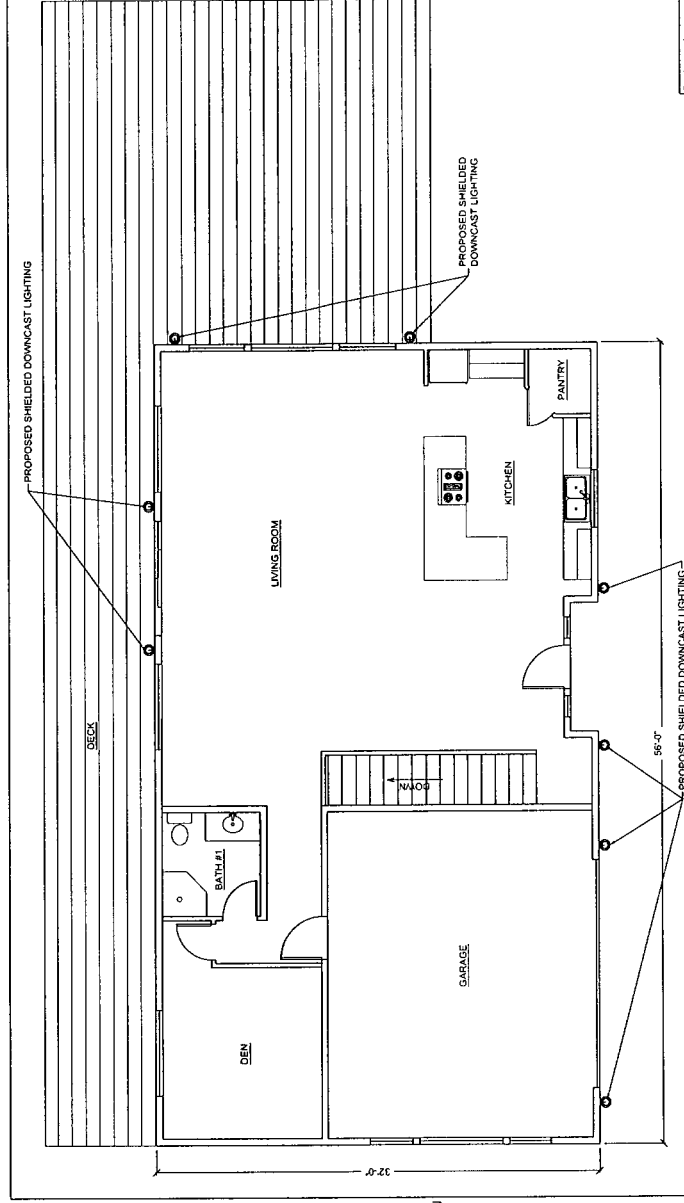
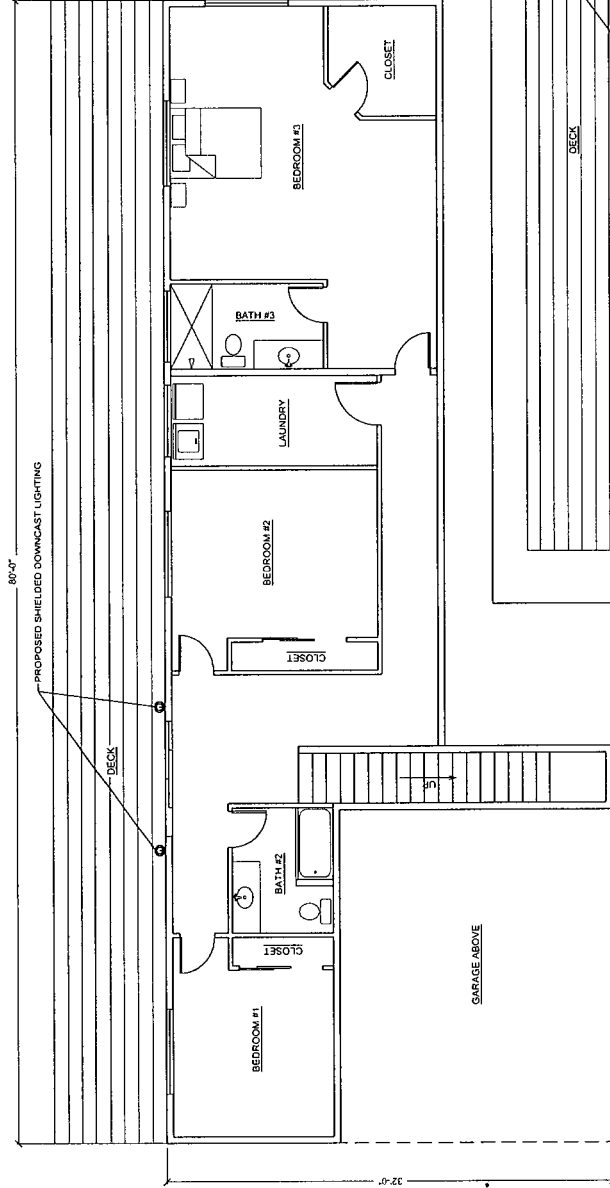
Fire climbs neighboring trees like a ladder. To reduce the chance of fire climbing a tree, remove lower tree limbs 6 to 15 feet from the ground (or the lower third of branches on smaller trees).



FIRE SAFE PLAN 1:60 1



STANDARD DOWNCAST & SHIELDED
EXTERIOR LIGHT DETAIL



- | | | |
|----------------|----------------------------|------------------|
| SIDING: | MATERIAL | COLOR |
| TRIM: | CHARRED CLADDING | AMHERST GRAY |
| WINDOW FRAMES: | HARDIE | SHOJI WHITE |
| DOORS: | ANDERSEN WINDOWS/VINYL | WHITE |
| ROOFING: | FIBERGLASS & GLASS | ARRESTING AUBURN |
| LIGHTING: | STEEL | ANTIQUE BRONZE |
| | SHIELDED DOWNCAST LIGHTING | BLACK |

LOWER FLOOR PLAN - SFR $\frac{1}{4}" = 1'-0"$ 1

UPPER FLOOR PLAN - SFR $\frac{1}{4}" = 1'-0"$ 2

Design review, set meant
for construction

Wynn Coastal Planning, Inc.
709 N. Main Street
Port Pinos, California 95467
(707) 964-2597
www.WCPI.com



LEVY-TONGATE
44924 Zeller Road
Point Arena, CA 95468

DATE	2017-07-20
BY	PAZ
CHECKED	PAZ
DATE	2017-07-20
BY	PAZ
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DATE	2017-07-20
BY	PAZ
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A1

A2

Design review, 2nd meeting
for construction.

SOUTHELEVATION $\frac{1}{4}" = 1'-0"$ 2

REVISION

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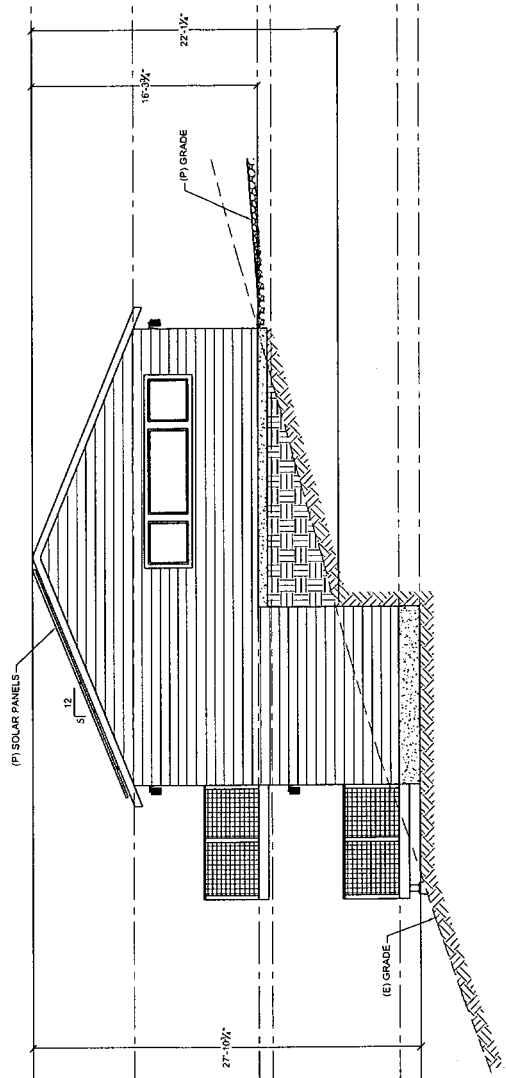
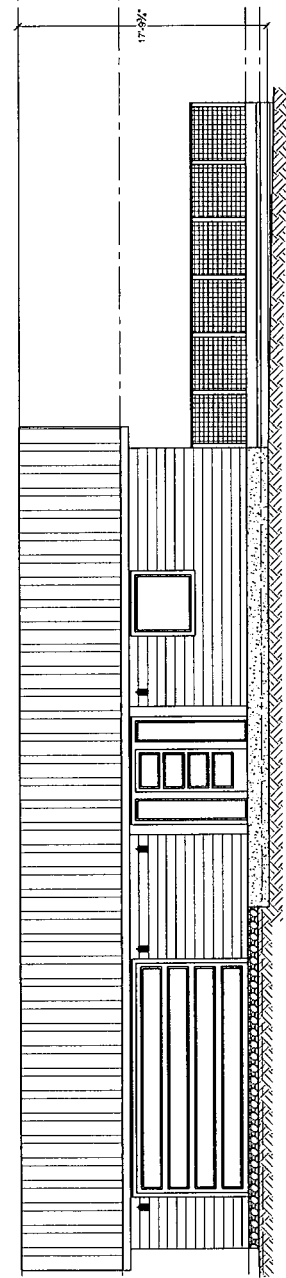
DATE

LEVY-TONGATE
4424 Zeller Road
Point Arena, CA 95468



Wynn Coastal Planning, Inc.
205 N Main Street
Fort Bragg, California 94732
(707) 964-2337
www.WCPInc.com

EAST ELEVATION $\frac{1}{4}" = 1'-0"$ 1



A3

17.11.2017

DATE	17.11.2017
BY	WCP
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DATE	17.11.2017
BY	WCP
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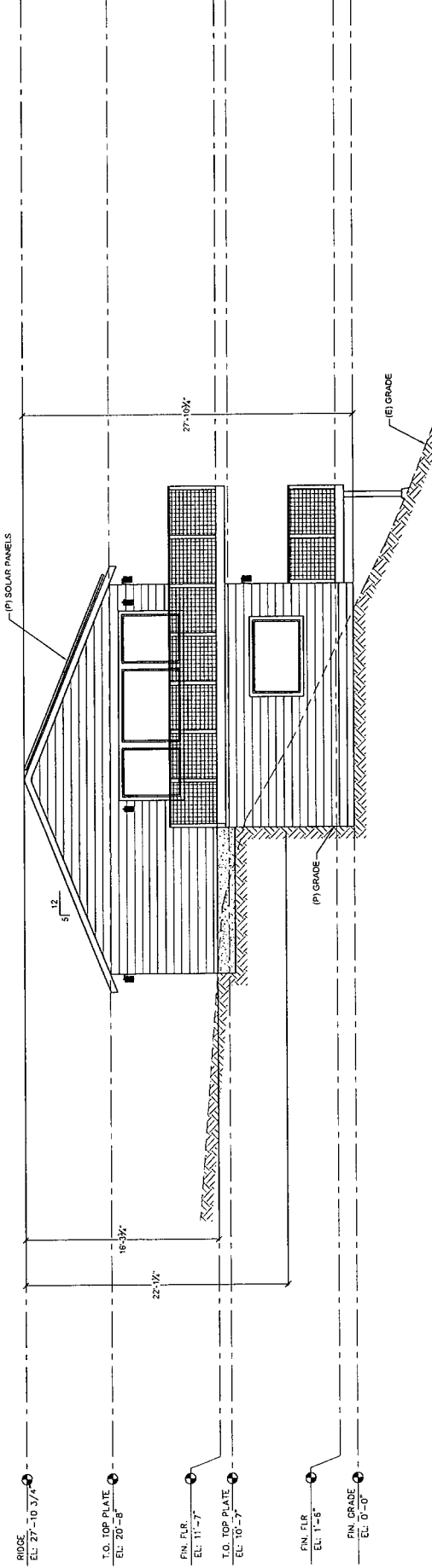
LEVY TONGATE
4424 Zeller Road
Point Arena, CA 95468



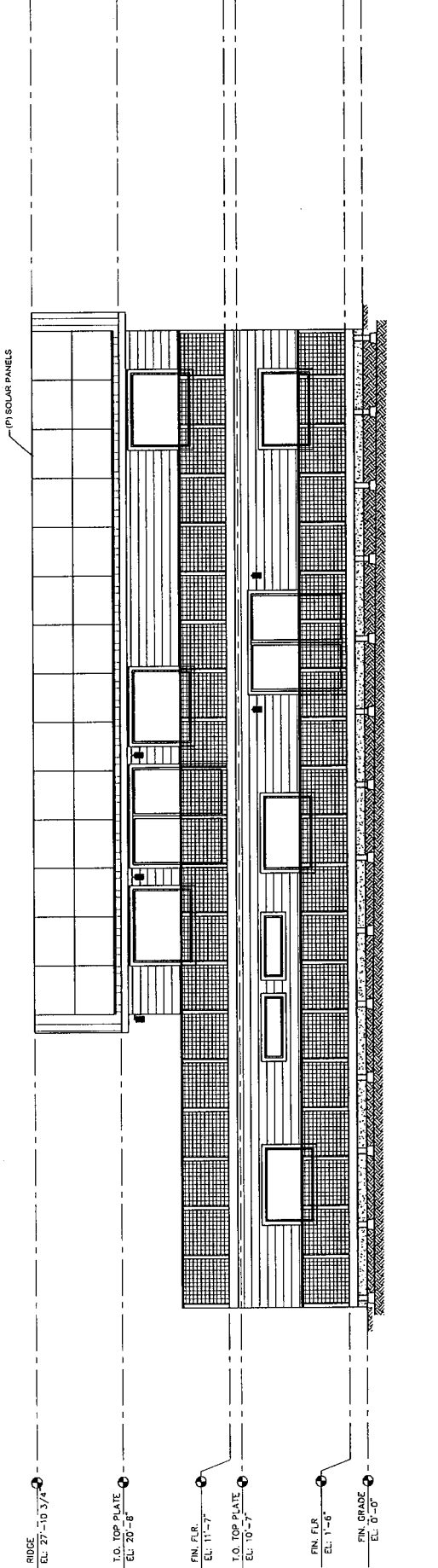
Wynn Coastal Planning, Inc.
701 N. Main Street
Fort Dodge, California 95437
(707) 964-2337
www.WCP.com

Design review, not meant for construction.

NORTHELEVATION 1/4" = 1'-0" 2



WEST ELEVATION 1/4" = 1'-0" 1



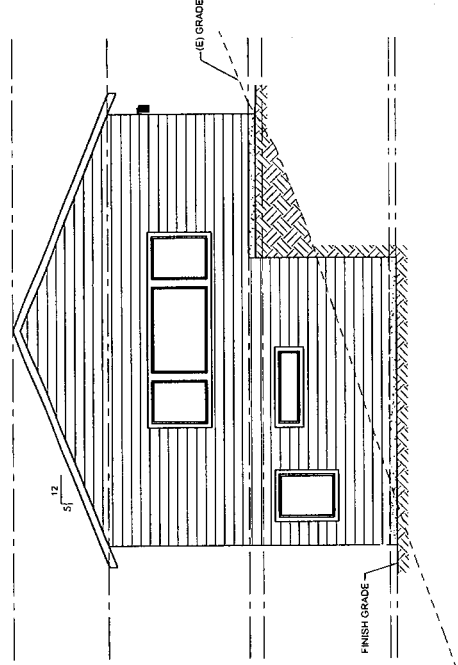
A5

05-12-2021

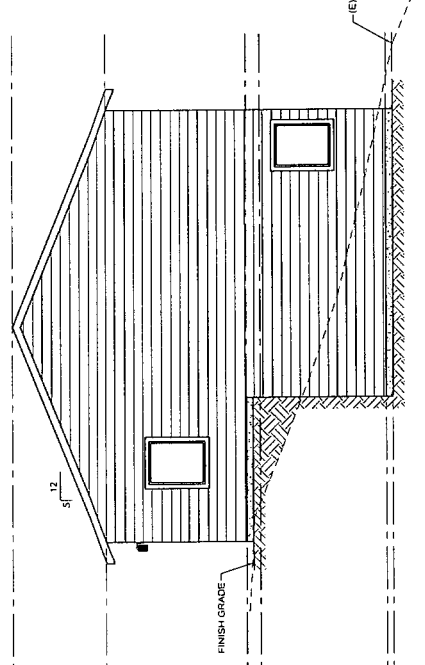
LEVY-TONGATE
4424 Zeller Road
Point Arena, CA 95468

DATE	02-24-2020
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DATE	02-24-2020
BY	WJ
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DATE	02-24-2020
BY	WJ
CHECKED BY	WJ

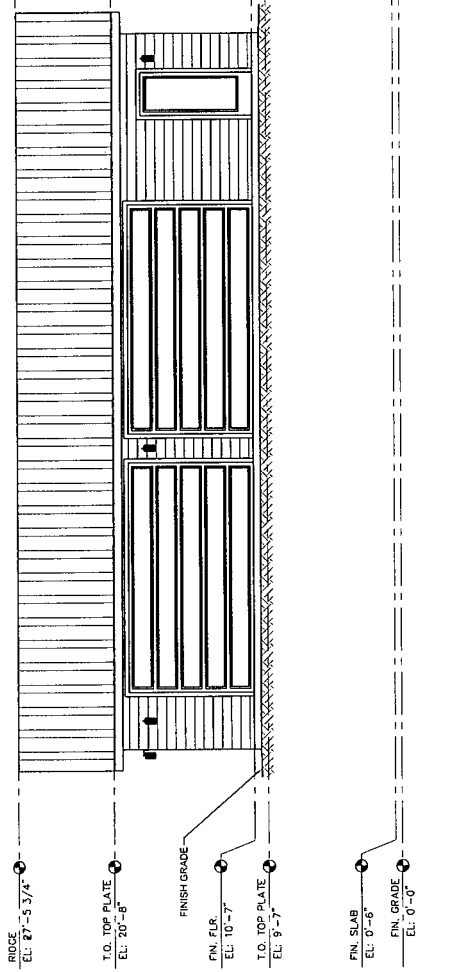
Wynn Coastal Planning, Inc.
205 N Main Street
Fort Dodge, California 95437
www.WCPlan.com
(707) 264-2387



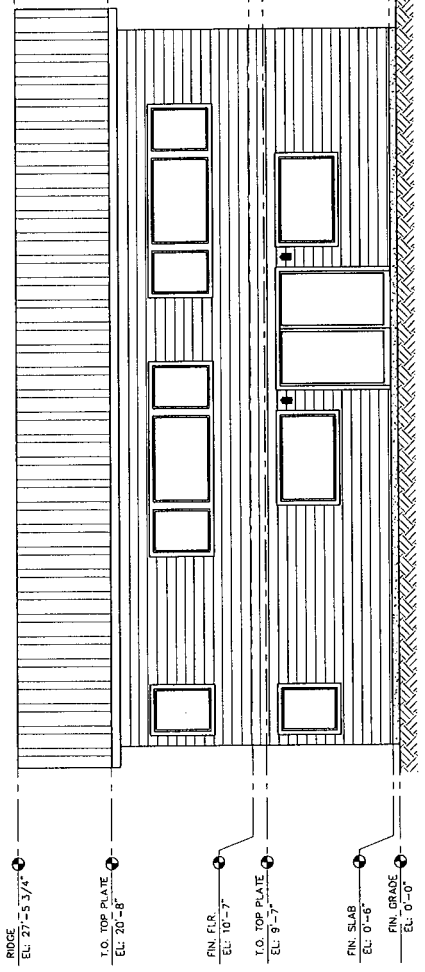
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NORTHELEVATION 1/4" = 1'-0" 4



EAST ELEVATION 1/4" = 1'-0" 1



WEST ELEVATION 1/4" = 1'-0" 3

Design review, not meant for construction.



STANDARD DOWNCAST SHIELDED
EXTERIOR LIGHT DETAIL

- SIDING:**

TRIM:

WINDOW FRAMES:

DOORS:

ROOFING:

LIGHTING:
- MATERIAL**

CHARRED CLADDING

HARDIE

ANDERSEN WINDOWS, VINYL

FIBERGLASS & GLASS

STEEL

SHIELDED DOWNCAST LIGHTING
- COLOR**

AMHERST GRAY

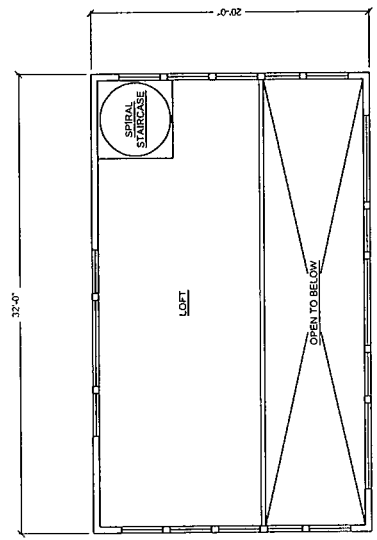
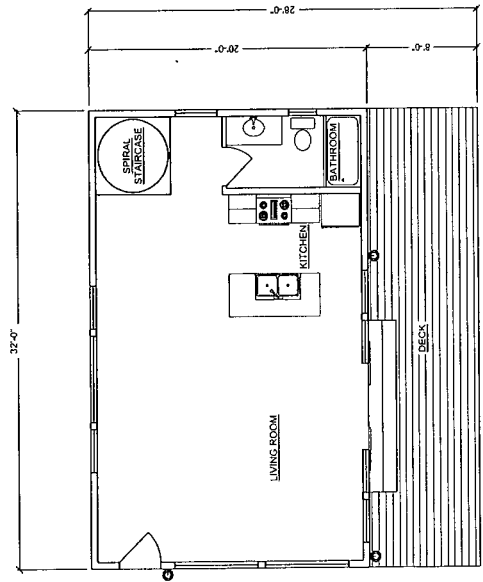
SHOJI WHITE

WHITE

ARRESTING AUBURN

ANTIQUE BRONZE

BLACK



Design review and
revision notes

LOWER FLOOR PLAN - ACCESSORY DWELLING UNIT 1/4" = 1'-0" 1 UPPER FLOOR PLAN - ACCESSORY DWELLING UNIT 1/4" = 1'-0" 2

A6

DATE: 01-15-2020
TIME: 11:00 AM
PROJECT: 2020-01-15-2020
SHEET: 1/1

LEVY-TONGATE
4424 Zeller Road
Point Arena, CA 95468

Wynn Coastal Planning, Inc.
705 N Main Street
Fort Bragg, California 95437
www.WCPIn.com
(707) 964-2337

Design review not meant for construction.

SOUTHEAST ELEVATION $\frac{1}{4}" = 1'-0"$ 4

NORTHEAST ELEVATION $\frac{1}{4}" = 1'-0"$ 3

LEVY-TONGATE
4924 Zeller Road
Point Arena, CA 95468

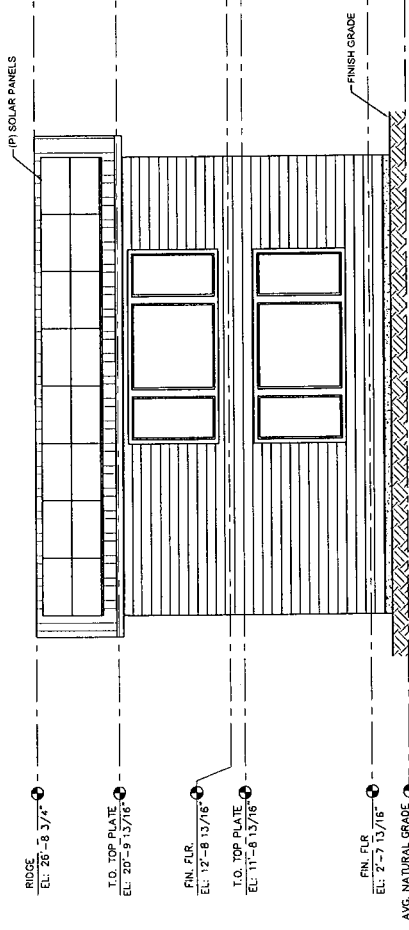
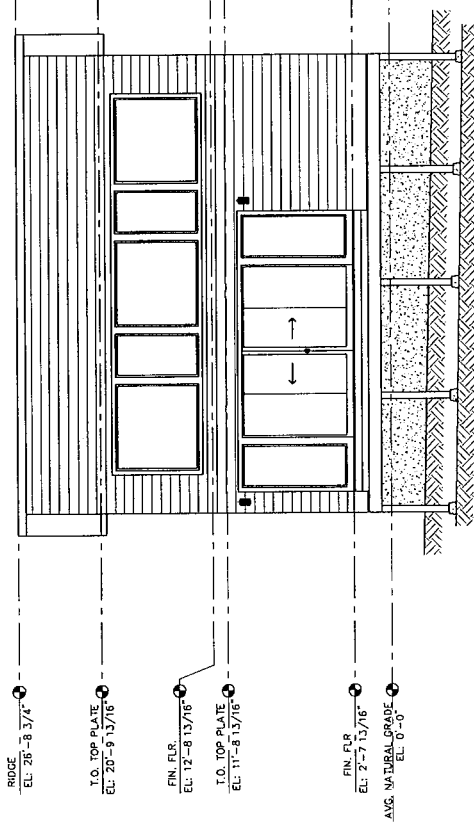
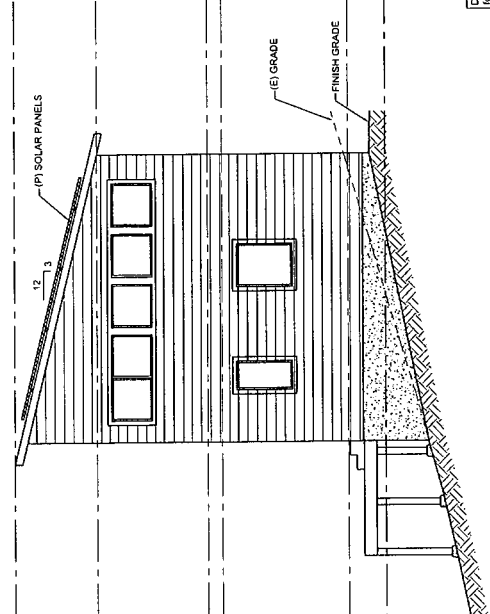
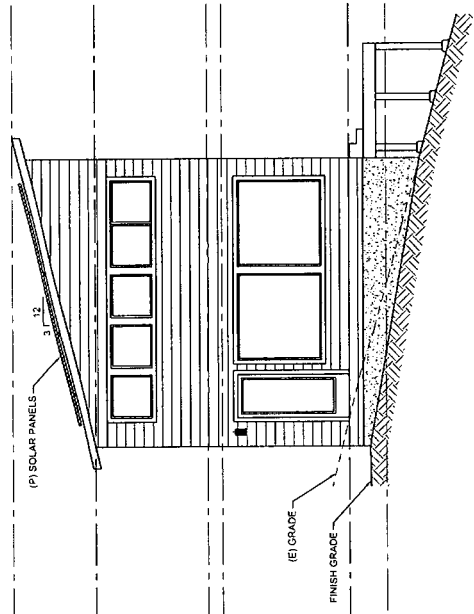
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BY	WJ
CHECKED	WJ



Wynn Coastal Planning, Inc.
705 N Main Street
Fort Bragg, California 94937
(707) 964-2847
www.WCPlln.com

NORTHWEST ELEVATION $\frac{1}{4}" = 1'-0"$ 2

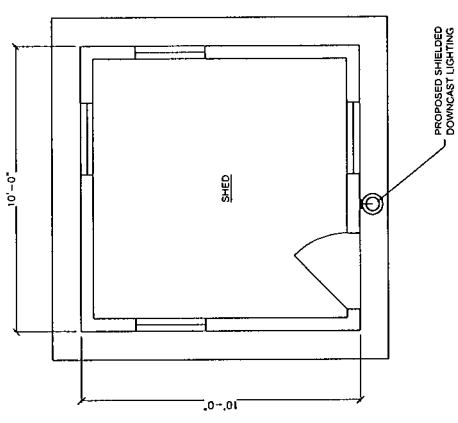
SOUTHWEST ELEVATION $\frac{1}{4}" = 1'-0"$ 1



RIDGE
EL: 26'-8 3/4"
 T.O. TOP PLATE
EL: 20'-9 13/16"
 FIN. FLR.
EL: 12'-8 13/16"
 T.O. TOP PLATE
EL: 11'-8 13/16"
 FIN. FLR.
EL: 2'-7 13/16"
 AVG. NATURAL GRADE
EL: 0'-0"

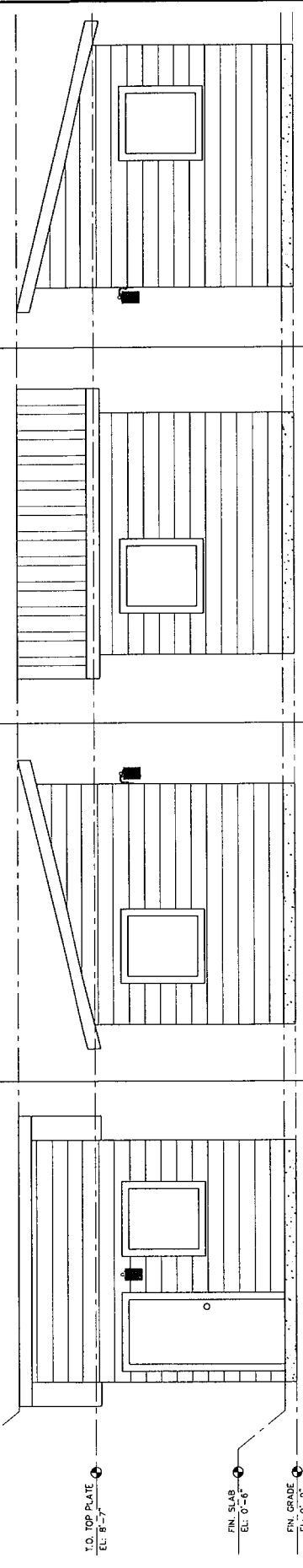
RIDGE
EL: 26'-8 3/4"
 T.O. TOP PLATE
EL: 20'-9 13/16"
 FIN. FLR.
EL: 12'-8 13/16"
 T.O. TOP PLATE
EL: 11'-8 13/16"
 FIN. FLR.
EL: 2'-7 13/16"
 AVG. NATURAL GRADE
EL: 0'-0"

- SIDING: CHARRED CLADDING
TRIM: HAZEL
WINDOW FRAMES: ANDERSEN WINDOWS, VINYL
DOORS: FIBERGLASS & GLASS
ROOFING: STEEL
LIGHTING: SHIELDED DOWNCAST LIGHTING
- COLORS:
AMBER/GRAY
SHOU WHITE
WHITE
ARRESTING AUBURN
ANTIQUE BRONZE
BLACK



FLOOR PLAN - SHED 1/2" = 1'-0"

- RIDGE
EL: 11'-10 7/16"
- I.O. TOP PLATE
EL: 8'-7"
- FIN. SLAB
EL: 0'-6"
- FIN. GRADE
EL: 0'-0"



SOUTHWEST ELEVATION 1/2" = 1'-0" 2 NORTHWEST ELEVATION 1/2" = 1'-0" 3 NORTHEAST ELEVATION 1/2" = 1'-0" 4 SOUTHEAST ELEVATION 1/2" = 1'-0" 5

A8

Wynn Coastal Planning, Inc.
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Fort Bragg, California 94737
(707) 964-2337
www.WCPInc.com

LEWY-TONGATE
4924 Zeller Road
Point Arena, CA 95468

DATE: 02/22/2020
TIME: 10:00 AM
PROJECT: 20-00000000
SHEET: 01 OF 01

BIOLOGICAL SCOPING and BOTANICAL SURVEY

for

44924 Zettler Road
Point Arena, CA 95468
APN 027-361-25-00
Mendocino County

Property Owner:
Adam Levy and Keely Tongate
7700 Ricardo Court
El Cerrito, CA 94530



Report Prepared By:
Karen Youngblood, Biologist
Wynn Coastal Planning

January 2, 2018

703 North Main Street, Fort Bragg CA 95437
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Appendix D	Map of USFWS NWI wetlands
Appendix E	Reduced Buffer Analysis
Appendix F	ESHA definitions
Appendix G	Defensible Space Guidelines

1 PROJECT SUMMARY

A biological and floristic survey was conducted at 44924 Zettler Road, Point Arena (APN 027-361-25) by Wynn Coastal Planning to locate Environmentally Sensitive Habitat Areas (ESHAs) to determine if they would be directly or indirectly impacted by the proposed development.

The subject parcel is 20 acres and located a few miles south of the City of Point Arena on a forested slope just west of the Ten Mile Road within the California Coastal Zone as defined in Section 30103 of the California Coastal Act (CCA). The general location of the subject parcel is shown in **Figure 1**.

Wynn Coastal Planning's staff biologists conducted floristic and ESHA surveys on June 15, 17 and 28, 2016, and April 21, June 5, July 18, September 5, and October 25, 2017. Two presumed ESHAs were identified according to the definitions by the CCA and Mendocino County LCP (**Figure 3**).

- **Bishop Pine Forest – Presumed ESHA 3.75 acres**
- **Ross Creek – Presumed Stream ESHA (1,000 ft west of Study Area)**

This analysis has been performed by Wynn Coastal Planning, and is the culmination of our professional opinion, research, and data collection. The County of Mendocino (County), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS) should also be consulted regarding this project to obtain all necessary permits and obtain their concurrence with our findings and recommendations, and to make recommendations of their own, including concurrence of the boundaries of the sensitive areas and appropriate avoidance and protective measures.

2 PROJECT DESCRIPTION

Currently, the Subject Parcel is undeveloped except for an existing unsurfaced driveway, well, wood deck and a temporary travel trailer. The forested property also has several overgrown skid roads from historic logging activity. Zettler Road bisects the parcel with approximately 14 acres north of the road and 6 acres south of the road.

Initial development is proposed to begin on the southern portion of the parcel, south of Zettler Road. Proposed development consists of:

- 1) Phase I Residence: 640 sq ft SFR
- 2) Driveway to Phase I Residence
- 3) Well, trench water lines to SFR
- 4) Septic tank, leach field and lines
- 5) Vegetation management for fire safety

On the northern portion of the parcel, proposed development consists of:

- 6) Phase II Residence: 3000 sq ft SFR - this SFR will be built at 3,000 sq ft as budget allows. Prior to Final Inspection of the 3,000 sq ft SFR, the original SFR (Phase I) will be converted to a Guest Cottage.
- 7) Shop: 1500 sq ft
- 8) Convert existing Test Well to Production Well, water tank, trench water lines to SFR
- 9) Septic pump chamber and septic lines
- 10) Vegetation Management for fire safety



Figure 1 General location map.

3 STUDY AREA DESCRIPTION

3.1 General Site Description

This 20-acre forested parcel, hereinafter referred to as the Study Area, is located on the upper slope of the coastal mountains near the Ten Mile Road ridgeline between the coast and the Garcia River, approximately two miles from the ocean and two miles southeast of the City of Point Arena. To access the Study Area, drive east on Schooner's Gulch Road off of Highway One for 2.5 miles where it intersects the Ten Mile Road. Turn north on Ten Mile Road for one mile to Zettler Road. Drive approximately 0.7 mi down Zettler Road to the eastern boundary of the parcel and the existing driveway.



Figure 2 Entrance of existing driveway from Zettler Road.

3.2 Land-Use History and Adjacent Lands

The Study Area is currently surrounded by similar 5 to 80 acre forested residential parcels. Topographic quadrangles (1970s) symbology show that the mountain tops in this vicinity were not forested, likely chaparral or grasslands, though adjacent to forest on the mid and lower slopes (**Figure 1**). Current forest conditions in the northern portion of the Study Area indicate that forest encroachment may have been quite extensive in this upper slope area. The Study Area south of Zettler Road has several old skid roads indicating a history of logging.

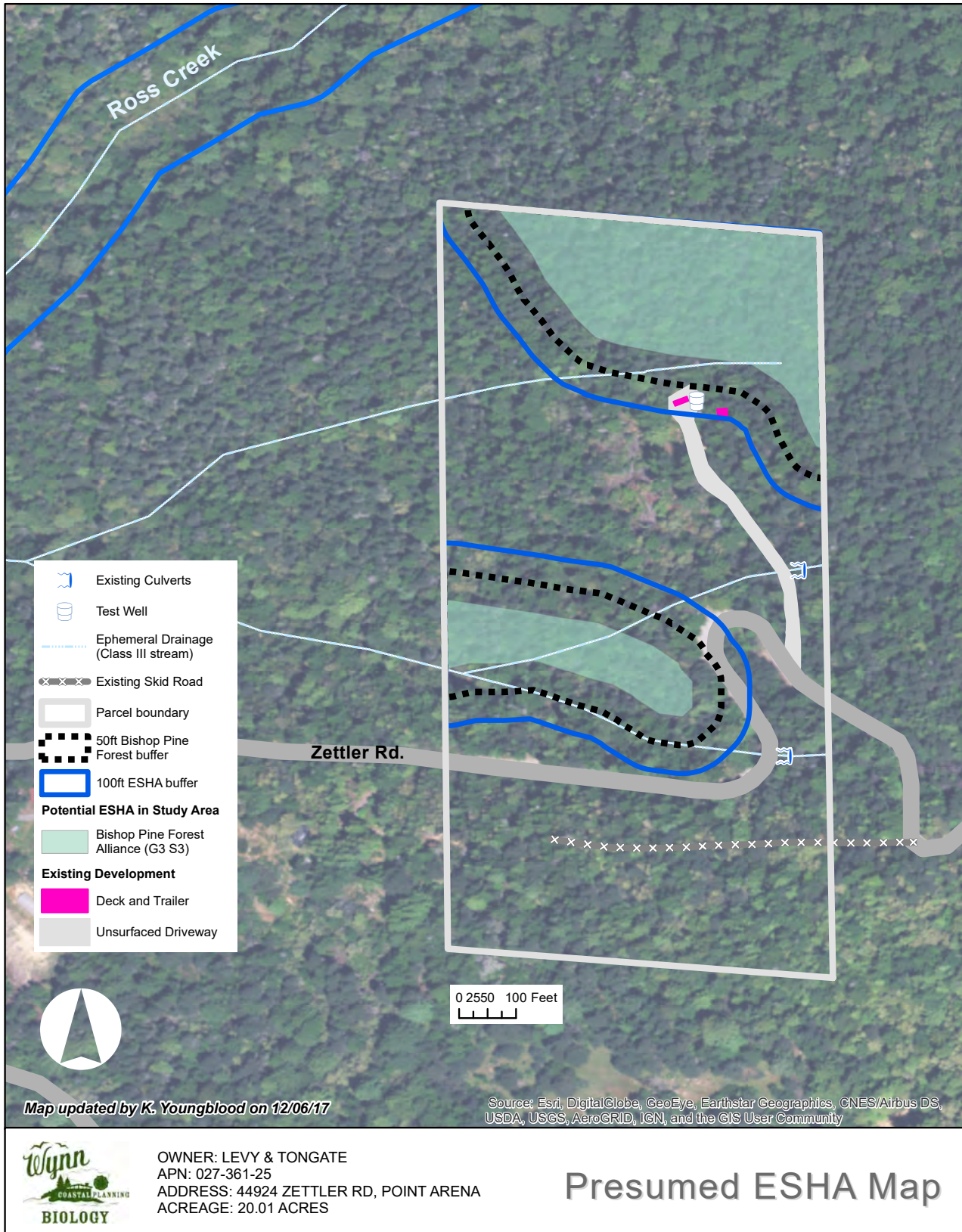


Figure 3 Presumed ESHAs, buffers and existing development.

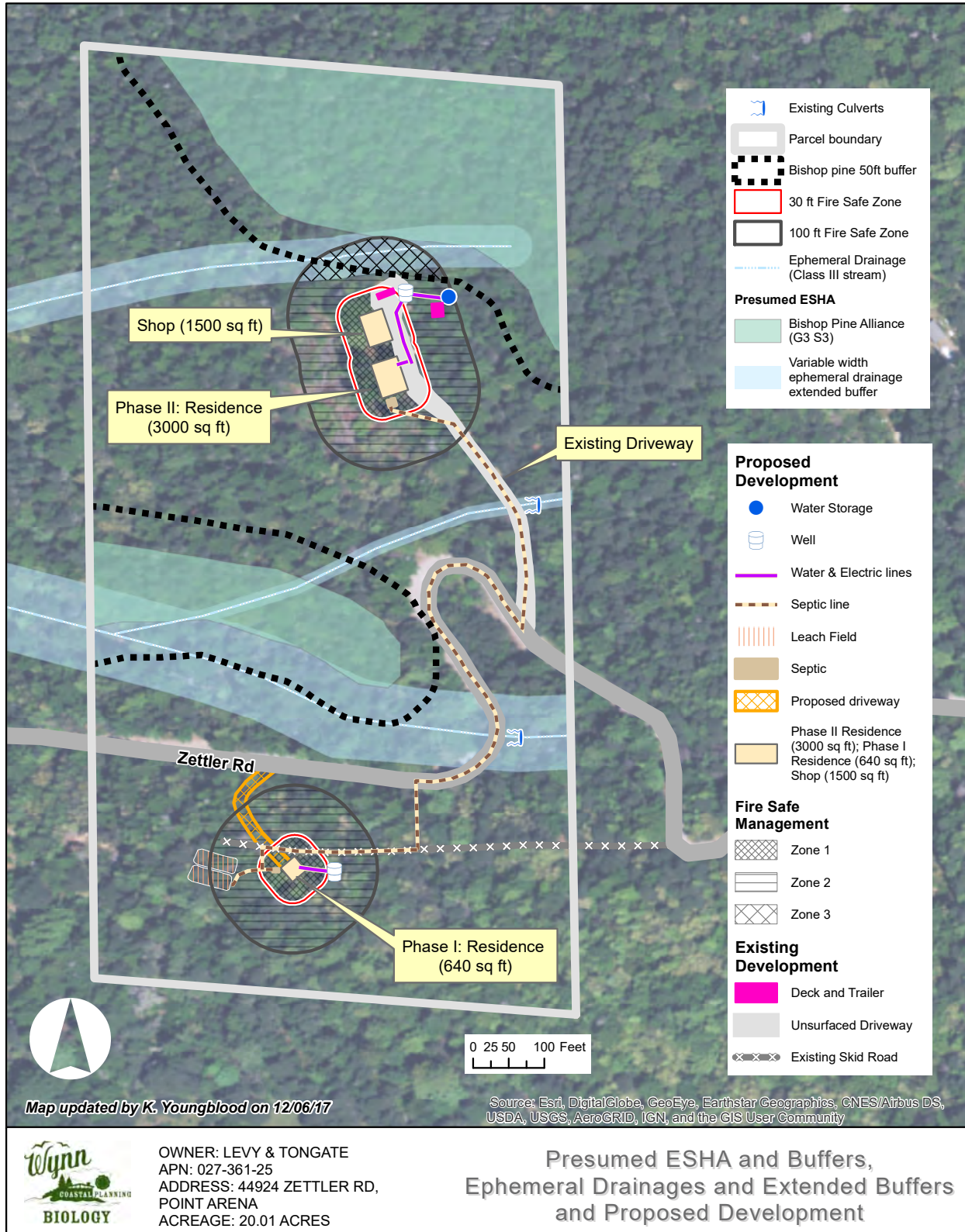


Figure 4 Proposed development and protective areas. (See page 18 for discussion of ephemeral drainage extended buffers.)

3.3 Topography and Soils

The subject parcel is on the upper slope near the first ridge of the coastal mountains between the ocean and the Garcia River. Elevation of the site ranges from 840 ft to 1,080 ft. The nearby peak (east of the parcel) is 1,247 ft.

The native soil in the majority of the parcel has been mapped by the Natural Resource Conservation Service as Havensneck Sandy Loam 15 - 30 percent slopes. The far northern and southern sections of the parcel are also mapped as Havensneck sandy loam, but with a more gentle slope of 2 – 15 percent. Havensneck sandy loam soils are derived from weathered sandstone and shale and are generally found on mountain tops, heads and shoulders of slopes (USDA Natural Resource Conservation Service, 2001; **Appendix C**). Havensneck Sand Loam soils are well-drained and do not have hydric soil characteristics.

Soils capable of producing pygmy vegetation occur within ¼ mile south of the Study Area. There was no presence of pygmy-type vegetation within the parcel.

3.4 Climate and Hydrology

The Mendocino Coast has a Mediterranean climate with average annual precipitation of 41.28 inches (WRCC, Station Point Arena), average for years 1938 - 1988), with the majority of rain occurring in winter months (November through March).

The Study Area slopes from the east down to the west. Due to the topographic position near the ridge, the Study Area is generally dry. Three ephemeral drainages run through the parcel and feed winter runoff into Ross Creek approximately 1,000 feet downhill to the west. The northernmost drainage is small, with surface water in the winter being less than one foot wide. The southernmost drainage is in a steeper canyon with shady slopes with surface water being one to three feet wide. The middle drainage is the smallest, with surface water being less than 6" wide. All ephemeral drainages were completely dry by the first week in June (2017), after a wetter than average winter.

The USFWS National Wetlands Inventory was consulted and does not show any Freshwater wetlands or streams on the parcel (**Appendix D**).

3.5 Vegetation and Natural Communities

The forested slopes within the Study Area are a mix of conifers, Douglas-fir (*Pseudotsuga menziesii*), redwood (*Sequoia sempervirens*), bishop pine (*Pinus muricata*) and broadleaf tanoak (*Notholithocarpus densiflora*) in different proportions. Early to mid-seral redwood groves are present but not dominant. Bishop pine is common and scattered throughout the northern portion, dominant in the northeastern portion of the Study Area and in a corridor along the southernmost ephemeral drainage. Douglas-fir is present throughout and dominant in the majority of the parcel. The understory is predominantly thick patches of evergreen huckleberry (*Vaccinium ovatum*). Beneath the forest canopy, both Eastwood manzanita (*Arctostaphylos glandulosa*) and hairy manzanita (*Arctostaphylos columbiana*) are present and senescing. It appears, due to the topographic position, upper slope near the ridgeline, and the presence of senescing manzanita, that the young mixed forest has encroached on a previously manzanita scrub dominated site (north of Zettler Road). Because the Study Area now has a continuous canopy cover, the manzanita has become mostly shaded out and is dying.

Five plant communities are identified in the Study Area and include: **Bishop Pine Forest (G3 S3)**, **Redwood Forest (G3 S3)**, **Douglas-fir - Tanoak Forest (G4 S4)**, **Douglas-fir Forest (G5 S4)** and **Eastwood Manzanita Chaparral (G4 S4)**. The plant communities are described in detail in the Survey Results Section (**Section 5.0**) and are shown in **Figure 5**.

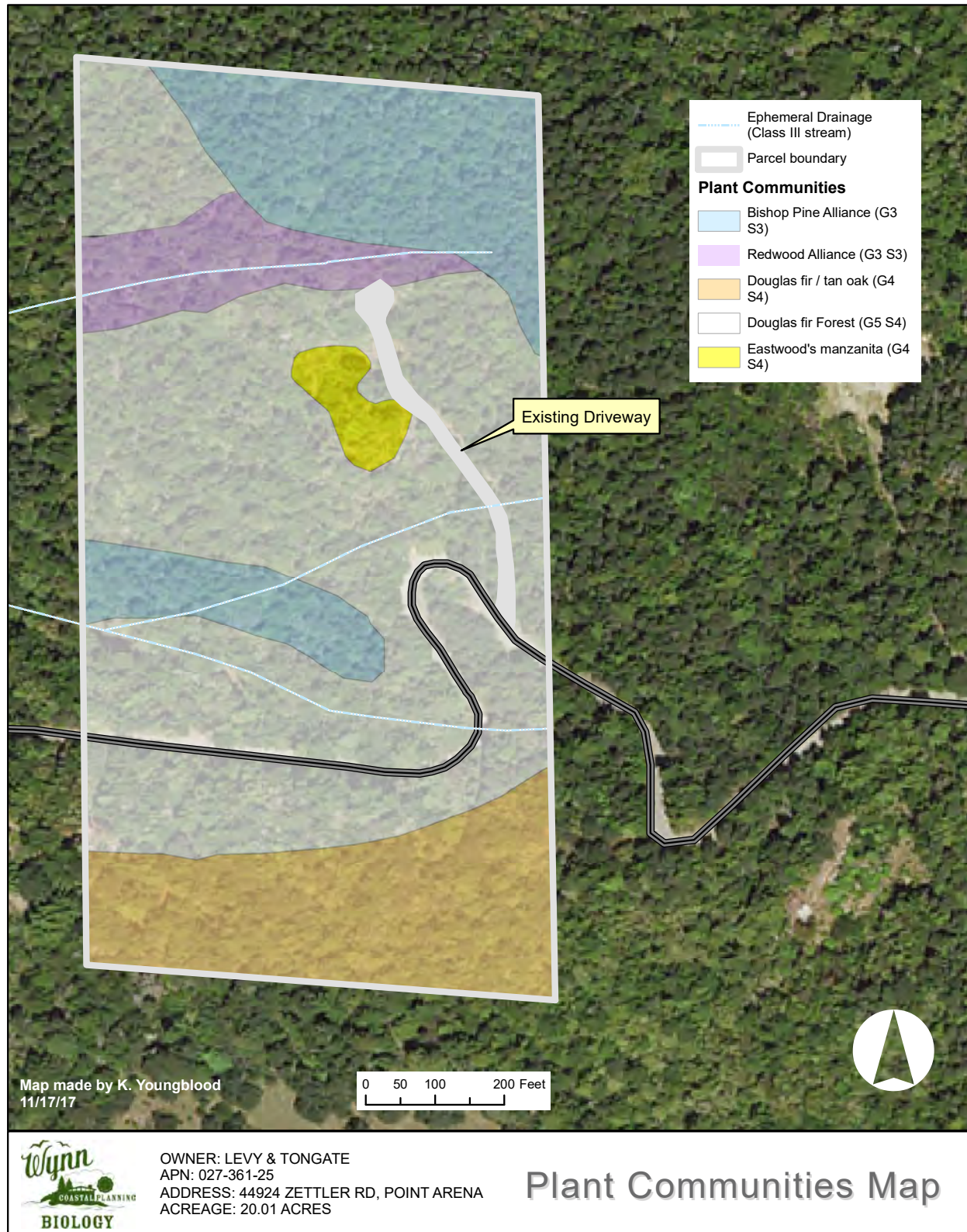


Figure 5 Plant Communities in the Study Area.

4 SURVEY METHODOLOGY

4.1 Scoping Tables

Scoping tables were created for the special-status plant species and wildlife with the potential to occur in the Study Area by reviewing the most up-to-date species lists for the California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB) and the California Native Plant Society (CNPS).

For purposes of this evaluation, animal and plant species, and plant communities are considered special-status if they 1) are designated as rare, threatened, or endangered by the state or federal governments; or 2) are proposed for rare, threatened, or endangered status; and/or 3) are state or federal candidate species, and/or 4) are considered species of concern by the USFWS and/or 4) have a State rank of S3 or lower and/or 5) are a California Rare Plant Rank (CRPR formerly CNPS) List 1A, 1B, 2A and 2B.

The California Natural Diversity Database CNDDDB was reviewed for records within approximately 5 miles of the Study Area (**Figures 7, 8**). The CNDDDB is a database consisting of historical observations of special-status flora and fauna in California. Because the CNDDDB is limited to reported sightings, it is not a comprehensive list of species that may occur in a particular area. However, it is useful in refining the list of special-status species that have the potential to occur on a particular site.

A plant database search was performed using the CNPS *Electronic Inventory*, which allows users to query the *Inventory of Rare and Endangered Plants of California* using a set of search criteria (e.g., quad name, habitat type). A target list of special-status plant species with the potential to occur on the site was developed through interpretation of the CNDDDB and CNPS query results. The biological scoping tables with special status resources and potential occurrences in the Study Area are presented in **Appendix A, Tables 1, 2, and 3**. (A key to the ranking status of all rare plants, plant communities and wildlife is also presented in **Appendix A**).

Additional database review of the Natural Resource Conservation Service (NRCS) soils and the National Wetland Inventory (NWI) was conducted to assess the potential for wetlands to occur in the area prior to field work. Aerial photography was assessed for features with “wet” characteristics and the Inventory of National Wetlands database was reviewed with the subject parcel boundaries to see if any predetermined wetlands occur in the Study Area.

4.2 Mapping

Aerial photographs and contour maps were used in the field to help determine plant community boundaries and feature location. Garmin GPS units were also used in the field to collect point data for rare plant populations, boundaries of wetlands and plant communities, and other significant features. The combination of annotated field maps and GPS data points assisted the final map creation identifying Environmentally Sensitive Habitat Areas and plant communities. AutoCAD data was imported into ArcMap to rectify property boundaries and proposed development locations.

4.3 Biological Surveys

The botanical survey of the Study Area was conducted primarily adhering to the protocol described by the California Department of Fish and Wildlife in *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*.

Wynn Coastal Planning's staff biologists conducted five site surveys, three in June 15, 17 and 28, 2016, and two more on April 21, June 5 for a total of 16 survey hours to compile a full floristic list of plants occurring in the Study area and to identify any rare resources having the potential to meet the LCP ESHA definitions. Three additional site visits were conducted on, July 18, September 5, and October 25, 2017. To ensure potential ESHA plants were evident and identifiable, offsite **reference plant populations** were visited prior to the field surveys. Verified offsite reference site plants included: Point Reyes blennosperma (*Blennosperma nanum* var. *robustum*), Blasdale's bent grass (*Agrostis blasdalei*), sea-watch (*Angelica lucida*), swamp harebell (*Campanula californica*), Mendocino coast paintbrush (*Castilleja mendocinensis*), supple daisy (*Erigeron supplex*), headland wallflower (*Erysimum concinnum*), short-leaved evax (*Hesperis evax sparsiflora* var. *brevifolia*), Point Reyes horkelia (*Horkelia marinensis*), thin-lobed horkelia (*Horkelia tenuiloba*), harlequin lotus (*Hosackia gracilis*), Baker's goldfields (*Lasthenia californica* ssp. *bakeri*), perennial goldfields (*Lasthenia californica* ssp. *macrantha*), coast lily (*Lilium maritimum*), coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*), deceiving sedge (*Carex saliniformis*), great burnet (*Sanguisorba officinalis*), white-flowered rein orchid (*Piperia candida*) and early blue violet (*Viola adunca*).

All identifiable plant species located during the surveys were identified to the lowest taxonomic level necessary to determine the presence of special status plant species and are listed in **Appendix B**. *The Jepson Manual: Vascular Plants of California* (Baldwin 2012) was used to determine the taxonomic nomenclature. *A Manual of California Vegetation Second Edition* (Sawyer 2009) and the *List of California Terrestrial Natural Communities* (CDFW 2010) recognized by the California Natural Diversity Database, based on the Sawyer & Keeler Wolf classification system was used to classify and describe representative plant communities present.

During floristic field surveys, potential wildlife and habitat was also surveyed for, including host plants for endangered butterflies, bird nests, Sonoma tree vole nests and piles of resin ducts, animal burrows, and other potential wildlife indicators. If field indicators or habitat was found for special status wildlife with the potential to occur in the Study Area, additional protocol level surveys were recommended/conducted by a qualified biologist.



Figure 6 View from existing driveway.

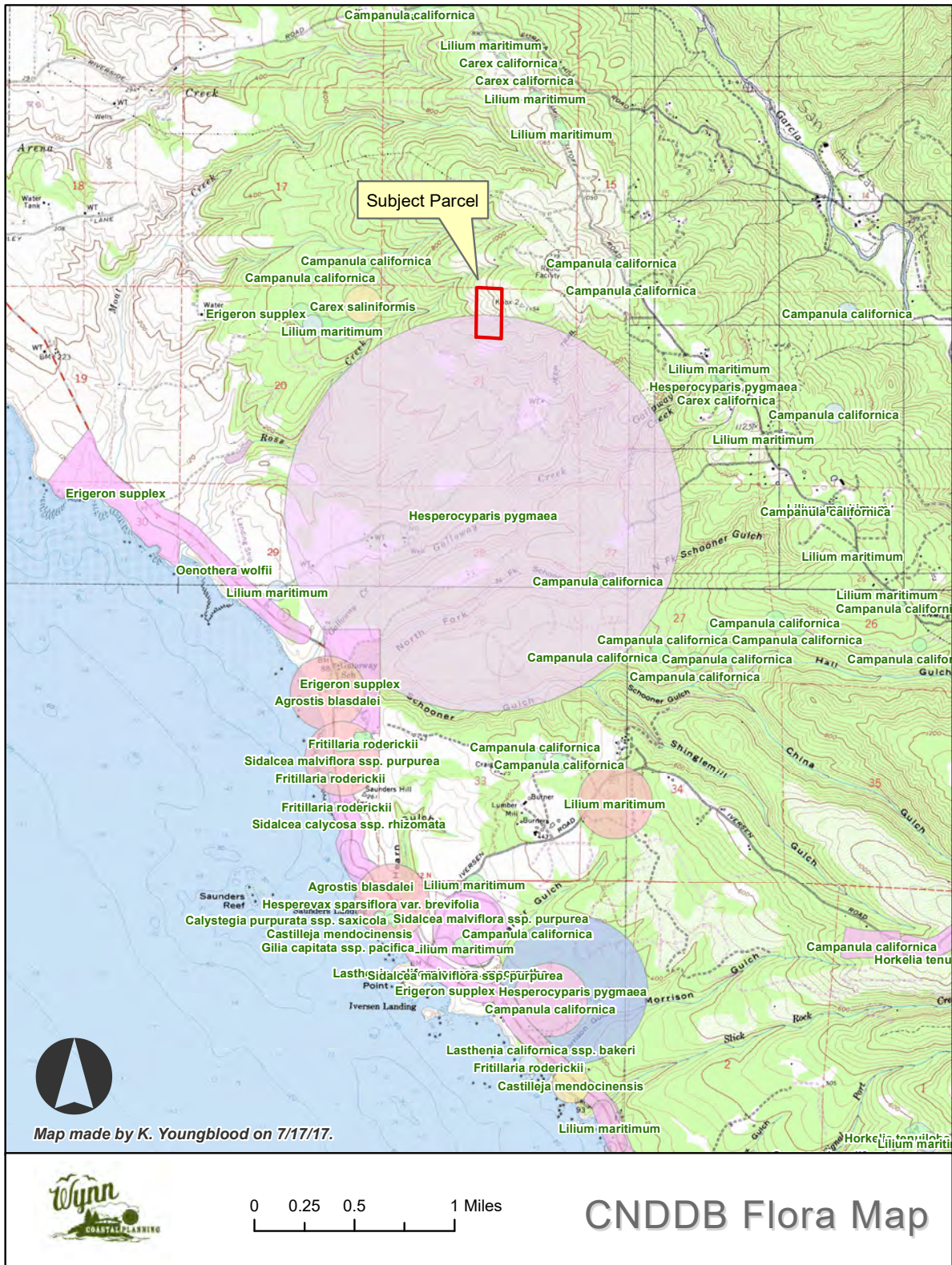


Figure 7 CNDDDB flora Map.



Figure 8 CNDDDB fauna map.

5 SURVEY RESULTS

5.1 Plants – No rare plant ESHAs found.

The CDFW's California Native Diversity Database (CNDDDB) BIOS, Version 5 (2016), was used to focus the search on flora previously reported in the vicinity of the project area (**Figure 7**). The CNDDDB identified several relevant special-status plant species found in the vicinity of the Study Area and include: coast lily (*Lilium maritimum*), California sedge (*Carex californica*), deceiving sedge (*Carex saliniformis*), pygmy cypress (*Hesperocyparis pygmaea*), supple daisy (*Erigeron supplex*), and swamp harebell (*Campanula californica*). Pedestrian surveys resulted in identification of sixty-eight species of herbs, grasses, sedges, rushes, ferns, shrubs, and trees (**Appendix B**). No special-status plant species were found during any of the four floristic surveys in the Study Area, however several harlequin lotus (*Hosackia gracilis*) plants were found in the ditch along Zettler Road. Harlequin lotus is not a rare plant, but is the presumed host plant for the federally endangered Lotis Blue Butterfly (LBB). The population of harlequin lotus was very small (less than 10 plants) in the Study Area and was not surrounded by suitable habitat to support LBB, therefore it is not identified as a presumed ESHA in the Study Area.

5.2 Plant Communities - Plant community presumed ESHA found.

Five plant communities were identified and delineated in the Study Area and include **Bishop Pine Forest (G3 S3)**, **Redwood Forest (G3 S3)**, **Douglas-fir - Tanoak Forest (G4 S4)**, **Douglas-fir Forest (G5 S4)** and **Eastwood Manzanita Chaparral (G4 S4)**.

Bishop Pine Forest (G3 S3) - Presumed ESHA occurs in two areas, the northeastern corner of the Study Area and just north of the southern ephemeral drainage. Individual bishop pines are present throughout the entire northern portion of the Study Area intermixed with Douglas-fir and redwood. The delineated Bishop Pine Forest areas have a higher percentage of bishop pine, greater than 30% cover, and so were separated out from the mixed redwood and Douglas-fir forest types. The Bishop Pine Forest understory is mostly comprised of thick impenetrable patches of evergreen huckleberry (*Vaccinium ovatum*), occasional young wax myrtle (*Morella californica*) and tanoak (*Notholithocarpus densiflorus*). The herb layer is relatively sparse with occasional hairy honeysuckle (*Lonicera hispidula*). The litter layer on the ground is thick with no to little exposed soil.

Bishop Pine Forest is a forest of limited distribution, found naturally along a narrow coastal strip from Humboldt County to Santa Barbara County. On the Mendocino Coast, bishop pine serves as a thin line of forest between the Pacific Ocean and the more expansive redwood forest. Because bishop pines are serotinous species (reproducing from fire, generally) and fire is suppressed in populated areas, which reduces regeneration and increases potential infestation of disease, and due to continual development in the desirable bishop pine range, the bishop pine forest is slowly declining in California (Giusti). Bishop Pine Forest in the Study Area is a presumed ESHA and occupies approximately 3.7 acres. The Bishop Pine Forest community was initially mapped with protective buffers of 50 and 100 ft (**Figure 3**). Through the process of assessing impacts of proposed development and doing the Reduced Buffer Analysis, it was determined that 50 ft is suitable for the protection of the Bishop Pine Forest (**Figure 3, Appendix E**).

Redwood Forest (G3 S3) occurs where redwood is greater than 30% cover, which is mostly along the northern ephemeral drainage. The plant composition in the Redwood Forest is very similar to the Bishop Pine Forest differing by having a higher concentration of redwoods versus pines. The understory has moderately dense patches of evergreen huckleberry and senescing hairy Manzanita (*Arctostaphylos columbiana*). The herb layer is sparse and includes bracken fern (*Pteridium aquilinum*) and redwood violet (*Viola sempervirens*).

Mature redwood forests are considered potential ESHAs however the redwood dominated area identified in the Study Area has redwood groves ranging from early to mid-seral stage. Large redwood stumps and wildlife snags are absent, indicating this forest is relatively young. Early to mid-seral redwood forest, like that on the parcel occupies approximately 900,000 acres in California, which far exceeds the membership rule to qualify as a state ranked population with S3 status. The redwood forest delineated area in the Study Area was determined by staff biologists to not exhibit rare plant community characteristics of a mature redwood forest and was not classified an ESHA.



Figure 9 Young redwood forest.

Douglas-fir Forest (G5 S4) occurs in the majority and central portion of the Study Area. This area is dominated by Douglas-fir but also includes occasional tanoak, bishop pines and redwoods. The shrub layer is dominated by patches of evergreen huckleberry and also includes salal (*Gaultheria shallon*), hairy manzanita, bear grass (*Xerophyllum tenax*), hairy honeysuckle, rayless arnica (*Arnica discoidea*) and Douglas iris (*Iris douglasiana*). In the Douglas-fir Forest, a roadside ditch runs from the beginning of the driveway along Zettler Road for approximately 200 ft, where it is directed down towards a steep shady slope. Some common plants found in wet areas are growing in the roadside ditch, including: harlequin lotus (*Hosackia gracilis*), common rush (*Juncus effusus*), and self-heal (*Prunella vulgaris*). Understory vegetation on the shady slopes in the Douglas fir Forest include: Pacific starflower (*Lysimachia latifolia*), redwood sorrel (*Oxalis oregana*), and trillium (*Trillium ovatum*).

Douglas fir – Tanoak Forest (G4 S4) occurs in the drier southern portion of the Study Area on the south and southeast facing slopes. The forest canopy is more open with a bigger and higher percentage of tanoak and Douglas-fir. Madrones (*Arbutus menziesii*) are sparse but present. Understory shrubs include evergreen huckleberry, regenerating Douglas fir and tanoak, and eastwood Manzanita. The herb layer is sparse and includes: sticky monkeyflower (*Mimulus aurantiacus*), bracken fern, woolly sunflower (*Eriophyllum lanatum*), and hairy honeysuckle.

Eastwood manzanita Chaparral (G4 S4) occurs on the shoulder of the driveway, just below the cul-de-sac near the northern terminus of the existing driveway. The area is approximately 0.5 acres and appears to have been cleared in the past to provide an ocean view. The dominant vegetation now is manzanita and huckleberry with a sparse forb layer including common woolly sunflower (*Eriophyllum lanatum*), hairy honeysuckle, young tanoaks and Douglas fir seedlings.

5.3 Potential Wildlife/Habitat Occurrences - No special-status wildlife observed.

The CDFW's California Native Diversity Database (CNDDDB) BIOS, Version 5 (2016), was used to focus the search on fauna previously reported in the vicinity of the project area (Figure 8). Wildlife species identified in the vicinity of the Study Area include: Point Arena Mountain Beaver and Sonoma Tree Vole. A complete list of special-status wildlife with the potential to occur in the Study Area can be found in Appendix A, Table 3. No special-status wildlife species were identified during the field biological surveys but potentially suitable habitat for special-status wildlife species was identified. Descriptions below are for coniferous forest dwelling wildlife species with some potential to occur in the Study Area based on presence of potentially suitable habitat. Relevant state or federally endangered or threatened species with any potential to occur are also assessed in this section.

5.3.1 Invertebrates

- a) **Pomo bronze shoulderband (*Helminthoglypta arrosa pomoensis*) (G2G3T1 S1)**
Found near the coast in heavily-timbered redwood canyons of Mendocino County. Found under redwoods generally in moist duff. **None detected.**
- b) **Lotis Blue butterfly (*Lycaeides argyrognomon lotis*) (FE G5TH SH)**
Not seen since 1983, it is primarily from Mendocino County but historically from northern Sonoma and possibly Marin Counties. Inhabits wet meadows, damp coastal prairie, and potentially bogs or poorly-drained sphagnum-willow bogs where soils are waterlogged and acidic. Presumed host plant is harlequin lotus (*Hosackia gracilis*) of which a small population was found in the roadside ditch. Because only a few plants were found and supporting Lotis Blue Butterfly habitat is not present, no further surveys are warranted.
- c) **Behren's silverspot butterfly (*Speyeria zerene behrensi*) (FE G5T1 S1)** Historically from the town of Mendocino in Mendocino County, south to the area of Salt Point State Park in Sonoma County, the Behren's Silverspot Butterfly (BSSB) is now presumed to be from Manchester south to Salt Point State Park area. The BSSB inhabits coastal terrace prairie with caterpillar host plants western dog violet, and adult nectar sources include golden rod, yarrow, aster chiloensis, and pearly everlasting. No Western dog violet (*Viola adunca*) was found in the Study Area; no further surveys are warranted.

5.3.2 Amphibians

- a) **California red-legged frog (*Rana draytonii*) (FT; G4T2T3 S2S3)**
California red-legged frogs are found in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. They require 11-20 weeks of permanent water for larval development and can wander overland sometimes far from water to cool damp places. No breeding habitat is present on the property. There is potential for presence of adults in upland areas during dispersal periods.
- b) **Foothill yellow-legged frog (*Rana boylei*) (Candidate for CA listing; G3 S2S3)**
Foothill yellow-legged frogs are generally found in partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats including coastal scrub and wet meadows. They need at least some cobble-sized substrate for egg-laying; egg clusters are attached to rocks in moving water. Tadpole development requires water for three to four months usually hatching in March to April. Foothill yellow-legged frogs are generally found near water but can be found in moist environments with some protection away from the water's edge. No breeding habitat is present on the property. The ephemeral streams do not provide adequate feeding and breeding habitat.
- c) **Southern torrent (seep) salamander (*Rhyacotriton variegatus*) (G3G4 S2S3)** This species is found in creeks, streams, and seepages in coastal forests in northern California. The property is south of the known range for the torrent salamander, and the ephemeral streams on the property do not provide adequate habitat for this species.
- d) **Red-bellied newt (*Taricha rivularis*) (G4 S2)**
Red-bellied newts are found in redwood forests and lay their eggs in fast flowing streams or rivers. They are often found under rocks, logs, rodent burrows, and other forest debris. Habitat for this species is found on the property. Red bellied newts are present in terrestrial habitat in the spring and summer.



Figure 10. CA red-legged frog. (Photo Gary Nafis)



Figure 11. Foothill yellow-legged frog. (Photo Gary Nafis)



Figure 12. Red-bellied newt. (Photo Will Flaxington)



Figure 13. Southern torrent salamander (Photo credit Krisweb)

Although no amphibians were observed during any of the field surveys, presence of special-status red-bellied newts, California red-legged frogs, and foothill yellow-legged frogs in the Study Area is possible due to the proximity of the Study Area to Ross Creek, a perennial stream and potential suitable breeding habitat for special status amphibians (approximately 1000 ft to the west of the Study Area). Mitigation and Avoidance measures in Section 7 further address how to minimize impacts to all potentially occurring amphibians.

5.3.3 Birds

- a) **Northern goshawk (*Accipiter gentilis*) (G5 S3)** Northern goshawks generally nest within the vicinity of coniferous forests, in large trees with an open understory. **Habitat is present.**
- b) **Marbled murrelet nesting (*Brachyramphus marmoratus*) (G3G4 S1)** Marbled murrelets are generally associated with old growth redwood forests where they create nests in the large moss-covered lateral branches of old redwoods and Douglas-firs. The forest within the study area is relatively young and not likely to support marbled murrelets.
- c) **Northern spotted owl (*Strix occidentalis caurina*) (G3 S2S3)** Northern spotted owls often nest in mature forests with multi-story canopies, trees with cavities or broken tops and space under canopy to hunt for prey. **The forest within the study area does not provide quality habitat for northern spotted owl.**
- d) **Vaux's swift nesting (*Chaetura vauxi*) (G5 S3)** Vaux's swifts nest in redwood, Douglas fir and other coniferous forests often in flocks and forages over most terrains with a preference for rivers and lakes. **Low quality habitat is present.**

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- e) **Purple martin (*Progne subis*) (G5 S3)** Purple martins nest in woodlands and low elevation coniferous forest, often in old woodpecker cavities, near open foraging habitats. No nests, sightings, or calls were documented at the project site during any of the field surveys. **Habitat is present.**
- f) **Hermit warbler nesting (*Dendroica occidentalis*) (G4G5 S3?)** Hermit warblers are known to breed in the Pacific Northwest (Washington, Oregon, and California) in coniferous forests with a high canopy volume, generally preferring mature stands of pine and Douglas fir. At lower elevations, hermit warblers prefer moist coniferous forests with a mix of Douglas-fir, hemlock and western red cedars. **Habitat is present.**

Potentially present nesting birds, including those above, may be migratory or year-round residents, and nesting requirements are highly variable. Some birds nest in burrows, others on the ground, in vegetation, brush, trees, rocky outcrops, or on/under man-made structures. The bird nesting season typically extends from February to August. Although no special-status birds or nests were observed, except for the common olive-sided flycatcher, during any of the field surveys, the adjacent forest land and riparian corridor provide potential nesting habitat for special-status bird species and other birds protected by the Migratory Bird Treaty Act. If construction is to occur during the breeding season (February to August), a pre-construction survey is recommended to ensure that no protected nesting birds will be disturbed during development. No surveys are recommended if activity occurs in the non-breeding season.

5.3.4 Bats

- a) **Pallid bat (*Antrozous pallidus*) (G5 S3)**
These bats have been observed in a wide variety of habitats from sea-level through mixed conifer forests occasionally roosting in hollow trees and occasionally buildings. **Habitat is present.**
- b) **The silver-haired bat (*Lasionycteris noctivagans*) (G5 S3S4)**
The silver-haired bat roosts in forests and occasionally buildings adjacent to streams. **Habitat is present.**
- c) **Hoary bat (*Lasiurus cinereus*) (G5 S4?)**
The hoary bat is the most wide-spread bat in North America. It often winters along the coast and roosts in the foliage of trees near ends of branches. The hoary bat is highly associated with forested habitats but can be found in suburbs with large trees. **Habitat is present.**
- d) **Long-eared myotis (*Myotis evotis*) (G5 S4?)**
The Long-eared myotis is widespread in California but generally believed to be uncommon in most of its range. They are found in most habitats at most elevations but prefer coniferous forests and woodlands. They roost in loose bark in tall, open canopied snags, rocks, caves, bridges and abandoned mines. **Habitat is present.**

Although no bats or roosts were documented during any of the field surveys, bat roost sites can change from year to year, so pre-construction surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat surveys do not need to be performed if work is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be performed by a qualified biologist within 14 days prior to the onset of development activities.

5.3.5 Voles, Martens, and Fishers

- a) **Sonoma tree vole (*Arborimus pomo*) (G3 S3)**
The Sonoma tree vole inhabits the north coast fog belt forests and primarily feeds on Douglas-fir needles and occasionally needles of pine or grand fir. Sonoma tree voles were reported to CDFW near the vicinity of the Study Area (Figure 8), however,

no Sonoma tree voles, nests, or nesting materials were observed during any of the field surveys. A focused Sonoma tree vole survey is recommended for the proposed development areas, including the fire safe defensible space, prior to vegetation removal.

b) Humboldt marten (*Martes Americana humboldtensis*) (G5 S2S3)

The Humboldt marten are endemic to the coastal forests of northwestern California. They are typically associated with closed-canopy, late-successional, mesic coniferous forests and are very rare on the Mendocino coast. Due to the young age of the forest in the Study Area, Humboldt martens are not likely to occur.

c) Pacific fisher (*Martes pennant (pacific)*) DPS (G5 S2S3)

Pacific fisher is found in coniferous forests with intermediate to large trees and in deciduous riparian areas with a high percent canopy closer. Pacific fishers need large areas of mature dense forests and are very rare on the Mendocino coast. Like the Humboldt martens, Pacific fishers are not likely to occur in the Study Area due to the young age of the forest.

Many of the special-status wildlife species with the potential to occur in coniferous forest habitats are associated with mature forests with large snags. Snags provide shelter and habitat for many of the bird and bat species. The forest in the Study Area is relatively young and large wildlife snags are absent. Due to the young forest in both the Study Area and on adjacent lands, most of the above mentioned special-status wildlife species are not likely to occur within the Study Area.

5.4 Ross Creek: off-site ESHA with onsite variable width extended buffer areas

Ross Creek is located off site, approximately 1,000 feet downslope of the Study Area. Due to the steepness of the property and presence of ephemeral drainages on the site with bed and bank features, an extended buffer area from the off-site Ross Creek ESHA is warranted for the protection of the ephemeral drainage features on the property (**Figure 17**).

Although protection is warranted for the onsite drainage areas that influence downslope Ross Creek, the ephemeral drainages on the property do not qualify as ESHA for the following reasons¹:

1. They are not wetlands. These areas only convey water on a very occasional basis; they do not meet the criteria for a wetland in that no wetland hydrology, soils or vegetation are present within the onsite drainage features.
2. They do not support riparian vegetation. The vegetation within the ephemeral stream areas on-site is not differentiated from surrounding vegetation, and does not provide any additional beneficial riparian qualities to the streamways. The vegetation is not comprised of a predominance of plants normally considered as riparian plants such as willow or alder.
3. They do not provide habitat for anadromous fish or for aquatic amphibians.

These ephemeral drainages do have bed and bank features, which indicate that water is conveyed through these areas after big rain events; therefore, they are considered by the Department of Fish and Wildlife as Class III streams – an ephemeral stream with bed and bank features. The water that flows from these Class III streams has the potential to reach Ross Creek downslope.

Ross Creek is not identified as an anadromous fish stream according to our search of BIOS, an online resource mapping program provided by the Department of Fish and Wildlife. Ross Creek is approximately 2.5 miles long from the headwaters within the Study Area to the ocean (**Figure 16**). Field biologists assessed the

¹ The Mendocino County Coastal Zoning Code defines 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.

mouth of Ross Creek, near the ocean, and confirmed that the stream runs subsurface through sandy substrate for a considerable distance so that large fish (salmonids) can not enter the stream from the ocean and migrate upstream.

Ross Creek does presumably provide habitat for special status amphibians, such as California red-legged frog (Federally Endangered), Foothill yellow legged frog (Eligible for Federal Listing), and special status red-bellied newt.

We therefore recommend protection of the onsite ephemeral drainages as an extended part of the buffer area to Ross Creek, located offsite. The recommended buffer area to Ross Creek greatly exceeds the 100 foot standard buffer width, since Ross Creek is approximately 1,000 feet away from the proposed project within the subject parcel. Rather than recommending a fixed 1,000 ft buffer width around Ross Creek, we recommend extended “fingers” of the Ross Creek ESHA buffer up each ephemeral drainage that feeds into Ross Creek. Even though the ephemeral drainages are not themselves ESHA, the protective extended buffer “fingers” are warranted due to the steepness of the slopes and potential of the ephemeral drainages to carry sediment and/or pollutants downslope into Ross Creek during the occasional large rain events when surface water is present and flowing. **Figure 16 and 17** below illustrate the location of Ross Creek in relation to the Study Area and the concept of the extended buffers.

Since the California Department of Fish and Wildlife (CDFW) is charged with protection of streams, including Class III streams, we met with CDFW at the project site to determine the most appropriate extent of the extended buffers. Following the CDFW site visit (October, 2017), Wynn Coastal Planning biologists determined protection areas for each Class III stream in the Study Area based on the size and characteristics of each Class III stream (referred to in our report as ephemeral drainages) including estimates of bank full width, slope steepness and slope length to break in slope. The width for each drainage protective area are as follows:

1. Northern ephemeral drainage - 30 ft buffer (60 ft protection area)
2. Middle ephemeral drainage - 10 ft buffer (20 ft protection area)
3. Southern ephemeral drainage - 60 ft buffer (120 ft protection area)



Figure 14 Northern ephemeral drainage in Study Area.



Figure 15 Southern ephemeral drainage in Study Area.

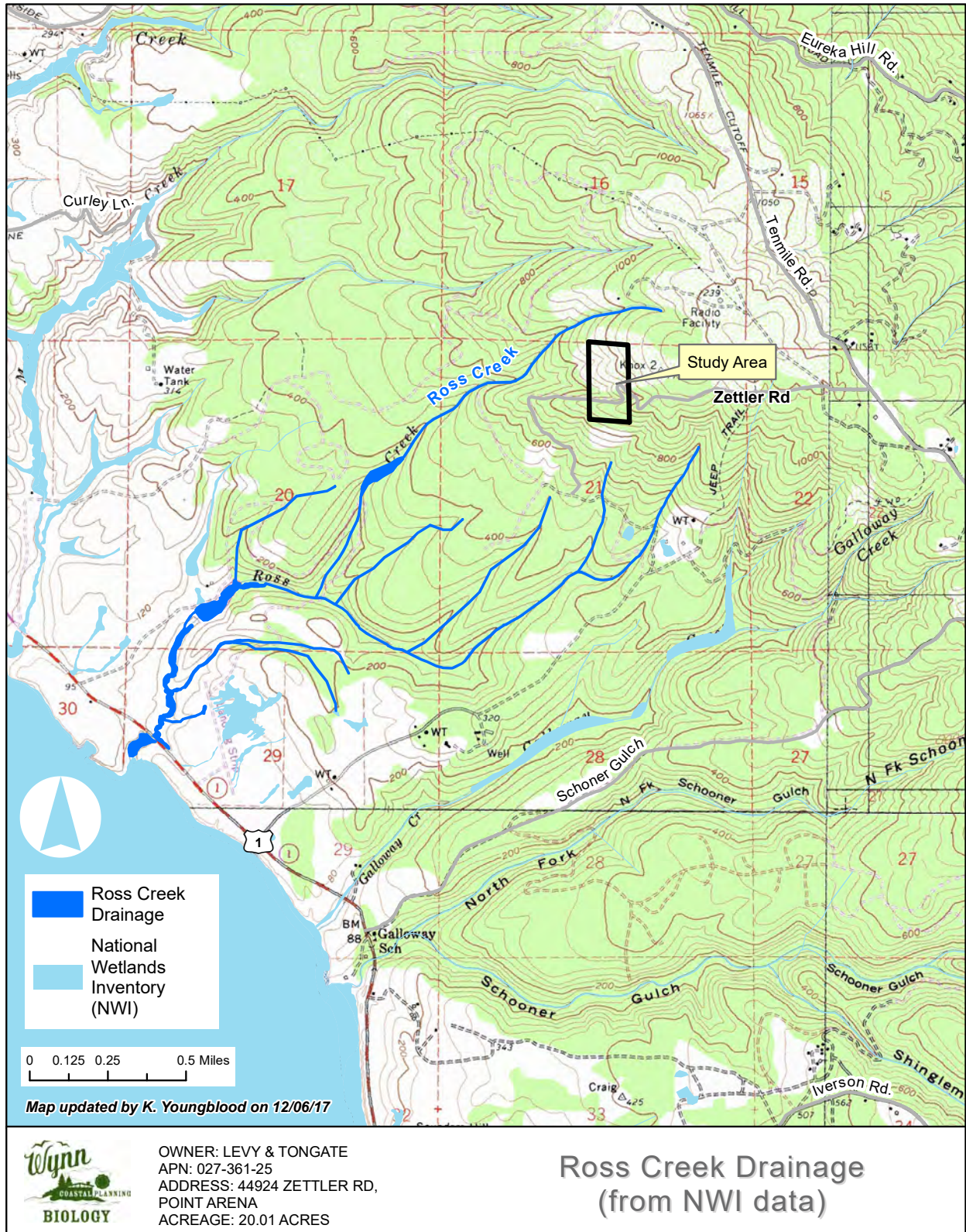


Figure 16 Ross creek drainage in relation to the Study Area.

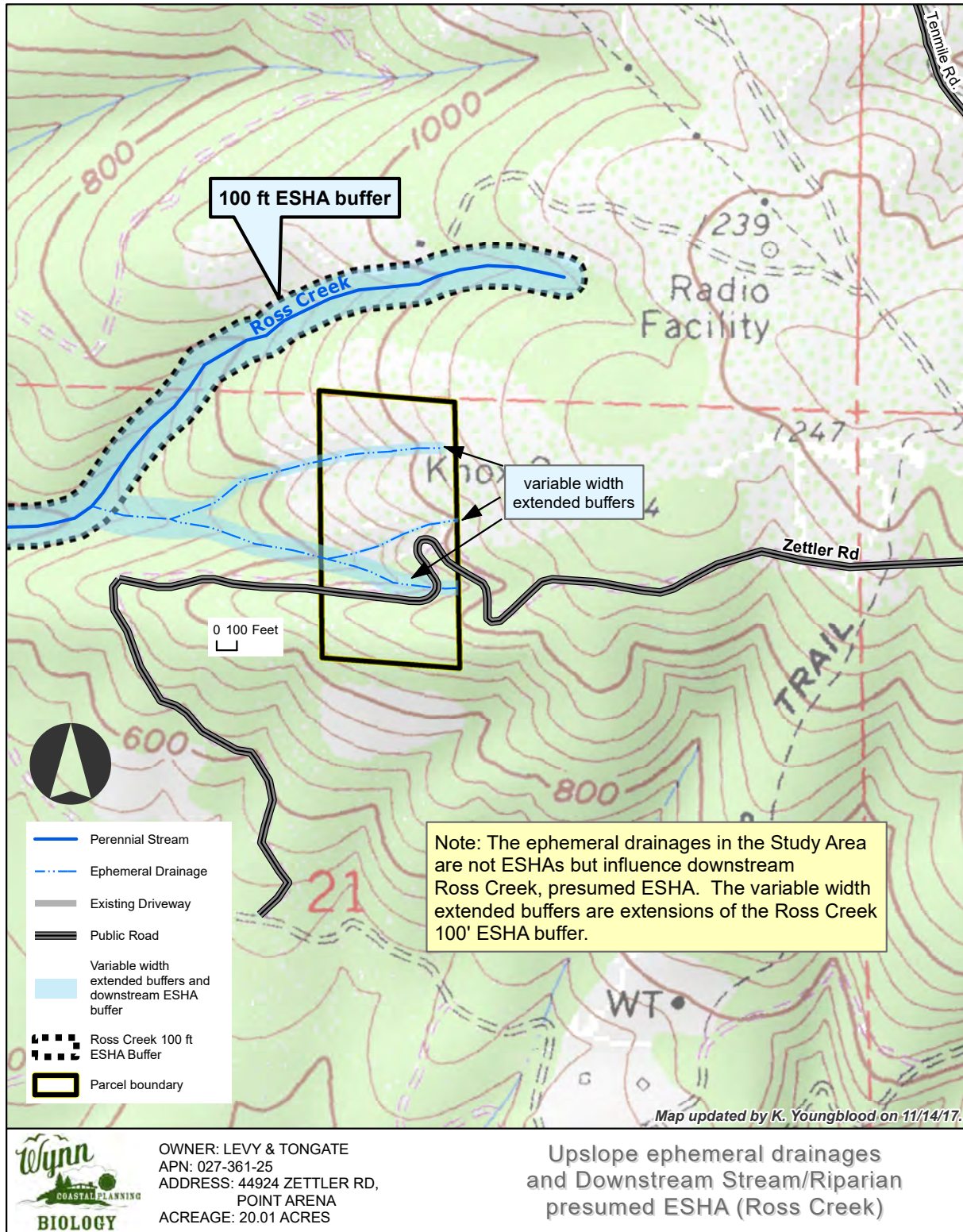


Figure 17 Ross creek presumed ESHA and variable width extended buffers.

6 REDUCED BUFFER ANALYSIS SUMMARY

A Reduced Buffer Analysis (**Appendix E**) was conducted to assist in the determination of suitable protection for potential sensitive species and presumed sensitive habitat in the Study Area. Through the Reduced Buffer Analysis process, necessary mitigation and avoidance measures were created (**Section 7**) to ensure all impacts from proposed development will have a less than significant effect on sensitive resources.

As a result of the buffer analysis, we conclude that a 50 ft buffer for the Bishop Pine Forest will protect the Bishop Pine Forest from the impact of proposed development. The extensions of the Ross Creek ESHA buffer that encompass the three ephemeral drainages within the Study Area were given variable width protective buffers, based on their size and capacity to influence the downstream presumed ESHA, Ross Creek: northern drainage - 60 ft; middle drainage - 20 ft; and southern drainage - 120 ft. Please see **Appendix E** for the full Reduced Buffer Analysis.

7 MITIGATION AND AVOIDANCE MEASURES

The proposed project has been analyzed relative to its proximity to natural resources to determine its potential disturbance to sensitive species, utilizing the methods and results discussed above and in the Reduced Buffer Analysis (**Appendix E**). As a result of those analyses, we believe that potential impacts to ESHA habitats (Bishop Pine Forest and ephemeral drainage buffers) will be minimized or avoided if the project utilizes the Mitigation and Avoidance Measures we recommend below.

7.1 Potential Impacts to Nesting Birds

No special-status birds or nests were observed during field surveys, but construction and vegetation removal in the Study Area has the potential to disturb special status and other protected birds during the nesting season.

7.1.1 Measure 1a: Seasonal Avoidance

No surveys are recommended if ground disturbing work and or vegetation removal occurs in the **non-breeding season** (September to January). If ground disturbing work and or vegetation removal is to occur during the **breeding season** (February to August), a pre-construction survey is recommended within 14 days of the onset of construction to ensure that no nesting birds will be disturbed during development (**Figure 18**).

7.1.2 Measure 1b: Nest Avoidance

If active special-status bird nests are observed, no ground disturbance activities shall occur within a minimum 100-foot exclusion zone. These exclusion zones may vary depending on species, habitat and level of disturbance, and the width of the exclusion zone shall be determined after consultation and agreement from Department of Fish and Wildlife and any other agencies tasked with protection for the species. The exclusion zone shall remain in place around the active nest until all young are no longer dependent upon the nest. A biologist should monitor the nest site weekly during the breeding season to ensure the buffer is sufficient to protect the nest site from potential disturbance.

7.2 Potential Impacts to Special Status Bats

Construction in the Study Area has the potential to impact special-status bat species. No tree hollows or signs of bat roosting were observed during survey efforts, however habitat is present, and construction activities may have a potential negative impact to bats if they are roosting near the construction site.

7.2.1 Measure 2: Pre-construction surveys for special status bats

As with birds, bat roost sites can change from year to year, so pre-construction surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. **Pre-construction bat surveys do not need to be performed if ground disturbing work or vegetation removal is conducted between September 1 and October 31**, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be conducted (**Figure 18**).

Pre-construction bat surveys involve surveying trees, rock outcrops, and buildings subject to removal or demolition for evidence of bat use (guano accumulation, or acoustic or visual detections). If evidence of bat use is found, then biologists shall conduct acoustic surveys under appropriate conditions using an acoustic detector, to determine whether a site is occupied. If bats are found, a minimum 50 foot buffer should be implemented around the roost tree. Removal of roost trees should occur in September and October, or after the bats have left the roost. In summary, no impacts would be expected and therefore no preconstruction bat surveys would be required if vegetation removal (including standing dead trees) is scheduled for the months of September or October.

Months During Which Pre-Construction Surveys Are Not Required For Birds & Bats												
	January	February	March	April	May	June	July	August	September	October	November	December
Birds												
Bats												
		Pre-Construction Surveys Are NOT Needed										
		Pre-Construction Surveys Are Needed										

7.3 Potential Impacts to Ross Creek From Onsite Construction

Ross Creek is located approximately 1,000 feet downslope from the subject property. The ephemeral drainages on the property flow to Ross Creek. Sedimentation from onsite construction activities and other pollutants may enter the ephemeral drainage areas and may be washed downslope into Ross Creek, adversely affecting water quality and any wildlife species located within Ross Creek, including potentially present California red legged frog, Foothill yellow legged frog, and red bellied newt.

7.3.1 Measure 3a: Recommended extended ESHA buffer area to protect downstream Ross Creek ESHA

Onsite drainages 1) are ephemeral in nature and do not provide suitable habitat for special status fish, amphibians or other special status species; 2) are not wetlands, in that water is present only during large storm events that occur annually or less often; and 3) do not support riparian vegetation; however, these drainages do flow into Ross Creek, which is approximately 1,000 feet downslope, and which is considered an ESHA. For this reason, these ephemeral drainages warrant protection as a part of the extended buffer area to Ross Creek.

The buffer area for Ross Creek should include:

1. any areas with bed and bank features upslope of Ross Creek within the subject parcel,
2. and areas within approximately two feet upslope of the onset of these ephemeral drainages, and
3. the following variable widths, dependent upon drainage and proximity to proposed development:
 - a. Northern ephemeral drainage: 60 feet (30' from centerline)
 - b. Middle ephemeral drainage: 20 feet (10' from centerline)
 - c. Southern ephemeral drainage: 120 feet (60' from centerline)

The recommended extended buffer area for Ross Creek is further described in the RESULTS section of this study and is illustrated in **Figures 17 and 19**.

7.3.2 Measure 3b: Erosion control

Straw wattles should be placed in areas where proposed development may cause erosion, sediment delivery or other pollution into onsite ephemeral drainages:

1. For the northern-most ephemeral drainage: place wattles along the 30 foot drainage buffer, on contour, in the relative area of the proposed development site for the shop. The shop is located approximately 90 ft uphill from the ephemeral drainage.
2. For the middle ephemeral drainage: place wattles along both sides of the existing driveway above the culvert where a septic line will be placed.

3. For the southern-most ephemeral drainage: place wattles along both sides of Zettler Road above the culvert where a septic line will be placed.

The straw wattle location (shown in the Staging Area Plan, **Figure 19**), will help prevent sediment and debris from entering the ephemeral drainages in the Study Area, which convey water to Ross Creek ESHA (approximately 1,000 ft downstream) in the winter.

7.3.3 Measure 3c: Limit ground-disturbing activities to dry season

To the extent feasible, ground disturbing activities should occur during the dry season, which is generally April 1 to October 31 of any year.

7.3.4 Measure 3d: Staging Area Plan

Stage all building materials and construction vehicles in upland areas, greater than 100 feet from all ESHA, and as far as feasible from ESHA Buffer Areas (**Figure 19**), in flat areas where feasible. In areas where construction activities have limited mobility, in close proximity to ESHA buffers, clearly mark the staging area site with stakes and flagging or construction cones.

7.4 Potential Impact to Special Status Amphibians – Disturbance in Upland Areas During Vegetation Removal, Staging and Ground Disturbance

Construction and vegetation removal activities may disturb special status amphibians, California red legged frog and red-bellied newt, that may be hiding in or under piles of staged material. To minimize impacts, the following avoidance measures should be followed.

7.4.1 Measure 4a: Contractor education

Within two weeks prior to the commencement of construction or vegetation removal activities, project contractors should be trained by a qualified biologist in the identification of the California red-legged frog, foothill yellow-legged frog and red-bellied newt (see photos in **Section 5.3.2**).

7.4.2 Measure 4b: Pre-construction search by construction crew

During ground disturbing and vegetation removal activities, construction crews will begin each day with a visual search around the staging and impact area to detect the presence of amphibians.

7.4.3 Measure 4c: No construction during rain event

If a rain event occurs during the ground disturbance period, all ground disturbing and vegetation removal activities will cease for a period of 48 hours, starting after the rain stops.

Prior to resuming ground disturbing activities, trained construction crew member(s) will examine the site for the presence of special status amphibians.

1. If no special status amphibians are found during inspections, ground-disturbing activities may resume.
2. If a special status amphibian is detected, construction crews will stop all ground disturbing work and will contact the California Department of Fish and Wildlife (and USFWS for California red legged frog) or a qualified biologist. Clearance from the responsible agency (US Fish and Wildlife and/or CDFW) will then be needed prior to reinitiating work. The US Fish and Wildlife Service and CDFW will need to be consulted and will need to be in agreement with protective measures needed for any potential special status amphibians they are responsible for.

7.5 Vegetation Removal For Fire Safety Management Within the Bishop Pine Forest Buffer

For the areas between 30 ft and 100 ft of residential structures, vegetation removal will be necessary so that fire safety is maintained, and specifically such that vertical fuel ladders are eliminated **Figure 20**. To eliminate fuel ladders, all dead material needs to be removed, significant spacing between live vegetation needs to be created, and remaining trees need to be limbed up to 15 ft.

The recommended ESHA buffer area between the proposed structures and the Bishop Pine Forest is 50 feet. This means that some fire safe management measures will need to occur within the Bishop Pine Forest buffer

area, approximately 30 to 100 feet from the proposed structures. This area is illustrated in **Figure 19** as Fire Safe Management Zone 3.

Measure 5a: To minimize impact of vegetation removal to the Bishop Pine Forest, the following is recommended:

1. Within one month prior to commencement of vegetation removal and development activities, a qualified biologist should conduct a Sonoma tree vole survey for forested areas within 300 feet of the proposed development. If Sonoma tree voles are found, CDFW should be consulted for follow-up action and clearance of the project before initial vegetation removal and construction is begun.
2. If present, leave strategically placed bishop pine seedlings to perpetuate the sustainability of the bishop pine forest.
3. Target the least healthy trees for removal first.

Measure 5b: Staging area for removed vegetation

The staging of cut vegetative matter on the unpaved driveway area will prevent unnecessary compaction and the potential for vegetative material entering the drainage (**Figure 19**).

- 1) Stage all removed vegetative material in designated Staging Areas.
- 2) Clearly mark the Staging Area with construction cones.
- 3) Within the area of the northern-most ephemeral drainage area, place straw wattles on northern edge of cul-de-sac, along the edge of the extended buffer area (30 ft from the ephemeral drainage) to prevent vegetative debris from entering the ephemeral drainage (Class III stream) during vegetation removal activities.

7.6 Landscaping Vegetation

Vegetation planting for landscaping which includes invasive species has the potential to increase invasive plant presence in sensitive areas of the property and surrounding lands.

Measure 6a: No invasive landscaping

No invasive plants should be planted on the subject parcel. Invasive plants are listed on California Invasive Plant Council Inventory (CalIPC, found at <http://www.cal-ipc.org/plants/inventory/>)

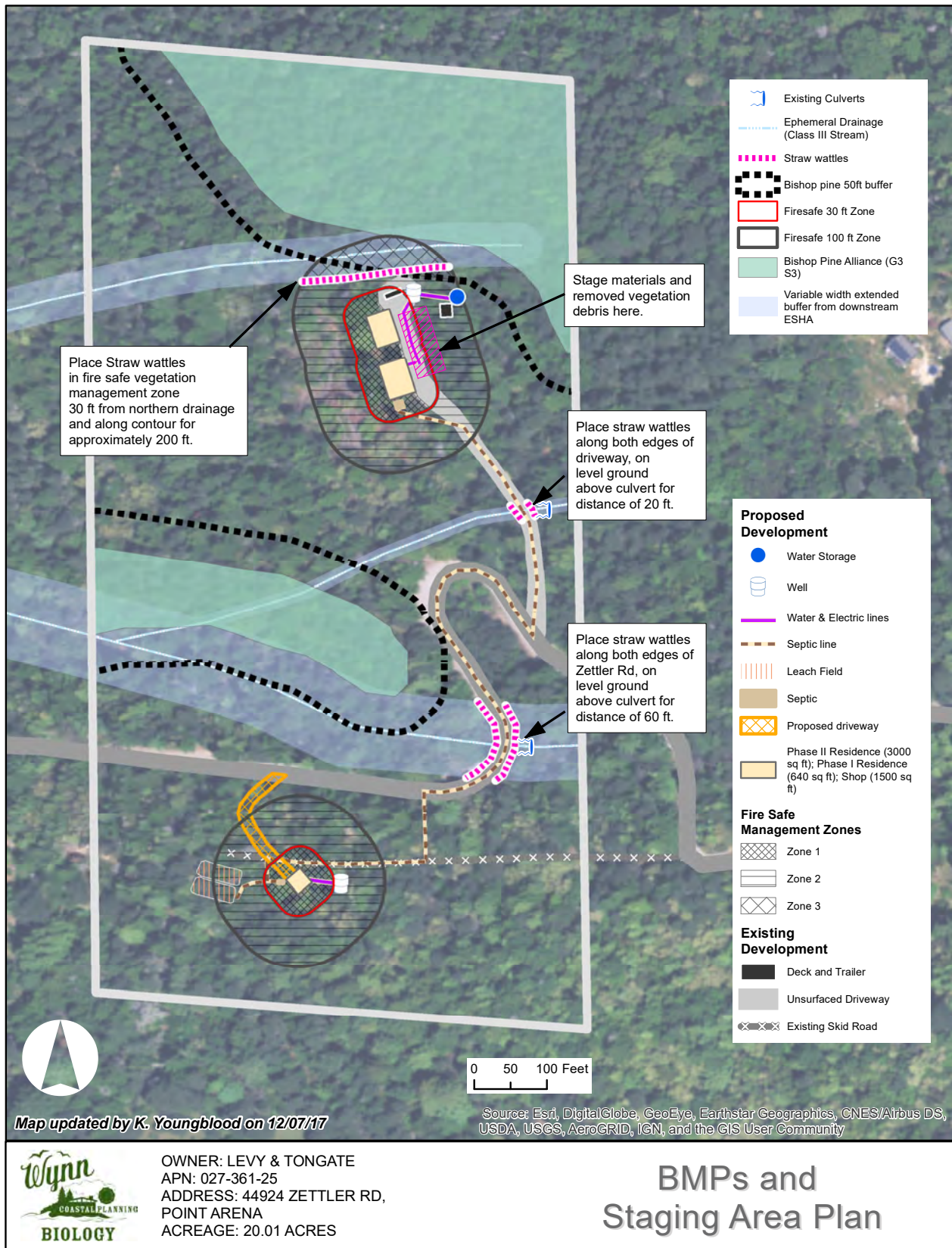
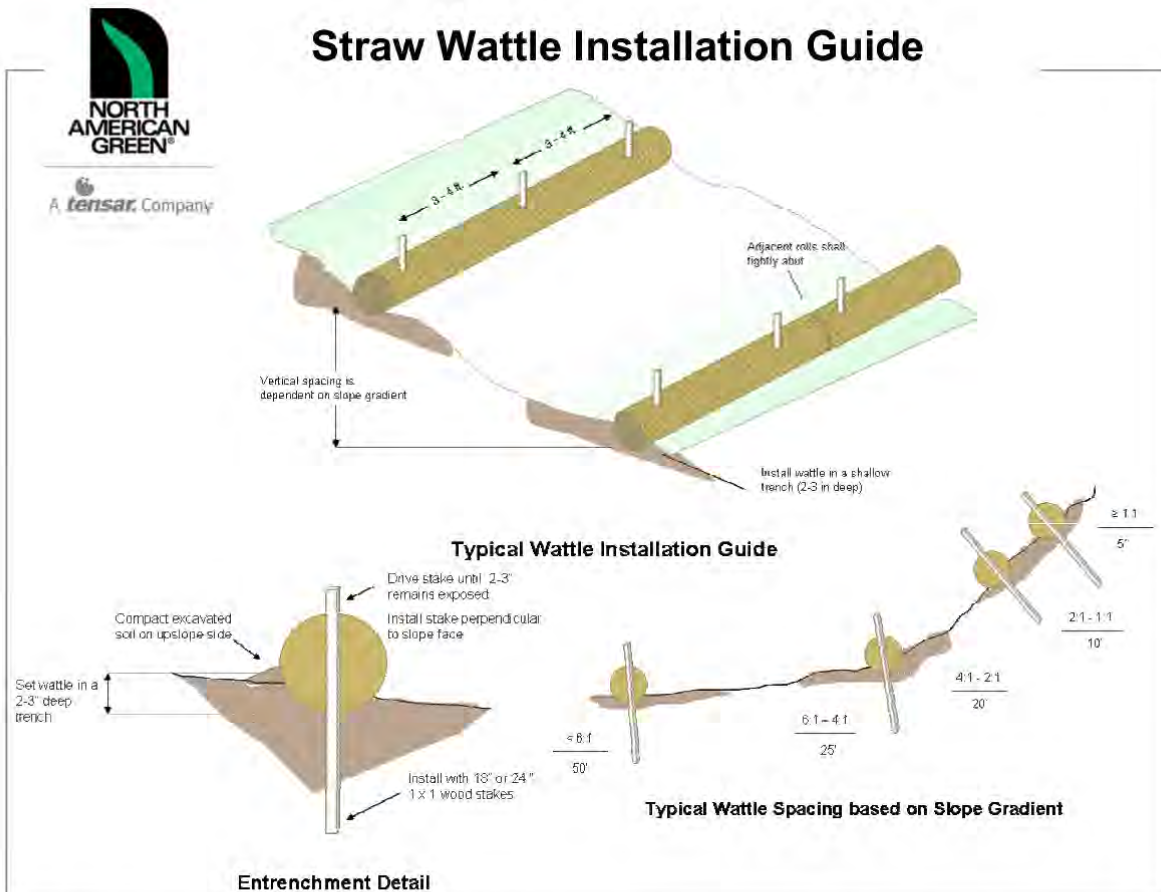


Figure 19 BMPs and staging area plan



Figure 20 Fire safe vegetation management diagram



1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 - 1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.

North American Green Straw Wattles are a Best Management Practice (BMP) that offers an effective and economical alternative to silt fence and straw bales for sediment control and storm water runoff.

Guidelines are provided to assist in design, installation, and structure spacing. The guidelines may require modification due to variation in soil type, rainfall intensity or duration, and amount of runoff affecting the application site.

To maximize sediment containment with the Straw Wattle, place the initial structure at the top/crest of the slope if significant runoff is expected from above. If no runoff from above is expected, the initial Straw Wattle can be installed at the appropriate distance downhill from the top/crest of the slope. The final structure should be installed at or just beyond the bottom/toe of the slope. Wattles should be installed perpendicular to the primary direction of overland flow.

Straw Wattles are a temporary sediment control device and are not intended to replace rolled erosion control products (RECPs) or hydraulic erosion control products (HECPs). If vegetation is desired for permanent erosion control, North American Green recommends that RECPs or HECPs be used to provide effective immediate erosion control until vegetation is established. Straw Wattles may be used in conjunction with blankets, mats, and mulches as supplemental sediment and runoff control for these applications. Like all sediment control devices, the effectiveness of the Straw Wattle is dependent on storage capacity.

For additional installation assistance, please contact North American Green's Technical Services Department at 1-800-772-2040

14649 Highway 41 North, Evansville, Indiana 47725
1-800-772-2040 www.nagreen.com

Rev. 1/2008

Figure 21 Straw wattle installation guide

8 SUMMARY AND DISCUSSION

The Study Area is on a forested 20 acre parcel in the coastal mountains just south of the City of Point Arena, located at 44924 Zettler Road, Point Arena (APN 027-361-25; **Figure 1**).

Initial development is proposed to begin on the southern portion of the parcel, south of Zettler Road. Proposed development consists of:

- 1) Phase I Residence: 640 sq ft SFR
- 2) Driveway to Phase I Residence
- 3) Well, trench water lines to SFR
- 4) Septic tank, leach field and lines
- 5) Vegetation management for fire safety

On the northern portion of the parcel, proposed development consists of:

- 6) Phase II Residence: 3000 sq ft SFR - this SFR will be built at 3,000 sq ft as budget allows. Prior to Final Inspection of the 3,000 sq ft SFR, the original SFR (Phase I) will be converted to a Guest Cottage.
- 7) Shop: 1500 sq ft
- 8) Convert existing Test Well to Production Well, water tank, trench water lines to SFR
- 9) Septic pump chamber and septic lines
- 10) Vegetation Management for fire safety

Wynn Coastal Planning biologists identified two presumed ESHAs: Bishop Pine Forest within the Study Area, and Ross Creek approximately 1,000 feet west of the Study Area, which is influenced by upstream ephemeral drainages within the Study Area (**Figure 3**).

- **Bishop Pine Forest (G3 S3) Presumed ESHA – 3.75 acres**
- **Ross Creek – Presumed Stream ESHA (west of Study Area)**

The recommended protection for the Bishop Pine Forest is a 50ft buffer from the drip line of the trees on the outside edge of the plant community. The recommended protection for Ross Creek is to bring variable width extended buffers onto the subject parcel to encompass the ephemeral drainages found on site, in the area of proposed development, as such: northern ephemeral drainage – 60 ft (30' from its centerline); middle ephemeral drainage – 20 ft (10' from its centerline); and southern ephemeral drainage – 120 ft (60' from its centerline). Presumed ESHA and variable width extended drainage buffers are depicted on maps shown in (**Figures 3 and 4**). Culvert replacement at slope grade for the middle ephemeral drainage is recommended to prevent unnecessary erosion on the downstream end. Culvert replacement will require a 1600 permit from CDFW.

Vegetation removal and management for creating a defensible fire safe space around the proposed workshop is likely to occur in the Bishop Pine Forest 50-ft buffer and the northern ephemeral drainage buffer. Creating a fire safe space around development is required by CalFire and greatly increases the chance of saving lives (human and wildlife) and property if wildfire burns through the area. The impact of vegetation management that may occur in the Bishop Pine Forest 50 ft buffer and the northern ephemeral drainage buffer is minimal, including: 1) limbing trees to 15 feet, 2) removing dead vegetative material to reduce fuel ladders, and 3) possible limited tree removal. Potential negative impacts from vegetation removal and management in the Bishop Pine Forest buffer and the northern drainage buffer are addressed in Mitigation and Avoidance Measures (**Section 7**) and the Reduced Buffer Analysis (**Appendix E**).

It is the professional opinion of the biologists at Wynn Coastal Planning that the project, as proposed, is the least damaging and most feasible option. A Reduced-Buffer Analysis (**Appendix F**), Mitigation and Avoidance Measures (**Section 7**), and a BMPs and Staging Plan (**Figure 19**) are included in this report. Adhering to the Mitigation and Avoidance Measures should minimize impacts to the Bishop Pine Forest and ephemeral drainages (Class III streams) and any potentially occurring special status wildlife.

9 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, Editors. (2012). *The Jepson Manual: vascular plants of California, second edition*. University of California Press, Berkeley, CA.

Board of Forestry and California Department of Forestry, Defensible Space Guidelines (2006).

California Coastal Commission. (1985). Mendocino County General Plan Coastal Element, Adopted by the Mendocino County Board of Supervisors November 5, 1985.

California Department of Fish and Wildlife, Habitat Conservation Division. (2014). Natural Diversity Data Base (CNDDDB). Rare Find Version 5

California Department of Fish and Wildlife. "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. The Resource Agency (2000). Sacramento, CA.

California Department of Fish and Wildlife. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Game. Sacramento, CA. (September 2010).

Cal Fire Defensible Space Flyer. (n.d.). Retrieved December 21, 2017, from http://calfire.ca.gov/communications/downloads/fact_sheets/DefensibleSpaceFlyer.pdf

CaliforniaHerps.com, Reptiles and Amphibians of California. (n.d.). Retrieved December 21, 2017, from <http://www.CaliforniaHerps.com/>

California Native Plant Society (CNPS). (2014). Inventory of Rare and Endangered Plants (on line addition). California Native Plant Society. Sacramento, CA. accessed at <http://www.cnps.org>.

Giusti (unknown date). UC Cooperative Extension Mendocino – Lake Counties
Watching the demise of a coastal forest type – Bishop Pine

Gilmer, M. (1994). *California wildfire landscaping*. Dallas, TX: Taylor Pub. Co.

Holland, R.F. (1986). *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Sacramento, CA: California Department of Fish and Game.

Klein A, Keeler-Wolf T, Evens J. Classification of the Vegetation Alliances and Associations of Sonoma County, CA, V. 2 – Vegetation Descriptions; 2015.

Sawyer, J.O. & Keeler-Wolf, T. (2009). *A Manual of California Vegetation*. Sacramento, CA. California Native Plant Society.

10 INVESTIGATOR BIOGRAPHIES

Contributing Biologists

Asa B Spade graduated from Humboldt State University with a Bachelor's Degree in Environmental Science, with a concentration in Landscape Ecosystems as well as a minor in Botany. Since that time, he has been working in the natural resources field, first with Mendocino County Environmental Health and later with California State Parks and the Department of Fish and Game. He has been trained in Army Corps wetland delineation by the Coastal Training Program at Elkhorn Slough. He is on the Fish and Wildlife Service approved list for Point Arena mountain beaver surveys and has done surveys for Behren's silverspot butterfly, Northern spotted owl, and the California red-legged frog. He has contributed to more than 100 coastal development projects in Mendocino County.

Karen Youngblood holds a Master of Science in Natural Resources and a GIS Certificate from Humboldt State University and a Bachelor's of Arts in Environmental Studies, with an emphasis in Policy and Planning, from the University of California in Santa Cruz. Her diverse experience includes over 20 years of botanical, wildlife, fisheries and forestry field work throughout Northern California and Southeastern Oregon, with the last 10 years being focused in Coastal Mendocino County. She has received additional training in Army Corps wetland delineation by Richard Chinn Environmental Training in Sacramento, CA, Rare Plant Species of Special Concern with Teresa Sholars at the College of the Redwoods in Fort Bragg, CA (Spring, 2009), and *Carex* keying and identification training with Gordon Leppig in Arcata, CA (March, 2017).

Staff Biologists

Teresa R Spade, AICP, graduated from Humboldt State University with a Bachelor's Degree in Natural Resources Planning and Interpretation. She has 10 years of experience working in land use planning and natural resources, and is a certified planner per the American Institute of Certified Planners. She has contributed to over 100 coastal development projects in Mendocino County. She has been trained in Army Corps wetland delineation by Richard Chinn Environmental Training in Sacramento, CA. She is on the Fish and Wildlife Service approved list for Point Arena mountain beaver surveys and has surveyed for the Federally Endangered Behren's silverspot butterfly.

Wyatt Dooley graduated from the University of California Santa Barbara with a Bachelor of Science in Environmental Studies and a minor in Geology. After graduating, he worked for Fish and Wildlife as a technician researching salmon. Traveling abroad, he worked in New Zealand as a conservation ranger helping to understand invasive pests and species.

Appendix A. Table 1. Rare Flora Scoping List

Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Abronia umbellata var. breviflora</i> Pink sand-verbena	perennial herb	0-10	Coastal dunes	Jun-Oct	1B.1	N	N	S1	G4G5T	No
<i>Agrostis blasdalei</i> Blasdale's bent grass	perennial herb (rhizomatous)	5-150	Coastal dunes, coastal bluff scrub, coastal prairie.	May- Jul	1B.2	N	N	S2	G2	No
<i>Angelica lucida</i> Sea-watch	perennial herb	0-150	Coastal bluff scrub, coastal scrub, coastal marshes and swamps, and coastal dunes.	May-Sep	4.2	N	N	S3	G5	No
<i>Arctostaphylos nummularia ssp. Mendocinoensis</i> Pygmy manzanita	perennial evergreen shrub	90-200	Closed-cone coniferous forest. Acidic sandy-clay soils in dwarfed coniferous forest.	Jan	1B.2	N	N	SH	G3?THQ	No
<i>Astragalus agnicidus</i> Humboldt milk- vetch	perennial herb	180-800	Openings, disturbed areas, roadsides, broadleaved upland forest, North coast coniferous forest	Apr-Sep	1B.1	N	CE	S3	G3	No
<i>Astragalus pycnostachyus var. pycnostachyus</i> Coastal marsh milk-vetch	perennial herb	0-30	Coastal dunes (mesic), coastal scrub, coastal salt marshes and swamps, and streamsides	Apr-Oct	1B.2	N	N	S2	G2T2	No
<i>Blennosperma nanum var. robustum</i> Point Reyes blennosperma	annual herb	10-145	Coastal prairie, coastal scrub	Feb-Apr	1B.2	N	CR	S2	G4T2	No
<i>Bryoria pseudocapillaris</i> False gray horsehair lichen	fruticose lichen	0-90	Usually on conifers, coastal dune (SLO co.), North Coast coniferous forest (immediate coast)	NA	3.2	N	N	S2	G3	No
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	perennial herb (rhizomatous)	10-60	Coastal scrub (mesic), freshwater marshes and swamps.	May-Aug	2B.1	N	N	S2	G3Q	No

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<i>Calamagrostis foliosa</i> Leafy reed grass	perennial herb	0-1220	Rocky, Coastal bluff scrub, North Coast coniferous forests.	May-Sep	4.2	N	SR	S3	G3	No
<i>Calystegia purpurata ssp. Saxicola</i> Coastal bluff morning-glory	perennial herb	10-105	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest.	Mar-Sep	1B.2	N	N	S2S3	G4T2T3	No
<i>Campanula californica</i> Swamp harebell	perennial herb (rhizomatous)	1-405	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marshes and swamps, and North Coast coniferous forests.	Jun-Oct	1B.2	N	N	S3	G3	No
<i>Carex californica</i> California sedge	perennial herb (rhizomatous)	90-335	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (often on margins or drier areas).	May-Aug	2B.3	N	N	S2	G5	No
<i>Carex lenticularis var. limnophila</i> Lagoon sedge	perennial herb	0-6	Shores, beaches, often gravelly, bogs and fens, marshes and swamps, North Coast coniferous forest.	Jun-Aug	2B.2	N	N	S1	G5T5	No
<i>Carex livida</i> Livid sedge	perennial herb (rhizomatous)	0-100	Bogs and Fens	Jun	2A	N	N	SH	G5	No
<i>Carex lyngbyei</i> Lyngbye's sedge	perennial herb (rhizomatous)	0-10	Brackish or freshwater marshes and swamps	Apr-Aug	2B.2	N	N	S3	G5	No
<i>Carex saliniformis</i> Deceiving sedge	perennial herb (rhizomatous)	3-230	Mesic sites of coastal prairie, coastal scrub, and meadows, seeps, marshes and swamps (coastal salt)	Jun-Jul	1B.2	N	N	S2	G2	No
<i>Carex viridula ssp. Viridula</i> Green yellow sedge	perennial herb	0-1600	Bogs and fens, marshes and swamps (freshwater), north coast coniferous forest (mesic).	Jun-Nov	2B.3	N	N	S1.3	G5T5	No
<i>Castilleja affinis ssp. litoralis</i> Oregon coast paintbrush	perennial herb (hemiparasitic)	15-100	Sandy sites in coastal bluff scrub and coastal scrub; coastal dunes.	Jun	2B.2	N	N	S3	G4G5T4	No

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Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Castilleja ambigua</i> var. <i>humboldtiensis</i> Humboldt Bay owl's-clover	annual herb (hemiparasitic)	0-3	Coastal salt marshes and swamps.	Apr-Aug	1B.2	N	N	S2	G4T2	No
<i>Castilleja mendocinensis</i> (<i>Castilleja latifolia</i> ssp. <i>Mendocinensis</i>) Mendocino Coast paintbrush	perennial herb (hemiparasitic)	0-160	Coastal bluff scrub, coastal scrub, closed-cone coniferous forest, coastal dunes, coastal prairie.	Apr-Aug	1B.2	N	N	S2	G2	No
<i>Chorizanthe howellii</i> Howell's spineflower	annual herb	0-35	Sandy, often disturbed, areas of coastal prairie and coastal scrub, and coastal dunes	May - Jul	1B.2	FE	CT	S1	G1	No
<i>Clarkia amoena</i> ssp. <i>Whitneyi</i> Whitney's farewell-to- spring	annual herb	10-100	Coastal bluff scrub, coastal scrub.	Jun-Aug	1B.1	N	N	S1	G5T1	No
<i>Collinsia corymbosa</i> Round-headed Chinese-houses	annual herb	0-20	Coastal dunes, coastal prairie.	Apr-June	1B.2	N	N	S1	G1	No
<i>Coptis laciniata</i> Oregon goldthread	perennial herb (rhizomatous)	0-1000	Meadows and seeps; North Coast coniferous forest moist streambanks and other mesic sites.	Feb-Nov	4.2	N	N	S3	G4	No
<i>Cornus canadensis</i> Bunchberry	perennial herb (rhizomatous)	60-1920	Bogs and fens, meadows and seeps, North Coast coniferous forest.	May-Jul	2B.2	N	N	S2	G5	No
<i>Cordylanthus tenuis</i> ssp. <i>Brunneus</i> Serpentine bird's beak	annual herb (hemiparasitic)	475-915	Usually serpentinite. Closed-cone coniferous forest, chaparral, cismontane woodland	Jul-Aug	4.3	N	N	S3	G4G5T3	No
<i>Cuscuta pacifica</i> var. <i>papillata</i> Mendocino dodder	annual vine (parasitic)	0-50	Coastal dunes (interdune depressions).	Jul-Oct	1B.2	N	N	S1	G5T1	No
<i>Erigeron biolettii</i> Streamside daisy	perennial herb	30-1100	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest. Rocky, mesic.	Jun-Oct	3	N	N	S3?	G3?	No
<i>Erigeron supplex</i> Supple daisy	perennial herb	10-50	Coastal bluff scrub, coastal prairie.	May-Jul	1B.2	N	N	S2	G2	No

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Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Erysimum concinnum</i> Headland wallflower	annual/perennial herb	0-185	Coastal bluff scrub, coastal dunes, coastal prairie.	Feb-Jul	1B.2	N	N	S3	G3	No
<i>Erysimum menziesii</i> (<i>Erysimum menziesii</i> ssp. <i>eurekaense</i> , <i>Erysimum menziesii</i> ssp. <i>menziesii</i> , <i>Erysimum menziesii</i> ssp. <i>yadonii</i>) Menzies' wallflower	perennial herb	0-35	Localized on coastal dunes and coastal strand.	Mar-Sep	1B.1	FE	CE	S1	G1	No
<i>Erythronium revolutum</i> Coast\Mahogany fawn lily	perennial bulbiferous herb	0-1600	Mesic, streambanks. Bogs and fens; broadleafed upland forests; North Coast coniferous forest.	Mar-Aug	2B.2	N	N	S3	G4	No
<i>Fritillaria roderickii</i> (<i>Fritillaria biflora</i> var. <i>biflora</i>) Roderick's fritillary	perennial bulbiferous herb	15-400	Coastal bluff scrub, coastal prairie, valley and foothill grassland.	Mar-May	1B.1	N	CE	S1.1	G1Q	No
<i>Gilia capitata</i> ssp. <i>chamissonis</i> Blue coast gilia	annual herb	2-200	Coastal dunes, coastal scrub.	Apr-Jul	1B.1	N	N	S2	G5T2	No
<i>Gilia capitata</i> ssp. <i>pacifica</i> Pacific gilia	annual herb	5-1330	Coastal bluff scrub, openings in chaparral, coastal prairie, valley and foothill grassland.	Apr-Aug	1B.2	N	N	S2	G5T3T4	No
<i>Gilia capitata</i> ssp. <i>tomentosa</i> Woolly-headed gilia	annual herb	10-220	Serpentine, rocky, outcrops of coastal bluff scrub and valley and foothill grassland.	May-Jul	1B.1	N	N	S2	G5T2	No
<i>Gilia millefoliata</i> Dark-eyed gilia	annual herb	2-30	Coastal dunes	Apr-Jul	1B.2	N	N	S2	G2	No

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Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Glyceria grandis</i> American manna grass	perennial herb (rhizomatous)	15-1980	Bogs and fens, wet meadows and seeps, marshes, swamps, streambanks, and lake margins	Jun-Aug	2B.3	N	N	S3	G5	No
<i>Hemizonia congesta ssp. Congesta</i> Seaside tarplant	annual herb	20-560	Sometimes roadsides. Valley and foothill grassland	Apr-Nov	1B.2	N	N	S1S2	G5T1T2	No
<i>Hesperervax sparsiflora var. brevifolia</i> Short-leaved evax	annual herb	0-215	Sandy coastal bluffs; coastal dunes, coastal dune mat, and sandy openings in wet dune meadows. Coastal bluff scrub. Rocky, grassy	Mar-Jun	1B.2	N	N	S2	G4T3	No
<i>Hesperocyparis pygmaea</i> (<i>Cupressus pygmaea</i> , <i>Cupressus goveniana ssp. pigmaea</i> , <i>Callitropsis pygmaea</i>) Pygmy cypress	perennial evergreen tree	30-600	Closed-cone coniferous forests, usually podzol-like	NA	1B.2	N	N	S1	G1	No
<i>Horkelia marinensis</i> Point Reyes horkelia	perennial herb	5-755	Sandy, coastal dunes, coastal scrub, coastal prairie	May-Sep	1B.2	N	N	S2	G2	No
<i>Horkelia tenuiloba</i> Thin-lobed horkelia	perennial herb	50-500	Mesic openings or sandy sites in broadleaved upland forests, chaparral, and valley and foothill grassland.	May-Aug	1B.2	N	N	S2	G2	No
<i>Hosackia gracilis</i> (<i>Lotus formosissimus</i>) Harlequin lotus	perennial herb (rhizomatous)	0-700	wetlands, roadsides, Broadleaved upland forest, Coastal bluff scrub, Closed-cone coniferous forest, Cismontane woodland, Coastal prairie, Coastal scrub, Meadows and seeps, Marshes and swamps, North Coast	Mar-Jul	4.2	N	N	S3	G4	Yes
<i>Juncus supiniformis</i> Hair-leaved rush	perennial herb (rhizomatous)	20-100	Bogs and fens; freshwater marshes and swamps near the coast.	Apr-Jul	2B.2	N	N	S1	G5	No
<i>Kopsiopsis hookeri</i> (<i>Boschniakia hookeri</i>) Small groundcone	perennial herb (rhizomatous & parasitic)	90-885	North Coast coniferous forest	Apr-Aug	2B.3	N	N	S1S2	G4G5	No

Appendix A. Table 1. Rare Flora Scoping List

Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Lasthenia californica ssp. bakeri</i> Baker's goldfields	perennial herb	60-520	Openings in closed-cone coniferous forest; coastal scrub; meadows and seeps; marshes and swamps.	Apr-Oct	1B.2	N	N	SH	G3TH	No
<i>Lasthenia californica ssp. macrantha</i> Perennial goldfields	perennial herb	5-520	Coastal bluff scrub, coastal dunes, and coastal scrub.	Jan-Nov	1B.2	N	N	S2	G3T2	No
<i>Lasthenia conjugens</i> Contra Costa goldfields	annual herb	0-470	Mesic sites in cismontane woodlands, alkaline playas, valley and foothill grasslands, vernal pools	Mar-Jun	1B.1	FE	N	S1.1	G1	No
<i>Lathyrus palustris</i> Marsh Pea	perennial herb	1-100	Bogs and fens; mesic sites of coastal prairies, coastal scrub, lower montane coniferous forests, and North Coast coniferous forests.	Mar- Aug	2B.2	N	N	S2	G5	No
<i>Lilium maritimum</i> Coast lily	perennial bulbiferous herb	5-475	Broadleafed upland forests, closed-cone coniferous forests, coastal prairies, coastal scrub, freshwater marshes and swamps. Roadsides and roadside ditches.	May-Aug	1B.1	N	N	S2	G2	No
<i>Lycopodium clavatum</i> Running-pine	perennial rhizomatous herb	45-1225	Often edges, openings, and roadsides of Mesic Lower montane coniferous, mesic North Coast coniferous forest, Marshes and swamps	Jun-Sep	4.1	N	N	S3	G5	No
<i>Microseris paludosa</i> Marsh microseris/silverpuffs	perennial herb	5-355	Closed-cone coniferous forests, cismontane woodlands, coastal scrub, valley and foothill grasslands. (A 1968 collection from Point Arena (3.2 km to N, between Hwy. 1 and	Apr-Jul	1B.2	N	N	S2	G2	No
<i>Mitellastrum caulescens</i> (<i>Mitella caulescens</i>) Leafy-stemmed mitrewort	perennial herb (rhizomatous)	5-1700	Mesic sites in broadleafed upland forests, lower montane coniferous forests, Meadows and seeps, North Coast coniferous forests, Roadsides	Mar-Oct	4.2	N	N	S4	G5	No

Appendix A. Table 1. Rare Flora Scoping List

Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Oenothera wolfii</i> Wolf's evening- primrose	perennial herb	3-800	Sandy, usually mesic sites in coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forests. (Along roads on vertical cutbanks and in grassy median. On disturbed sterile soil; upper stabilized dunes; rocky slopes protected above strand; vertical cliffs above the ocean.)	May-Oct	1B.1	N	N	S1	G2	No
<i>Packera bolanderi</i> var. <i>bolanderi</i> (<i>Senecio bolanderi</i> var. <i>bolanderi</i>) Seacoast ragwort	perennial herb (rhizomatous)	30-650	Sometimes roadsides, Coastal Scrub, North coast coniferous forest	Jan-Aug	2B.2	N	N	S2S3	G4T4	No
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> Gairdner's yampah	perennial herb	0-610	Vernally mesic, Broadleafed upland forest, Chaparral, Coastal prairie, Valley and foothill grassland, Vernal pools	Jun-Oct	4.2	N	N	S4	G5T4	No
<i>Phacelia insularis</i> var. <i>continentis</i> North Coast phacelia	annual herb	10-170	Sandy, sometimes rocky, sites in coastal bluff scrub; coastal dunes. (Rocky, thin soil with native and non-native grasses and forbs. Sandy pastureland and grazed coastal prairie.)	Mar-May	1B.2	N	N	S2	G2T2	No
<i>Pinus contorta</i> ssp. <i>bolanderi</i> Bolander's beach pine	perennial evergreen tree	75-250	Closed-cone coniferous forests with podzol-like soils. Associated with Mendocino cypress and bishop pine, and Mendocino pygmy	Jul-Aug	1B.2	N	N	S2	G5T2	No
<i>Piperia candida</i> White-flowered rein orchid	perennial herb	30-1310	Sometimes serpentinite, Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	Mar-Sep	1B.2	N	N	S3	G3	No
<i>Pleuropogon californicus</i> var. <i>davyi</i> (<i>Pleuropogon davyi</i>) North Coast semaphore grass	perennial herb (rhizomatous)	150-610	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps		4.3	N	N	S3	G5T3	No
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	perennial herb (rhizomatous)	10-671	open areas, mesic, broadleafed upland forest, meadows and seeps, North coast coniferous forest.	Apr-Jun	1B.1	N	CT	S2	G2	No

Appendix A. Table 1. Rare Flora Scoping List

<i>Scientific Name</i> (<i>Synonyms</i>) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Potamogeton epihydrus</i> Ribbonleaf pondweed	perennial herb (rhizomatous)	369-2172	Marshes and swamps (assorted shallow freshwater)	Jun-Sep	2B.2	N	N	S2.2?	G5	No
<i>Puccinellia pumila</i> Dwarf alkali grass	perennial herb	1-10	Coastal salt marshes and swamps; meadows and seeps, mineral spring meadows.	Jul	2B.2	N	N	SH	G4?	No
<i>Rhynchospora alba</i> White beaked-rush	perennial herb (rhizomatous)	6-240	Bogs and fens (sometimes in Mendocino pygmy forests); meadows and seeps; marshes and swamps (freshwater).	Jul-Aug	2B.2	N	N	S2	G5	No
<i>Sanguisorba officinalis</i> Great burnet	perennial herb (rhizomatous)	60-1400	Bogs and fens, broadleaved upland forests, meadows and seeps, marshes and swamps, North Coast coniferous forests, riparian forests, Serpentine seepage areas and along stream borders.	Jul-Oct	2B.2	N	N	S2	G5?	No
<i>Sidalcea calycosa ssp. rhizomata</i> Point Reyes checkerbloom	perennial herb (rhizomatous)	3-10	Freshwater marshes and swamps near the coast.	Apr-Sep	1B.2	N	N	S2	G5T2	No
<i>Sidalcea malachroides</i> Maple-leaved checkerbloom	perennial herb	0-730	Often in disturbed areas, broadleaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest, riparian woodland	Mar- Aug	4.2	N	N	S3	G3	No
<i>Sidalcea malviflora ssp. patula</i> Siskiyou checkerbloom	perennial herb (rhizomatous)	15-880	Often roadcuts, coastal bluff scrub; coastal prairie; North coast coniferous forest	May-Aug	1B.2	N	N	S2	G5T2	No
<i>Sidalcea malviflora ssp. purpurea</i> Purple-stemmed checkerbloom	perennial herb (rhizomatous)	15-85	Broadleaved upland forest, coastal prairie	May-Jun	1B.2	N	N	S1	G5T1	No
<i>Trifolium buckwestiorum</i> Santa Cruz clover	annual herb	105-610	Gravelly margins of broadleaved upland forests, cismontane woodlands, coastal prairie. (Common associates include <i>Juncus bufonius</i> , <i>Soliva sessilis</i> , <i>Danthonia californica</i> , and <i>Bromus hordeaceus</i> . In Mendocino Co., most collections from ~5 miles up Garcia River.)	Apr-Oct	1B.1	N	N	S2	G2	No

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Scientific Name (Synonyms) Common Name	Life Form	Elev. (m)	Habitat	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Found ?
<i>Trifolium trichocalyx</i> Monterey clover	annual herb	30-240	Closed-cone coniferous forest (sandy, openings, burned areas).	Apr-Jun	1B.1	FE	CE	S1	G1	No
<i>Triquetrella californica</i> Coastal triquetrella	moss	10-100	Soil of Coastal bluff scrub, coastal scrub,	NA	1B.2	N	N	S2	G2	No
<i>Usnea longissima</i> long-beard lichen	fruitcose lichen (epiphytic)	50-1460	On tree branches in old-growth/late successional conifers and hardwoods. <i>(Often in riparian and coastal areas with high humidity)</i>	NA	4.2	N	N	S4	G4	No
<i>Veratrum fimbriatum</i> fringed false-hellebore/corn-lily	perennial herb	3-300	Wet areas in coastal scrub and North Coast coniferous forests, meadows and seeps, bogs and fens. Restricted to coastal Sonoma and Mendocino Counties.	Jul-Sep	4.3	N	N	S3	G3	No
<i>Viola adunca</i> Western dog violet	perennial herb	15-2200	Yellow pine forest, red fir forest, lodgepole forest, redwood forest, mixed evergreen forest, subalpine forest, alpine fell-fields, wetland riparian. Common and widespread on open sea bluffs to red fir forest.	Apr-Aug	not ranked	N	N	?	?	No
<i>Viola palustris</i> Alpine marsh violet	perennial herb	0-150	Coastal Bogs and Fens; Coastal Scrub (mesic)	Mar-Aug	2B.2	N	N	S1S2	G5	No

Appendix A. Table 2. Plant Alliances and Communities List

Scientific Name	Common Name	Global & State Rank	Found?
Woodland and Forest Alliances and Stands			
<i>Abies grandis</i> Alliance	Grand fir forest	G4 S2	No
<i>Acer macrophyllum</i> Alliance	Bigleaf maple forest	G4 S3	No
<i>Alnus rubra</i> Alliance	Red alder forest	G5 S4	No
<i>Arbutus menziesii</i> Alliance	Madrone forest	G4 S3	No
<i>Callitropsis pigmaea</i> Alliance	Mendocino pygmy cypress woodland	G2 S2	No
<i>Chrysolepis chrysophylla</i> Alliance	Golden chinquapin thickets	G2 S2	No
<i>Lithocarpus densiflorus</i> Alliance	Tanoak forest	G4 S3	No
<i>Picea sitchensis</i> Alliance	Sitka spruce forest	G5 S2	No
<i>Pinus contorta</i> ssp. <i>contorta</i> Alliance	Beach pine forest	G5 S3	No
<i>Pinus muricata</i> Alliance	Bishop pine forest	G3 S3	Yes
<i>Pseudotsuga menziesii</i> Alliance	Douglas fir forest	G5 S4	Yes
<i>Pseudotsuga menziesii</i> - <i>Lithocarpus densiflorus</i> Alliance	Douglas fir - tanoak forest	G4 S4	Yes
<i>Sequoia sempervirens</i> Alliance	Redwood forest	G3 S3	Yes
<i>Tsuga heterophylla</i> Alliance	Western hemlock forest	G5 S2	No
<i>Umbellularia californica</i> Alliance	California bay forest	G4 S3	No
Shrubland Alliances and Stands			
<i>Arctostaphylos glandulosa</i> Alliance	Eastwood manzanita chaparral	G4 S4	Yes
<i>Arctostaphylos (nummularia, sensitiva)</i> Alliance	Glossy leaf manzanita chaparral	G2 S2	No
<i>Ceanothus thyrsiflorus</i> Alliance	Blue blossom chaparral	G4 S4	No
<i>Corylus cornuta</i> var. <i>californica</i> Alliance	Hazelnut scrub	G3 S2?	No
<i>Frangula californica</i> Alliance	California coffee berry scrub	G4 S4	No
<i>Garrya elliptica</i> Provisional Alliance	Coastal silk tassel scrub	G3? S3?	No
<i>Diplacas aurantiacus</i> Alliance	Bush monkeyflower scrub	G3 S3?	No
<i>Holodiscus discolor</i> Alliance	Ocean spray brush	G4 S3	No
<i>Morella californica</i> Alliance	Wax myrtle scrub	G3 S3	No
<i>Rhododendron neoglandulosum</i> Alliance	Western Labrador-tea thickets	G4 S2?	No
<i>Rhododendron occidentale</i> Provisional Alliance	Western azalea patches	G3 S2?	No
<i>Rosa californica</i> Alliance	California rose briar patches	G3 S3	No
<i>Rubus (parviflorus, spectabilis, ursinus)</i> Alliance	Coastal brambles	G4 S3	No
<i>Salix hookeriana</i> Alliance	Coastal dune willow thickets	G4 S3	No
<i>Sphagnum</i> Bog	Sphagnum bog	G3 S1.2	No
<i>Salix sitchensis</i> Provisional Alliance	Sitka willow thickets	G4 S3?	No
<i>Salix lasiolepis</i> Alliance	Arroyo willow thickets	G4 S4	No
<i>Toxicodendron diversilobum</i> Alliance	Poison oak scrub	G4 S4	No
Herbaceous Alliances and Stands			

Appendix A. Table 2. Plant Alliances and Communities List

Scientific Name	Common Name	Global & State Rank	Found?
<i>Abronia latifolia</i> – <i>Ambrosia chamissonis</i> Alliance	Dune mat	G3 S3	No
<i>Argentina egedii</i> Alliance	Pacific silverweed marshes	G4 S2	No
<i>Bulboschoenus maritimus</i> Alliance	Salt marsh bulrush marshes	G4 S3	No
<i>Calamagrostis nutkaensis</i> Alliance	Pacific reed grass meadows	G4 S2	No
<i>Camassia quamash</i> Alliance	Small camas meadows	G4? S3?	No
<i>Carex obnupta</i> Alliance	Slough sedge swards	G4 S3	No
<i>Carex pansa</i> Alliance	Sand dune sedge swaths	G4? S3?	No
<i>Danthonia californica</i> Alliance	California oat grass prairie	G4 S3	No
<i>Deschampsia caespitosa</i> Alliance	Tufted hair grass meadows	G5 S4?	No
<i>Distichlis spicata</i> Alliance	Salt grass flats	G5 S4	No
<i>Eleocharis macrostachya</i> Alliance	Pale spike rush marshes	G4 S4	No
<i>Elymus glaucus</i> Alliance	Blue wild rye meadows	G3? S3?	No
<i>Festuca rubra</i> Alliance	Red fescue grassland	G4 S3?	No
<i>Festuca idahoensis</i> Alliance	Idaho fescue grassland	G4 S3?	No
<i>Glyceria occidentalis</i>	Northwest manna grass marshes	G3? S3?	No
<i>Grindelia (stricta)</i> Provisional Alliance	Gum plant patches	G3? S3?	No
<i>Hordeum brachyantherum</i> Alliance	Meadow barley patches	G4 S3?	No
<i>Juncus articus</i> (var. <i>balticus</i> , <i>mexicanus</i>)	Baltic and Mexican rush marshes	G5 S4	No
<i>Juncus effusus</i> Alliance	Soft rush marshes	G4 S4?	No
<i>Juncus (oxymeris, xiphioides)</i> Provisional Alliance	Iris-leaf rush seeps	G2? S2?	No
<i>Juncus lescurii</i> Alliance	Salt rush swales	G3 S2?	No
<i>Juncus patens</i> Provisional Alliance	Western rush marshes	G4? S4?	No
<i>Leymus mollis</i> Alliance	Sea lyme grass patches	G4 S2	No
<i>Leymus triticoides</i> Alliance	Creeping rye grass turfs	G4 S3	No
<i>Mimulus (guttatus)</i> Alliance	Common monkey flower seeps	G4? S3?	No
<i>Poa secunda</i> Alliance	Curley bluegrass grassland	G4 S3?	No
<i>Schoenoplectus acutus</i> Alliance	Hardstem bulrush marsh	G5 S4	No
<i>Schoenoplectus californicus</i> Alliance	California bulrush marsh	G5 S4?	No
<i>Scirpus microcarpus</i> Alliance	Small-fruited bulrush marsh	G4 S2	No
<i>Solidago canadensis</i> Provisional Alliance	Canada goldenrod patches	G4? S4?	No
<i>Woodwardia fimbriata</i>	Woodwardia thicket	G3 S3.2	No
Aquatic Vegetation			
<i>Azolla (filiculoides, mexicana)</i> Provisional Alliance	Mosquito fern mats	G4 S4	No
<i>Hydrocotyle (ranunculoides, umbellata)</i> Alliance	Mats of floating pennywort	G4 S3?	No
<i>Lemna (minor)</i> and Relatives Provisional Alliance	Duckweed blooms	G5 S4?	No
<i>Nuphar lutea</i> Provisional Alliance	Yellow pond-lily mats	G5 S3?	No

Appendix A. Table 2. Plant Alliances and Communities List

Scientific Name	Common Name	Global & State Rank	Found?
<i>Oenanthе sarmentosa</i> Alliance	Water-parsley marsh	G4 S2?	No
<i>Sarcocornia pacifica</i> (<i>Salicornia depressa</i>) Alliance	Pickleweed mats	G4 S3	No
<i>Sparganium (angustifolium)</i> Alliance	Mats of bur-reed leaves	G4 S3?	No
<i>Typha (angustifolia, domingensis, latifolia)</i> Alliance	Cattail marshes	G5 S5	No

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
INVERTEBRATES						
Snails, Slugs, and Abalone (<i>GASTROPODA</i>)						
<i>Helminthoglypta arrosa pomoensis</i> Pomo bronze shoulderband	None	None	G2G3T1	S1	IUCN:DD	Found near the coast in heavily-timbered redwood canyons of Mendocino County, from Big River and Russian Gulch watersheds. Found under redwoods. Generally, in somewhat moist duff. Found in scrub in forest opening under a power line in Russian
<i>Noyo interessa</i> Ten Mile shoulderband	None	None	G2	S2	None	Known from a few locations in Mendocino County with limited habitat information. Known from Ten Mile Dunes.
Beetles (<i>INSECTA, Coleoptera</i>)						
<i>Coelus globosus</i> Globose dune beetle	None	None	G1	S1	IUCN:VU	Subterranean beetle that tunnels through sand under dune vegetation. Since coastal dune habitat in California is diminishing, the beetle is a special-status species.
Butterflies & Moths (<i>INSECTA, Hymenoptera</i>)						
<i>Lycæides argyrognomon lotis</i> lotis blue butterfly	Endangered	None	G5TH	SH	XERCES:CI	Not seen since 1983, it is primarily from Mendocino County but historically from northern Sonoma and possibly Marin Counties. Inhabits wet meadows, damp coastal prairie, and potentially bogs or poorly-drained sphagnum-willow bogs where soils are waterlogged and acidic. Presumed host plant is Hosackia gracilis.
<i>Speyeria zerene behrensii</i> Behren's silverspot butterfly	Endangered	None	G5T1	S1	XERCES:CI	Historically from near the City of Mendocino, Mendocino County, south to the area of Salt Point State Park, Sonoma County. Now presumed to be from Manchester south to Salt Point area. Inhabits coastal terrace prairie with caterpillar host plants: violet (<i>Viola adunca</i>) and adult nectar sources: thistles, asters, etc.
Ants, Bees, & Wasps (<i>INSECTA, Hymenoptera</i>)						
<i>Bombus occidentalis</i> Western bumble bee	None	None	GU	S1	XERCES:IM	Populations in central California have declined since the 1990's. It visits flowers in a variety of habitats. Identified by a white patch on its abdomen hind tip. None recorded
FISH						
Trout & Salmon (<i>SALMONIDAE</i>)						
<i>Oncorhynchus kisutch</i> Coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	G4T2Q	S2?	AFS:TH DFG:SSC	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.
<i>Oncorhynchus mykiss irideus</i> steelhead-northern California DPS	Threatened	None	G5T2Q	S2	AFS:TH DFG:SSC	Cool, swift, shallow water and clean loose gravel for spawning.
<i>Oncorhynchus tshawytscha</i> chinook salmon – California coastal ESU	Threatened	None	G5	S2	AFS:TH	Adults depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27° C lethal to adults.

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Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
Minnows & Carp (CYPRINIDAE)						
<i>Lavinia symmetricus navarroensis</i> Navarro roach	None	None	G5T1T2	S1S2	DFG:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams. Found in the lower, warmer reaches of streams in the Russian and Navarro River drainages.
<i>Lavinia symmetricus parvipinnis</i> Gualala roach	None	None	G5T1T2	S1S2	DFG:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.
Gobies (GOBIIDAE)						
<i>Eucyclogobius newberryi</i> tidewater goby	Endangered	None	G3	S2S3	AFS:EN DFG:SSC IUCN:VU	Brackish water habitats along the California coast from Agua Hedionda lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.
AMPHIBIANS & REPTILES						
Salamanders (SALAMANDRIDAE)						
<i>Taricha rivularis</i> Red-bellied newt	None	None	G4	S2	CDFW: SSC IUCN:LC	Red-bellied newts are found in redwood forests and lay their eggs in fast flowing streams or rivers. They are often found under rocks, logs, rodent burrows, and other forest debris.
Olympic salamanders (RHYACOTRITONIDAE)						
<i>Rhyacotriton variegatus</i> southern torrent (=seep) salamander	None	None	G3G4	S2S3	DFG:SSC IUCN:LC USFS:S	Found in Coastal redwood, Douglas fir, mixed conifer, montane riparian, and montane hardwood-conifer forests from northern California south to Point Arena. Aquatic habitat includes permanent cold creeks, streams and seepages with low water flow; associated with moss-covered rocks within trickling water and the splash zone of waterfalls; old-growth coniferous forests with closed canopy; <50% cobble in creeks, remainder mixture of pebble, gravel and sand.
Tailed frogs (ASCAPHIDAE)						
<i>Ascaphus truei</i> Pacific tailed frog	None	None	G4	S2S3	DFG:SSC IUCN:LC	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Coastal from Anchor Bay, Mendocino Co. to Oregon border. Cold, clear, rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for cover for adults, eggs, and larvae. After heavy rains, adults may be found in the woods away from the stream.
Frogs (RANIDAE)						
<i>Rana aurora aurora</i> northern red-legged frog	None	None	G4T4	S2?	DFG:SSC USFS:S	Found in humid forests, woodlands, grasslands, and streamsides in northwestern California. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. Integration zone between northern and California species is between Manchester and Elk.
<i>Rana aurora draytonii</i> California red-legged frog	Threatened	None	G4T2T3	S2S3	DFG:SSC IUCN:VU	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.
<i>Rana boylei</i> foothill yellow-legged frog	None	Candidate for Threatened	G3	S2S3	BLM:S DFG:SSC IUCN:NT	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying.

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
					USFS:S	
Box & Water Turtles (EMYDIDAE)						
<i>Emys marmorata</i> <i>marmorata</i> western pond turtle	None	None	G3G4	S3	BLM:S DFG:SSC IUCN:VU USFS:S	Former scientific name: <i>Clemmys marmorata marmorata</i> . Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water.
BIRDS						
Pelicans (PELECANIDAE)						
<i>Pelecanus occidentalis californicus</i> California brown pelican (nesting colony & communal roosts)	Delisted	Delisted	G4T3	S1S2	DFG:FP	Nest colonies are on offshore islands free of mammalian predators and human disturbance, are of sufficient elevation to prevent flooding of nests, and are associated with an adequate and consistent food supply. Brown pelicans roost communally, generally in areas that are near adequate food supplies, have some type of physical barrier to predation and disturbance, and provide some protection from environmental stresses such as wind and high surf.
Cormorants (PHALACROCORACIDAE)						
<i>Phalacrocorax auritus</i> double-crested cormorant (nesting colony)	None	None	G5	S3	DFG:WL IUCN:LC	Rookery site: colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.
Hawks, Kites, Harriers, & Eagles (ACCIPITRIDAE)						
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	None	None	G5	S3	DFG:WL IUCN:LC	Nesting: woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.
<i>Accipiter gentilis</i> northern goshawk (nesting)	None	None	G5	S3	BLM:S CDF:S DFG:SSC IUCN:LC USFS:S	Nesting: within and in vicinity of coniferous forest. Uses old nests, and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodge pole pine, Jeffrey pine, and aspens are typical nest trees. Northern goshawks typically
<i>Accipiter striatus</i> sharp-shinned hawk (nesting)	None	None	G5	S3	DFG:WL	Nesting: ponderosa pine, black oak, riparian deciduous, mixed conifer and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes, with plucking perches are critical requirements. Nests usually within 275 ft. of water. Nests in dense, even-aged, single-layered forest canopy, usually nests in dense, pole and small-tree stands of conifers, which are cool, moist, well shaded, with little ground-cover, near water. Foraging: Uses dense stands in close proximity to open areas.
<i>Aquila chrysaetos</i> golden eagle (nesting & wintering)	None	None	G5	S3	CDF:S DFG:FP DFG:WL IUCN:LC USFWS:BCC	Nesting and wintering: rolling foothills mountain areas, sage-juniper flats, desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas. Nests on cliffs of all heights and in large trees in open areas. Alternative nest sites are maintained, and old nests are reused. Builds large platform nest, often 10 ft. across and 3 ft. high, of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments used most
<i>Buteo regalis</i> ferruginous hawk (wintering)	None	None	G4	S3S4	DFG:WL IUCN:LC USFWS:BCC	Usually east of the coastal belt, uncommon migrant in coastal Mendocino County seen in open areas such as Bald Hill and Manchester. Feeding habitat in open, treeless areas. Does not breed in California.

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
<i>Circus cyaneus</i> Northern harrier (nesting)	None	None	G5	S3	DFG:SSC IUCN:LC	Northern harriers prefer sloughs, wet meadows, marshlands, swamps, prairies, plains, grasslands, and shrublands and perch on structures such as fence posts. Nesting habitat: nest on the ground, usually near water, or in tall grass, open fields, clearings, or on the water on a stick foundation, willow clump, or sedge tussock. Most nests built within patches of dense, often tall, vegetation (e.g., cattails) in undisturbed areas. They usually nest near hunting grounds. Foraging: They need open, low woody or herbaceous vegetation for nesting and hunting.
<i>Elanus leucurus</i> white-tailed kite (nesting)	None	None	G5	S3	DFG:FP IUCN:LC	Nesting: rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland, open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Winter congregation of at least 20 birds seen at Manchester State Park in early 2000's. One nest known from a THP in Albion ~2006; nest was at the edge of conifer forest with no pasture immediately adjacent.
<i>Haliaeetus leucocephalus</i> bald eagle (nesting & wintering)	Delisted	Endangered	G5	S2	CDF:S DFG:FP IUCN:LC USFS:S USEWS:BCC	Nesting and wintering: ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter. Known from winter in Lake Cleone, MacKerricher State Park and Little River.
<i>Pandion haliaetus</i> Osprey (nesting)	None	None	G5	S3	CDF:S DFG:WL IUCN:LC	Nesting: ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in tree-tops within 6-7 to 15 miles of good fish-producing body of water. Flattened portions of partially broken off snags, trees, rocks, dirt pinnacles, cacti, and numerous man-made structures such as utility poles and duck blinds are used for nests. Furthest nest inland may be McGuire's Pond.
Falcons (FALCONIDAE)						
<i>Falco columbarius</i> Merlin (wintering)	None	None	G5	S3	DFG:WL IUCN:LC	General wintering habitat: Uncommon winter migrants on the coast. Habitat apparently similar to breeding habitat, (open forest and grasslands). Regularly hunts prey (e.g., shorebirds) concentrated on tidal flats. Often winters in cities throughout its range, where frequently perches on buildings, power poles, and tall trees. Also winters in open woodland, grasslands, open cultivated fields, marshes, estuaries, and seacoasts. Frequents open habitats at low elevation near water and tree stands.
<i>Falco peregrinus anatum</i> American peregrine falcon (nesting)	Delisted	Delisted	G4T3	S2	CDF:S DFG:FP USFWS:BCC	Nesting: near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site.
Plovers & Relatives (CHARADRIIDAE)						
<i>Charadrius alexandrinus nivosus</i> western snowy plover (nesting)	Threatened	None	G4T3	S2	ABC:WLBCC DFG:SSC USFWS:BCC	Nesting: federal listing applies only to the pacific coastal population. Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting. Sand spits, dune-backed beaches, unvegetated beach strands, open areas around estuaries, and beaches at river mouths are the preferred coastal habitats for nesting. Less common nesting habitat includes salt pans, coastal dredged spoil sites, dry ponds, and salt pond levees and islands.
Oystercatchers (HAEMATOPODIDAE)						

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name	Federal	State	G	S	Organization:	Habitat
Common name	Status	Status	Rank	Rank	Code	
<i>Haematopus bachmani</i> Black oystercatcher (nesting)	None	None	G5	S2	IUCN:LC USFWS:BCC	From the Aleutian Islands to Baja California, the forage on intertidal macroinvertebrates along gravel or rocky shores and in the southern part of their range nest primarily on rocky headlands and offshore rocks.
Gulls & Terns (LARIDAE)						
<i>Larus californicus</i> California gull (nesting)	None	None	G5	S2	DFG:WL IUCN:LC	Colony nesters and usually occurring on an island or vegetated offshore rock.
Auklets, Puffins, & Relatives (ALCIDAE)						
<i>Brachyramphus marmoratus</i> marbled murrelet (nesting)	Threatened	Endangered	G3G4	S1	ABC:WLBCC CDF:S IUCN:EN	Nesting: feeds near-shore; nests inland along coast, from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir. Presence of platforms (flat surface at least four inches in diameter) appears to be the most important stand characteristic for predicting murrelet presence. Stands can be: 1) mature (with or without an old- growth component); 2) old-growth; 3) young coniferous forests with platforms; and 4) include large residual trees in low densities sometimes less than one tree per acre.
<i>Fratercula cirrhata</i> tufted puffin (nesting colony)	None	None	G5	S2	DFG:SSC IUCN:LC	Nesting colony: open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs free of human disturbance and mammalian predators. Nests in burrows or rock crevices when sod or earth in unavailable for burrowing. Occurs year-round offshore near breeding colonies in northern California, but more common in winter.
tufted puffin (nesting colony)						
Owls (STRIGIDAE)						
<i>Athene cunicularia</i> burrowing owl (burrow sites and some winter sites)	None	None	G4	S2	BLM:S DFG:SSC IUCN:LC USFWS:BCC	Burrow sites: open, dry annual or perennial grasslands, deserts and scrublands, and dunes characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.
<i>Strix occidentalis caurina</i> northern spotted owl	Threatened	None	G3T3	S2S3	ABC:WLBCC CDF:S DFG:SSC IUCN:NT	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests w/patches of big trees. High, multistory canopy dominated by big trees, many trees w/cavities or broken tops, woody debris, and space under canopy.
Swifts (APODIDAE)						
<i>Chaetura vauxi</i>	None	None	G5	S3	DFG:SSC IUCN:LC	Nesting: redwood, Douglas fir, grand fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes. Also nests in artificial structures such as chimneys. The most important habitat requirement appears to be an appropriate nest site in a large, hollow tree. Forages over most terrains and habitats, often high in the air. Shows an apparent preference for foraging over rivers and lakes.

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
Hummingbirds (TROCHILIDAE)						
<i>Selasphorus rufus</i> rufous hummingbird (nesting)	None	None	G5	S1S2	IUCN:LC USFWS:BCC	Breeds in open or shrubby areas, forest openings, yards and parks, and sometimes in forests, thickets, and meadows. Late winter and spring migrant on the California coast. Breeding range from southeast Alaska and as far south as northwestern California.
<i>Selasphorus sasin</i> Allen's hummingbird (nesting)	None	None			ABC:WLBCC IUCN:LC USFWS:BCC	Breeds only along a narrow strip of coastal California and southern Oregon. Nests in densely vegetated areas and forests. An early migrant compared with most North American birds, arriving in summer breeding grounds as early as January. Breeds in moist coastal areas, scrub, chaparral, and forests. Winters in forest edge and scrub clearings with flowers.
Swallows (HIRUNDINIDAE)						
<i>Progne subis</i> purple martin	None	None	G5	S3	DFG:SSC IUCN:LC	Nesting: inhabits woodlands, low elevation coniferous forest of Douglas fir, Ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures such as weep holes in bridges. Nest often located in tall, isolated trees and snags. Nesting on the Mendocino Coast known, in part, from Juan Creek, Ten Mile, Noyo, and Big River, and snags from Ten Mile River to Pudding Creek. Need open foraging habitats. (Coast redwood forest and at Gualala River bridge)
Wood-warblers (PARULIDAE)						
<i>Dendroica occidentalis</i> hermit warbler (nesting)	None	None	G4G5	S3?	ABC:WLBCC IUCN:LC	Breeding range is relatively limited to the Pacific Coast and the Cascade and Sierra Nevada mountain ranges of Washington, Oregon, and California. Some winter along the coastal central and southern California, but most winter primarily in the mountains of western Mexico and Central America. Nesting habitats in Pacific northwest are coniferous forests with a high canopy volume, generally preferring mature stands of pine and Douglas fir. Avoids areas with a high deciduous volume; absent from riparian areas and clearcuts. Birds of coniferous forests; they prefer cool, wet fir forests at elevation, and moist forests of Douglas-fir, hemlock, and western red cedar closer to sea level. Major threat to this species appears to be the
Sparrows, Buntings, Warblers, & Relatives (EMBERIZIDAE)						
<i>Ammodramus savannarum</i> grasshopper sparrow (nesting)	None	None	G5	S2	DFG:SSC IUCN:LC	Nesting: dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting. Summer (breeding)
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow (nesting)	None	None	G5T2T3	S2S3	DFG:SSC	California endemic from near Humboldt Bay, Humboldt Co. to Morro Bay, San Luis Obispo Co. Breeds in low tidally influenced habitats in higher parts of pickleweed/saltgrass marshes, adjacent ruderal areas, moist grasslands within and just above the fog belt, bottomlands and dairy pastures in the taller grasses and rushes along roads and fences, and infrequently, drier grasslands. In moist upland grasslands, it occurs where herbaceous vegetation is relatively short, with
Blackbirds (CTERIDAE)						
<i>Agelaius tricolor</i> tricolored blackbird (nesting colony)	None	None	G2G3	S2	ABC:WLBCC BLM:S DFG:SSC IUCN:EN USFWS:BCC	Nesting colony: highly colonial species, most numerous in central valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, such as cattails and foraging area with insect prey within a few km of the colony. Known inland from McGuire's Pond.

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
Mammals						
Evening Bats (<i>VESPERTILIONIDAE</i>)						
<i>Antrozous pallidus</i> pallid bat	None	None	G5	S3	BLM:S DFG:SSC IUCN:LC USFS:S WBWG:H	A wide variety of habitats deserts, grasslands, shrublands, woodlands and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of the range. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings where there is protection from high temperatures.
<i>Corynorhinus townsendi</i> Townsend's big-eared bat	None	None	G4	S2S3	BLM:S DFG:SSC IUCN:LC USFS:S WBWG:H	Generally found in the dry uplands throughout the West, but also occur in mesic coniferous and deciduous forest habitats along the Pacific coast. Unequivocally associated with areas containing caves and cave-analogs for roosting habitat. Requires spacious cavern-like structures for roosting during all stages of its life cycle. Typically, they use caves and mines, but have been noted roosting in large hollows of redwood trees, attics and abandoned buildings, lava tubes, and under bridges. Extremely sensitive to disturbance.
<i>Lasionycteris noctivagans</i> silver-haired bat	None	None	G5	S3S4	IUCN:LC WBWG:M	Ranges throughout California in coastal and montane forests. May be found anywhere in California during spring and fall migrations. Primarily a forest (tree-roosting) bat associated with north temperate zone conifer and mixed conifer/hardwood forests. Prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. During migration, sometimes occurs in xeric areas. Roosts in dead or dying trees with exfoliating bark, extensive vertical cracks, or cavities, rock crevices, and occasionally under wood piles, in leaf litter, under foundations, and in buildings, mines and caves. The primary threat is likely loss of roosting habitat due to logging practices that fail to accommodate the roosting needs of this species (e.g., clusters of large snags).
<i>Lasiurus blossevillei</i> western red bat	None	None	G5	S3?	DFG:SSC IUCN:LC	Locally common in some areas of California from Shasta County south to the Mexican border. California Central Valley is the species' primary breeding region. Species appears to be strongly associated with riparian habitats for roosting and foraging, particularly mature stands/large diameter of cottonwood/sycamore. Roosts in woodland borders, rivers, agricultural areas, and urban areas with mature trees in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. It often hangs from one foot on the leaf petiole and may resemble a fruit or a dead leaf. Rarely observed roosting in mines.
Mountain Beavers (<i>PLODONTIDAE</i>)						
<i>Aplodontia rufa nigra</i> Point Arena mountain beaver	Endangered	None	G5T1	S1	DFG:SSC IUCN:LC	Generally known from 2 miles north of Bridgeport Landing to 5 miles south of the town of Point Arena. Coastal areas often near springs or seepages; mesic coastal scrub, northern dune scrub, edges of conifer forests, and riparian plant communities. North facing slopes of ridges and gullies with friable soils and thickets of undergrowth.

Appendix A. Table 3. Rare Fauna Scoping List.

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
Mice, Rats, & Voles (<i>MURIDAE</i>)						
<i>Arborimus pomo</i> Sonoma tree vole	None	None	G3	S3	DFG:SSC IUCN:NT	Species split into red tree vole and Sonoma tree vole; approximate boundary between two species is Klamath River. Inhabits north coast fog belt from Oregon border to Sonoma Co. in old-growth and other forests, mainly Douglas fir, redwood, and montane hardwood-conifer habitats. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.
Weasels & Relatives (<i>MUSTELIDAE</i>)						
<i>Martes americana humboldtensis</i> Humboldt marten	None	None	G5T2T3	S2S3	DFG:SSC USFS:S	Endemic to the coastal forests of northwestern California with a historical range described as “the narrow northwest humid coast strip, chiefly within the redwood belt” from the Oregon border to northern Sonoma county. However, the one known remnant Humboldt marten population occurs in the north-central portion of the described range in an area dominated by Douglas-fir and tanoak. Typically associated with closed-canopy, late-successional, mesic coniferous forests with complex physical structure near the ground. Very rare on the Mendocino coast.
<i>Martes pennanti (pacifica)</i> DPS Pacific fisher	Candidate	None	G5	S2S3	BLM:S DFG:SSC USFS:S	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs and rocky areas for cover and denning. Need large areas of mature, dense forest. Very rare on the Mendocino coast.
Sea Lions & Fur Seals (<i>OTARIIDAE</i>)						
<i>Arctocephalus townsendi</i>	Threatened	Threatened	G1	S1	DFG:FP	Solitary, non-social “eared” seals breed in the tropical waters off southern California/Mexico region but have been seen on rare occasion off Mendocino.
<i>Callorhinus ursinus</i> northern fur-seal	None	None	G3	S1	IUCN:VU	Mostly pelagic seal ranging throughout the Pacific Rim, from Japan to the Channel Islands. Pacific rookeries in the Channel and Farallon Islands. Infrequent visitor to the Mendocino Coast. One was stranded on Albion flat in 2013 and rescued by the Marine Mammal Center.
<i>Eumetopias jubatus</i> Steller (=northern) sea-lion	Threatened	None	G3	S2	IUCN:EN MMC:SSC	Range throughout the North Pacific Rim from Japan to central California. Unlike California sea lions, Stellers tend to remain off shore or haul out in unpopulated areas. Breeding rookery on Año Nuevo Island.

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Herbs			
Acmispon micranthus small flowered lotus	FABACEAE	annual herb	native
Acmispon parviflorus Hill lotus	FABACEAE	annual herb	native
Anaphalis margaritacea pearly everlasting	ASTERACEAE	perennial herb	native
Anisocarpus madioides Woodland madia	ASTERACEAE	perennial herb	native
Arnica discoidea Rayless arnica	ASTERACEAE	perennial herb	native
Chlorogalum pomeridianum Soap plant, Soaproot	AGAVACEAE	perennial herb	native
Collomia heterophylla Varieable-leaved collomia	POLEMONIACEAE	annual herb	native
Eriophyllum lanatum var. arachnoideum Spiderweb sunflower, Wooly sunflower	ASTERACEAE	perennial herb	native
Euchiton japonicus Father and child plant	ASTERACEAE	annual	not native
Fragaria vesca Woodland strawberry	ROSACEAE	perennial herb	native
Galium californicum California bedstraw	RUBIACEAE	perennial herb	native
Goodyera oblongifolia Rattlesnake plantain	ORCHIDACEAE	perennial herb	native

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Hieracium albiflorum White flowered/White hawkweed	ASTERACEAE	perennial herb	native
Hosackia gracilis Harlequin Lotus	FABACEAE	perennial herb	native
Hosackia rosea Rose-flowered lotus	FABACEAE	perennial herb	native
Helianthemum scoparium Bisbee peak rushrose	CISTACEAE	perennial herb	native shrub
Hypochaeris radicata Hairy/ Rough Cat's ear	ASTERACEAE	perennial herb	non-native, invasive - moderate
Hypericum anagalloides Creeping st. john's wort, Tinker's penny	HYPERICACEAE	annual, perennial herb	native
Iris douglasiana Douglas Iris	IRIDACEAE	perennial herb	native
Linum bienne Narrow leaved/Pale/Small flowered flax	LINACEAE	annual herb	non-native
Lysimachia latifolia Pacific starflower	MYRSINACEAE	perennial herb	native
Madia exigua Little tarweed	ASTERACEAE	annual herb	native
Navarretia squarrosa Skunkbush, Skunkweed	POLEMONIACEAE	annual herb	native
Oxalis oregana Redwood sorrel	OXALIDACEAE	perennial herb	native
Pedicularis densiflora Indian warrior	OROBANCHACEAE	perennial herb	native

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Piperia elongata Dense flowered rein orchid	ORCHIDACEAE	perennial herb	native
Pityopus californicus	ERICACEAE	mycoparasitic plant	native
Polygala californica California milkwort	POLYGALACEAE	perennial herb	native
Prunella vulgaris Self-heal	LAMIACEAE	perennial herb	native
Sanicula crassicaulus Snakeroot, Pacific blacksnakeroot, gamble weed, Pacific sanicle	APIACEAE	perennial herb	native
Sisyrinchium bellum Western blue eyed grass	IRIDACEAE	perennial herb	native
Toxicoscordion fremontii (Zigadenus fremontii) Fremont's death camas/star lily	MELANTHIACEAE	perennial herb	native
Trillium ovatum Coast trillium	MELANTHIACEAE	annual herb	native
Trifolium dubium Shamrock/Suckling clover	FABACEAE	annual herb	non-native
Trifolium repens white clover	FABACEAE	perennial herb	non-native
Trifolium oliganthum Few-flowered clover	FABACEAE	annual herb	native
Vicia sativa Spring vetch	FABACEAE	annual herb, vine	non-native

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Viola glabella Stream violet	VIOLACEAE	perennial herb	native
Viola sempervirens Redwood violet	VIOLACEAE	perennial herb	native
Whipplea modesta Sweet modesty	HYDRANGEACEAE	perennial herb	native
Xerophyllum tenax Common beargrass	MELANTHIACEAE	perennial herb	native
Grasses			
Agrostis capillaris Colonial bentgrass	POACEAE	perennial grass	non-native
Aira caryophyllea Shivet/ Silver hairgrass	POACEAE	annual grass	non-native
Anthoxanthum odoratum Sweet vernal grass	POACEAE	annual or perennial grass	non-native, invasive - moderate
Anthoxanthum occidentale Vanilla grass	POACEAE	perennial grass	native
Festuca bromoides brome fescue	POACEAE	annual grass	non-native
Sedges			
Carex hartfordii Hartfords'/ Monterey sedge	CYPERACEAE	sedge, perennial grasslike herb	native
Cyperus eragrostis Tall cyperus, Tall flatsedge	CYPERACEAE	sedge, perennial grasslike herb	native

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Rushes			
Juncus bufonius Toad rush	JUNCACEAE	rush, annual grasslike herb	native
Juncus effusus Common Rush	JUNCACEAE	rush, perennial grasslike herb	native
Luzula comosa Wood rush	JUNCACEAE	rush, perennial grasslike herb	native
Ferns			
Polystichum munitum Western sword fern	DRYOPTERIDACEAE	fern	native
Pteridium aquilinum Western brackenfern	DENNSTAEDTIACEAE	fern	native
Shrubs			
Arctostaphylos columbiana Hairy manzanita	ERICACEAE	shrub	native
Arctostaphylos glandulosa Eastwood manzanita	ERICACEAE	shrub	native
Ceanothus thyrsiflorus Blueblossom	RHAMNACEAE	shrub	native
Diplacus aurantiacus Bush/Island/Sticky monkey flower	PHRYMACEAE	shrub	native

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Frangula californica California coffeeberry	RHAMNACEAE	shrub	native
Gaultheria shallon Salal	ERICACEAE	shrub	native
Garrya elliptica Coast silk tassel	GARRYACEAE	shrub	native
Lonicera hispidula Pink/Twining honeysuckle	CAPRIFOLIACEAE	shrub, vine	native
Lupinus sp. Lupine	FABACEAE	shrub	native
Morella californica California wax myrtle	MYRICACEAE	shrub	native
Rosa sp. Wild rose	ROSACEAE	shrub	native
Toxicodendron diversilobum Poison oak	ANACARDIACEAE	shrub, vine	native
Vaccinium ovatum Evergreen huckleberry	ERICACEAE	shrub	native
Trees			
Arbutus menziesii Madrono, Pacific madrone	ERICACEAE	tree	native
Garrya elliptica silk tassel	GARRYACEAE	shrub, tree	native
Notholithocarpus densiflorus Tanoak	FAGACEAE	shrub, tree	native
Pinus muricata Bishop/ Bull/Prickle Cone Pine	PINACEAE	tree	native

Appendix B. Plants observed in Study Area.

Scientific Name (Synonyms) Common Name	Family	Type	Origin
Pseudotsuga menziesii Douglas fir	PINACEAE	tree	native
Sequoia sempervirens Coast redwood	CUPRESSACEAE	tree	native



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

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

Levy Tongate Soils Report



June 1, 2017

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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

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

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

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

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

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

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

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

Soil Map

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


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Soil Map



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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 11, Sep 22, 2016

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

Date(s) aerial images were photographed: Jun 16, 2010—Aug 14, 2011

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.

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Map Unit Legend

Mendocino County, Western Part, California (CA694)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
158	Havensneck sandy loam, 2 to 15 percent slopes	5.7	27.1%
159	Havensneck sandy loam, 15 to 30 percent slopes	15.4	72.9%
Totals for Area of Interest		21.1	100.0%

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

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development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

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Mendocino County, Western Part, California

158—Havensneck sandy loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: hmmb
Elevation: 400 to 1,100 feet
Mean annual precipitation: 45 to 55 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 250 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Havensneck and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Havensneck

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Mountaintop, head slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 7 inches: sandy loam
H2 - 7 to 21 inches: sandy loam
H3 - 21 to 32 inches: sandy loam
H4 - 32 to 36 inches: weathered bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

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

Minor Components

Tramway

Percent of map unit: 3 percent
Hydric soil rating: No

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Unnamed, gentler or steeper slopes

Percent of map unit: 3 percent

Hydric soil rating: No

Shinglemill

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Iversen

Percent of map unit: 2 percent

Hydric soil rating: No

Fishrock

Percent of map unit: 2 percent

Hydric soil rating: No

Gibney

Percent of map unit: 2 percent

Hydric soil rating: No

159—Havensneck sandy loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hmmc

Elevation: 400 to 1,100 feet

Mean annual precipitation: 45 to 55 inches

Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 250 to 330 days

Farmland classification: Not prime farmland

Map Unit Composition

Havensneck and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Havensneck

Setting

Landform: Hills, mountains, ridges

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Mountaintop, head slope, crest

Down-slope shape: Convex

Across-slope shape: Convex, linear

Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 7 inches: sandy loam

H2 - 7 to 21 inches: sandy loam

H3 - 21 to 32 inches: sandy loam

H4 - 32 to 36 inches: weathered bedrock

Custom Soil Resource Report

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

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

Minor Components

Fishrock

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

Iversen

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

Tramway

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

Unnamed, gentler or steeper slopes

Percent of map unit: 3 percent
Hydric soil rating: No

References

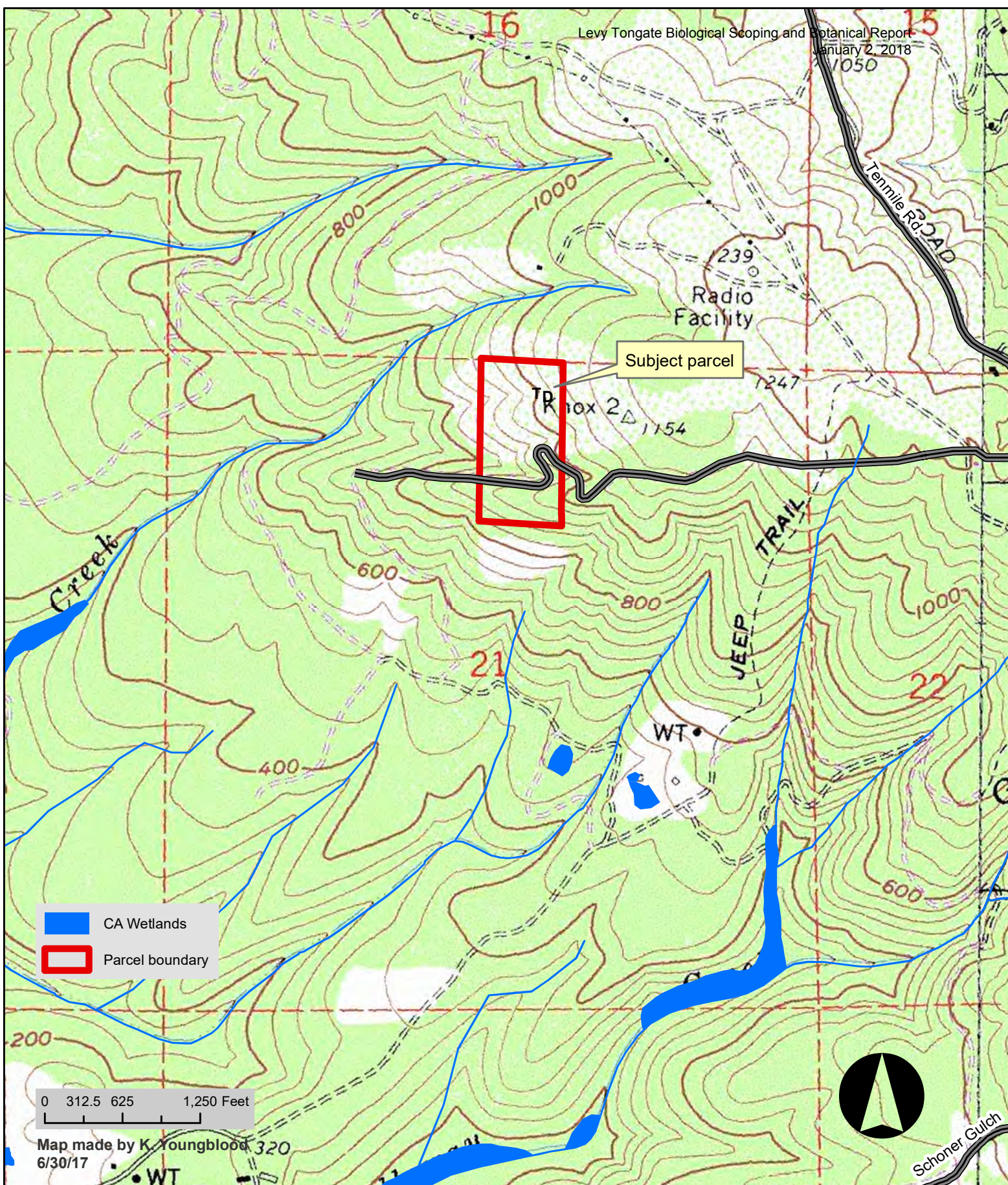
- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



OWNER: LEVY & TONGATE
APN: 027-361-25
ADDRESS: 44924 ZETTLER RD, POINT ARENA
ACREAGE: 20.01 ACRES

National Wetland Inventory Map

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
(A)	<p>Buffer Areas.</p> <p><i>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.</i></p>
	<p>A special status plant community and other areas observed on or near the property that may qualify as Environmentally Sensitive Habitat Areas include:</p> <ul style="list-style-type: none"> • Bishop Pine Forest (G3 S3) – Presumed ESHA • Ross Creek – Presumed Stream ESHA (1000 ft west of Study Area) <p>Three ephemeral drainages (class III streams) occur within the Study Area that drain into Ross Creek downstream. Because the ephemeral drainages do not have riparian vegetation and support surface water only after winter rains, they are not determined to be ESHAs. However, the ephemeral drainages influence the downstream ESHA, Ross Creek, so extended buffers of the Ross creek ESHA buffer were applied to the ephemeral Class III streams in the Study Area.</p>
(1)	<p>Width.</p> <p><i>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.</i></p>

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
	<p>Based on the analysis below, Wynn Coastal Planning recommends:</p> <ul style="list-style-type: none"> • Bishop Pine Forest ESHA– 50-ft Buffer • Ross Creek ESHA – 100-ft Buffer of Ross Creek ESHA and 1000-ft extensions of Ross Creek Buffer around Study Area ephemeral drainages <p>Bishop Pine Forest ESHA: The minimum 50 ft buffer is suitable to protect the integrity and sustainability of the Bishop Pine Forest.</p> <p>The 50 ft buffer was mapped from the outside edge of the bishop pine forest; the stream buffers were measured from each stream line mapped from the contour crenulations.</p> <p>Ross Creek ESHA: In our mapping, the Ross Creek buffer extends upstream into the Study Area. Rather than the minimum 100 foot buffer, we apply buffer extensions of approximately 1000 feet from Ross Creek, to ephemeral streams in the Study Area that flow into the Ross Creek ESHA. The Class III ephemeral streams in the Study Area have no riparian zone and were not determined to be ESHAs, but because they drain into a downstream ESHA, protection of the hydrological regime in the Study Area is recommended.</p> <p>The width of each ephemeral stream extended buffer and total protection zone was determined based on the size and characteristics of each stream including estimates of bankfull width, slope steepness and slope length to break in slope. For example, the largest ephemeral drainage (southern drainage) had an existing cultural feature, Zettler Road, that created the break in slope and therefore determined the buffer width. The other two drainages, were smaller having measurable characteristics that were less distinct, so all three variables were used in order to compare size and appropriate protective area needed.</p> <ol style="list-style-type: none"> 1) Northern Class III stream - 30 ft buffer width (60 ft protection zone) determined by 5 ft bankfull width and 20 ft slope length to level ground 2) Middle Class III stream - 10 ft buffer width (20 ft protection zone) determined by 3 ft bankfull width and 8 ft slope length to level ground. 3) Southern Class III stream - 60 ft buffer width (120 ft protection zone) determined by 60% slope and 60 ft slope length to break in slope at Zettler Road
30	<p>Biological Significance of Adjacent Lands. <i>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).</i></p> <p><i>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.</i></p>

Appendix E Reduced Buffer Analysis

Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE

A buffer of 50 ft for permanent development is recommended to protect the integrity of the **Bishop Pine Forest** plant community in the Study Area. Although no special status wildlife was observed in the Study Area, potential suitable habitat is not limited to the Bishop Pine Forest. **Mitigation and Avoidance measures in Section 6 address how to minimize impacts to all potentially occurring wildlife in the vicinity of proposed development including adjacent lands to Bishop Pine Forest.**

Potentially occurring **nesting birds** may be migratory or year round residents, and nesting requirements are highly variable. The bird nesting season typically extends from February to August. Although no special-status birds or nests were observed during any of the field surveys, the adjacent wooded landscape provides potential nesting habitat for special-status bird species and would be protected by the Migratory Bird Treaty Act. If construction is to occur during the breeding season (February to August), a pre-construction survey is recommended to ensure that no nesting birds will be disturbed during development. No surveys are recommended if development occurs in the non-breeding season (See report **Figure 18**). (See **Appendix A, Table 3** for potential special-status bird species in the Study Area).

Although no **bats or roosts** were documented during any of the field surveys, bat roost sites can change from year to year, so pre-construction surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat surveys do not need to be performed if work is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be performed by a qualified biologist within 14 days prior to the onset of development activities (See report **Figure 18**). (See **Appendix A, Table 3** for potential special-status bat species in the Study Area).

The **Sonoma tree vole** inhabits the north coast fog belt forests and primarily feeds on Douglas-fir needles and occasionally needles of pine or grand fir. Although no indicators of Sonoma tree voles were found during field surveys, Sonoma tree vole habitat is not restricted to the Bishop Pine Forest presumed ESHA and has the potential to occur on adjacent lands. **Mitigation and Avoidance Measures in Section 7** recommend a focused Sonoma tree vole survey by a qualified biologist in the development areas prior to vegetation removal and construction. If a Sonoma tree vole active nest is found, the nest tree and adjacent trees with touching canopy should not be removed.

Variable buffer widths were applied to the ephemeral drainages in the Study Area as extended buffers from the downstream, off-site **Ross Creek presumed ESHA**. Ross Creek may provide suitable feeding and breeding habitat for special status amphibians, CA red-legged frog, foothill yellow-legged frog, and the red-bellied newt, however the ephemeral headwater drainages in the Study Area are not suitable breeding and feeding habitat for these special-status species.

The **CA red-legged frog** and **foothill yellow legged frog** are primarily stream dwelling amphibians and depend on permanent water for larval development, though CA red-legged frogs have been found in terrestrial environments away from water during migration. **Red-bellied newts** lay their eggs in fast moving streams, but adults can be found under rocks, in rodent burrows and other forest debris away from the watercourse. It is possible that the CA red legged frogs and red-bellied newts will use adjacent habitat (to Ross Creek stream ESHA) for overland migration and temporary resting, but habitat suitable for feeding and breeding does not occur in the Study Area.

Avoidance Measures in Section 6 address how construction workers and construction activity can avoid impact to the three potentially occurring amphibians that may migrate from the stream and riparian area into the construction sites. Avoidance measures include: teaching construction workers how to identify different sensitive species, daily searches for sensitive species prior to construction activity, termination of construction activity during wet weather, and termination of construction activity if sensitive species are found.

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
1(b)	<p>Sensitivity of Species to Disturbance. <i>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:</i></p> <p>(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.</p>
	<p>No special status plant or animal species were observed in the Study Area during any of the field surveys. However, there is potential for presence of special status birds, bats, amphibians and/or Sonoma tree voles in the Study Area. However, none of these species are restricted to the presumed ESHAs or buffer areas.</p> <p>Special-status birds and bats (which are sensitive to disturbance during their breeding seasons) and Sonoma tree voles may use the trees observed in and near proposed development. Special status amphibians might be found in terrestrial habitat near construction and vegetation removal sites.</p> <p>To minimize construction impacts, a staging plan was developed (Figure 19) and the recommended Mitigation Measures (Section 7) include:</p> <ul style="list-style-type: none"> • Construction should occur during the non-breeding season of birds and bats. If construction occurs during the breeding season of birds and bats, both bird and bat surveys should be performed prior to construction (report Figure 18). • To minimize erosion, construction should occur in the dry season. Straw wattles can be used to prevent debris and human activity from entering the ephemeral drainage protection area. • Construction workers shall be trained to recognize special status amphibians. Staged material shall be placed in areas identified outside of ESHA buffers and moved carefully to avoid crushing potentially occurring special-status amphibians. If any special-status species are observed, a qualified biologist will be contacted before construction activities resume. • Prior to vegetation removal, focused Sonoma tree vole surveys should be conducted in areas of proposed development. If active Sonoma tree vole nests are found, the nest tree and other suitable trees with overlapping canopy should be protected.
1(c)	<p>Susceptibility of Parcel to Erosion. <i>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.</i></p>

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
	<p>The native soil in the majority of the parcel has been mapped by the Natural Resource Conservation Service as Havensneck Sandy Loam 15 - 30 percent slopes. The far northern and southern sections of the parcel are also mapped as Havensneck sandy loam, but with a more gentle slope of 2 – 15 percent. Havensneck sandy loam soils are derived from weathered sandstone and shale and are generally found on mountain tops, heads and shoulders of slopes (USDA Natural Resource Conservation Service, 2001; Appendix C). Havensneck Sandy Loam soils are well-drained and do not have hydric soil characteristics.</p> <p>Proposed development is either a great distance from or downslope of the Bishop Pine Forest, therefore erosion caused from ground disturbing activities and vegetation removal necessary for proposed development will not impact the Bishop Pine Forest areas. However, construction activities and vegetation removal have the potential to create erosion and sedimentation and debris buildup in the Study Area's ephemeral drainages. The intent of the 100 ft Ross Creek buffer with 1000 ft variable width buffer extensions around the Creek's ephemeral drainages in the Study Area is to protect these headwater streams from sediment, debris, and/or pollutants potentially caused from proposed development which could impact the downstream Ross Creek ESHA.</p> <p>Ground disturbing activities should not occur in the extended buffer protective zones of the ephemeral drainages. To avoid erosion where development is near drainages and on slopes, it is recommended that straw wattles are placed:</p> <ol style="list-style-type: none"> 1) For the northern-most ephemeral drainage: place wattles along the 30 foot drainage buffer, on contour, in the relative area of the proposed development site for the shop. The shop is located approximately 90-ft uphill from the ephemeral drainage. 2) For the middle ephemeral drainage: place wattles along both sides of the existing driveway above the culvert where a septic line will be placed 3) For the southern-most ephemeral drainage: place wattles along both sides of Zettler Road above the culvert where a septic line will be placed <p>The straw wattle location (shown in the Staging Area Plan, Figure 19), will help prevent sediment and debris from entering the ephemeral drainages in the Study Area, which convey water to Ross Creek ESHA (approximately 1000-ft downstream) in the winter. Proposed vegetation management (limbing trees up to 15-ft) and minimal vegetation removal will likely occur in the northern ephemeral drainage extended buffer when creating the fire safe defensible space. The work necessary will be limited to clearing dead vegetative material and minimal live vegetation removal, neither of which will not cause significant erosion. Mitigation and Avoidance Measures in Section 7 address how to minimize impacts to resources during vegetation management activities including staging removed debris in designated staging areas away from the ephemeral drainage protection zone.</p>
1(d)	<p>Use of Natural Topographic Features to Locate Development. <i>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.</i></p>
	<p>Proposed development of two structures north of Zettler Road occur immediately adjacent to the existing driveway. The water tank is proposed for a location behind the existing deck where the ground slopes away from the nearby ephemeral drainage. Proposed development south of Zettler Road is located along the ridge and away from all potential ESHAs.</p> <p>The Staging Area Plan (Figure 19) indicates where staged materials and straw wattles shall be placed to protect all potential ESHAs.</p>

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
1(e)	<p>Use of Existing Cultural Features to Locate Buffer Zones. <i>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.</i></p>
	<p>The existing driveway and cul-de-sac will act as a cultural barrier between development of the two proposed structures in the northern portion of the Study Area (shop and Phase II SFR) and the Bishop Pine Forest. Zettler Road will provide a barrier between the proposed development in the southern portion of the Study Area (Phase I SFR and related infrastructure) and all potential ESHAs.</p>
1(f)	<p>Lot Configuration and Location of Existing Development. <i>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.</i></p>
	<p>Proposed development is located on a forested slope where adjacent parcels are similar-sized 10 – 20 acres also forested and with similar development of single-family residences with guest cottages and accessory structures. Some neighboring parcels appear to have development within the Bishop Pine Forest though no nearby development appears to be closer than 100 feet to the Ross Creek presumed ESHA.</p> <p>All large permanent proposed development in the Study Area is greater than 100 feet from all presumed ESHAs. Installation of a well and placement of a water tank, both least impacting development, are proposed to be located approximately 70 ft from the Bishop Pine Forest presumed ESHA and outside the ephemeral drainage extended buffers.</p>
1(g)	<p>Type and Scale of Development Proposed. <i>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.</i></p>

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
	<p>Initial development is proposed to begin on the southern portion of the parcel, south of Zettler Road. Proposed development consists of:</p> <ol style="list-style-type: none"> 1) Phase I Residence: 640 sq ft initial SFR 2) Driveway to Phase I Residence 3) Well and Water lines 4) Septic, leach field and line 5) Vegetation management for fire safety <p>On the northern portion of the parcel, proposed development consists of:</p> <ol style="list-style-type: none"> 6) Phase II Residence: 3000 sq ft SFR - This SFR will be built to 3,000 sq ft as budget allows. When completed, the smaller SFR (Phase I) will be converted to a Guest Cottage. 7) Shop: 1500 sq ft 8) Well, water tank and water line (70 ft from Bishop Pine Forest) 9) Septic pump chamber and septic line 10) Vegetation management for fire safety (in Class III ephemeral drainage extended buffer area and Bishop Pine Forest 50 ft buffer area) <p>Proposed development will have an overall minimal impact on the resources in the Study Area. The proposed locations for development are almost entirely out of the ESHA and ephemeral drainage extended buffers except for the well and water tank which will have a relatively light impact. Vegetation management is the only proposed activity in buffer areas. Mitigation measures in Section 7 address how to minimize impacts to the nearby resources from vegetation management activities.</p>
(2)	<p>Configuration. <i>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).</i></p>
	<ul style="list-style-type: none"> • Bishop Pine Forest boundaries were determined by areas in which Bishop Pine was most concentrated and dominant observed both in the field and from aerial imagery. Buffers were measured from the outside edge of the bishop pine drip line. • Ross Creek's presumed ESHA stream buffer is 100 ft, which was measured from the stream line of Ross Creek approximately 1000 feet downslope of the Study Area. • The ephemeral drainages in the Study Area are approximately 1000 ft upslope from the Ross Creek ESHA. Extended protection areas around each ephemeral drainage that influence Ross Creek ESHA were mapped up to 1000 ft from Ross Creek. The size of the protective area around the ephemeral drainages within the Study Area were determined by examining their bankfull width, topography, slope steepness and slope length to break in slope. The ephemeral drainage protection areas were mapped by measuring the determined protective distance for each ephemeral drainage from the drainage lines we created using topographic map contour crenulations. • GPS captured coordinates for boundaries were uploaded into ArcGIS and used to assist ESHA boundary determination.
(3)	<p>Land Division. <i>New subdivisions or boundary line adjustments shall not be allowed which will create or provide for new parcels entirely within a buffer area.</i></p>

Appendix E Reduced Buffer Analysis	
Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria – LEVY TONGATE	
	No boundary line adjustments or subdivisions are proposed.

Appendix F ESHA Definitions

ENVIRONMENTALLY SENSITIVE HABITAT AREAS DEFINED

Definition of Environmentally Sensitive Habitat Area

The Mendocino County Local Coastal Plan (LCP) and the California Coastal Act (CCA) define an Environmentally Sensitive Habitat Area (ESHA) as:

“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 be easily disturbed or degraded by human activities and developments”.

[emphasis given]

The Mendocino County LCP and California Coastal Commission (CCC) have identified specific types of ESHAs including: wetlands, sand dunes, estuaries, streams, rivers, lakes, open coastal waters, coastal waters, riparian habitats, other resource areas, special status species, and the habitat of special status species. For the purpose of this report, the following definitions were used to assess potential ESHAs present in the study area.

Wetland ESHAs

The Mendocino County Local Coastal Plan (LCP) and the California Coastal Act (CCA) define wetlands as:

“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.”

California Coastal Commission Administrative Regulations (Section 13577 (b)) provide the following detailed 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.” In summary, a wetland in the coastal zone falls under CCA jurisdiction if any of the following conditions are present: wetland hydrology, dominance of wetland vegetation (hydrophytes), and/or presence of hydric soils.”

The Statewide Interpretive Guidelines for Identifying and Mapping Wetlands and Other Wet Environmentally Sensitive Habitat Areas (CCC 1981) use the CCA definition to establish technical criteria to delineate wetlands. These guidelines consider wetland hydrology as the most important parameter to identify a wetland within the coastal zone: “the single feature that most wetlands share is soil or substrate 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 saturation of soil in a wetland must be at or near the surface (approximately one foot or less) for a period of time (usually more than two weeks) in order to facilitate anaerobic soil reduction processes that produce 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.

Examples of hydrophytic plants growing in non-wetland conditions include:

- 1) Deep-rooted trees (e.g., willows), capable of persisting in the presence of surface water or in dry conditions by tapping into deep groundwater sources; and,
- 2) Wetland-classified plants that are also salt-tolerant (e.g., alkali heath) can grow in the presence of either wetland conditions or saline soil conditions, but not necessarily both.

Similarly, hydric soils can be found in the absence of wetland hydrology or wetland classified plants. For example, hydric soils have been observed in upland areas where historic disturbances exposed substratum and in densely vegetated grasslands (Mollisols). A wetland delineation must determine if the hydric soil indicators are a result of frequent anaerobic conditions in the presence of hydrology or due to another cause.

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.

Areas identified as potential wetlands by the presence of wetland plants are also examined for indicators of wetland hydrology. Positive indicators of wetland hydrology can include direct

evidence (primary indicators) such as surface water, saturation, sediment deposits, and surface soil cracks, or indirect evidence (secondary indicators) such as drainage patterns and water-stained leaves.

Riparian ESHAs

The Mendocino County LCP recognizes drainages with associated riparian vegetation to be ESHAs. The Technical Criteria (CCC 1981) defines riparian vegetation 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.”

Special Status Species ESHAs

Special status species and their habitats are defined as ESHAs 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 USFWS or CDFW. In addition, CDFW Species of Special Concern are given special consideration under the California Environmental Quality Act (CEQA). Species of Concern may only be protected as ESHAs if they are ranked by CDFW as imperiled in California (S3 or less). Plant species on California Native Plant Society (CNPS) Lists 1 or 2 are also considered special status species and are protected as ESHAs.

General Guidelines for Creating Defensible Space

**State Board of Forestry and Fire Protection (BOF)
California Department of Forestry and Fire Protection**

**Adopted by BOF on February 8, 2006
Pending Filing with Office of Administrative Law**



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A. Purpose of Guidelines

Recent changes to Public Resources Code (PRC) 4291 expand the defensible space clearance requirement maintained around buildings and structures from 30 feet to a distance of 100 feet. These guidelines are intended to provide property owners with examples of fuel modification measures that can be used to create an area around buildings or structures to create defensible space. A defensible space perimeter around buildings and structures provide firefighters a working environment that allows them to protect buildings and structures from encroaching wildfires as well as minimizing the chance that a structure fire will escape to the surrounding wildland. These guidelines apply to any person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and located within a State Responsibility Area.



Effective defensible space

The vegetation surrounding a building or structure is fuel for a fire. Even the building or structure itself is considered fuel. Research and experience have shown that fuel reduction around a building or structure increases the probability of it surviving a wildfire. Good defensible space allows firefighters to protect and save buildings or structures safely without facing unacceptable risk to their lives. Fuel reduction through vegetation management is the key to creating good defensible space.

Terrain, climate conditions and vegetation interact to affect fire behavior and fuel reduction standards. The diversity of California's geography also influences fire behavior and fuel reduction standards as well. While fuel reduction standards will vary throughout the State, there are some common practices that guide fuel modification treatments to ensure creation of adequate defensible space:

- Properties with greater fire hazards will require more clearing. Clearing requirements will be greater for those lands with steeper terrain, larger and denser fuels, fuels that are highly volatile, and in locations subject to frequent fires.
- Creation of defensible space through vegetation management usually means reducing the amount of fuel around the building or structure, providing separation between fuels, and or reshaping retained fuels by trimming. Defensible space can be created removing dead vegetation, separating fuels, and pruning lower limbs.
- In all cases, fuel reduction means arranging the tree, shrubs and other fuels sources in a way that makes it difficult for fire to transfer from one fuel source to another. It does not mean cutting down all trees and shrubs, or creating a bare ring of earth across the property.
- A homeowner's clearing responsibility is limited to 100 feet away from his or her building or structure or to the property line, which ever is less, and limited to their land. While individual property owners are not required to clear beyond 100 feet, groups of property owners are encouraged to extend clearances beyond the 100 foot requirement in order to create community-wide defensible spaces.
- Homeowners who do fuel reduction activities that remove or dispose of vegetation are required to comply with all federal, state or local environmental protection laws and obtain permits when necessary. Environmental protection laws include, but are not limited to, threatened and endangered species, water quality, air quality, and cultural/archeological resources. For example, trees removed for fuel reduction that are used for commercial purposes require permits from the

California Department of Forestry and Fire Protection. Also, many counties and towns require tree removal permits when cutting trees over a specified size. Contact your local resource or planning agency officials to ensure compliance.

The methods used to manage fuel can be important in the safe creation of defensible space. Care should be taken with the use of equipment when creating your defensible space zone. Internal combustion engines must have an approved spark arresters and metal cutting blades (lawn mowers or weed trimmers) should be used with caution to prevent starting fires during periods of high fire danger. A metal blade striking a rock can create a spark and start a fire, a common cause of fires during summertime.

Vegetation removal can also cause soil disturbance, soil erosion, regrowth of new vegetation, and introduce non-native invasive plants. Always keep soil disturbance to a minimum, especially on steep slopes. Erosion control techniques such as minimizing use of heavy equipment, avoiding stream or gully crossings, using mobile equipment during dry conditions, and covering exposed disturbed soil areas will help reduce soil erosion and plant regrowth.

Areas near water (riparian areas), such as streams or ponds, are a particular concern for protection of water quality. To help protect water quality in riparian areas, avoid removing vegetation associated with water, avoid using heavy equipment, and do not clear vegetation to bare mineral soil.

B. Definitions

Defensible space: The area within the perimeter of a parcel where basic wildfire protection practices are implemented, providing the key point of defense from an approaching wildfire or escaping structure fire. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

Aerial fuels: All live and dead vegetation in the forest canopy or above surface fuels, including tree branches, twigs and cones, snags, moss, and high brush. Examples include trees and large bushes.

Building or structure: Any structure used for support or shelter of any use or occupancy.

Flammable and combustible vegetation: Fuel as defined in these guidelines.

Fuel Vegetative material, live or dead, which is combustible during normal summer weather. For the purposes of these guidelines, it does not include fences, decks, woodpiles, trash, etc.

Homeowner: Any person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and located within a State Responsibility Area.

Ladder Fuels: Fuels that can carry a fire vertically between or within a fuel type.

Reduced Fuel Zone: The area that extends out from 30 to 100 feet away from the building or structure (or to the property line, whichever is nearer to the building or structure).

Surface fuels: Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branches and downed logs.

C. Fuel Treatment Guidelines

The following fuel treatment guidelines comply with the requirements of 14 CCR 1299 and PRC 4291. **All persons using these guidelines to comply with CCR 1299 and PRC 4291 shall implement General Guidelines 1., 2., 3., and either 4a or 4b., as described below.**

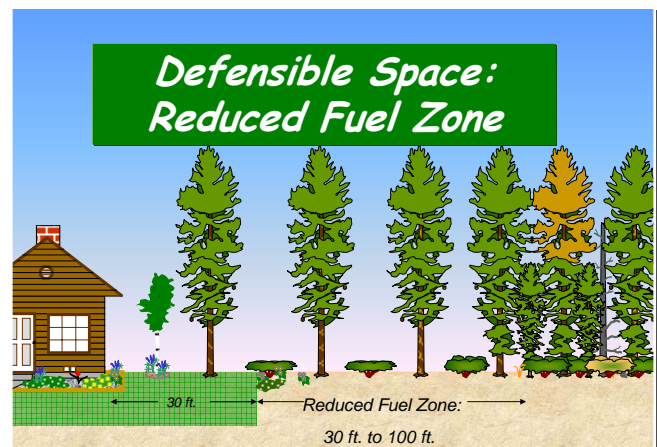
General Guidelines:

1. Maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth within 30 feet of each building or structure, with certain exceptions pursuant to PRC §4291(a). Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
2. Dead and dying woody surface fuels and aerial fuels within the Reduced Fuel Zone shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a depth of 3 inches. This guideline is primarily intended to eliminate trees, bushes, shrubs and surface debris that are completely dead or with substantial amounts of dead branches or leaves/needles that would readily burn.
3. Down logs or stumps anywhere within 100 feet from the building or structure, when embedded in the soil, may be retained when isolated from other vegetation. Occasional (approximately one per acre) standing dead trees (snags) that are well-space from other vegetation and which will not fall on buildings or structures or on roadways/driveways may be retained.
4. Within the Reduced Fuel Zone, one of the following fuel treatments (4a. or 4b.) shall be implemented. Properties with greater fire hazards will require greater clearing treatments. Combinations of the methods may be acceptable under §1299(c) as long as the intent of these guidelines is met.

4a. Reduced Fuel Zone: Fuel Separation

In conjunction with General Guidelines 1., 2., and 3., above, minimum clearance between fuels surrounding each building or structure will range from 4 feet to 40 feet in all directions, both horizontally and vertically.

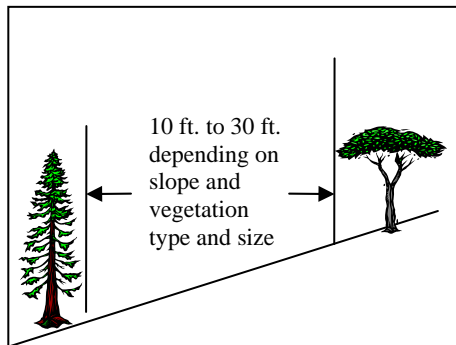
Clearance distances between vegetation will depend on the slope, vegetation size, vegetation type (brush, grass, trees), and other fuel characteristics (fuel compaction, chemical content etc.). Properties with greater fire hazards will require greater separation between fuels. For example, properties on steep slopes having large sized vegetation will require greater spacing between individual trees and bushes (see Plant Spacing Guidelines and Case Examples below). Groups of vegetation (numerous plants growing together less than 10 feet in total foliage width) may be treated as a single plant. For example, three individual manzanita plants growing together with a total foliage width of eight feet can be “grouped” and considered as one plant and spaced according to the Plant Spacing Guidelines in this document.



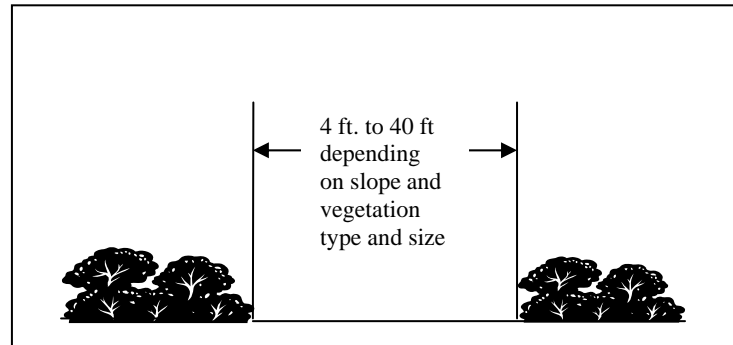
Grass generally should not exceed 4 inches in height. However, homeowners may keep grass and other forbs less than 18 inches in height above the ground when these grasses are isolated from other fuels or where necessary to stabilize the soil and prevent erosion.

Clearance requirements include:

- Horizontal clearance between aerial fuels, such as the outside edge of the tree crowns or high brush. Horizontal clearance helps stop the spread of fire from one fuel to the next.



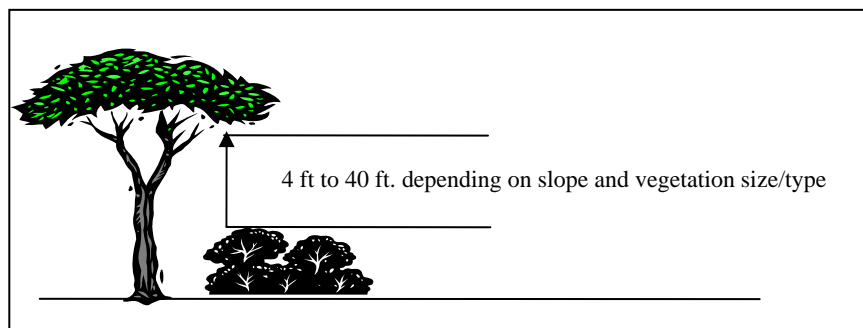
Trees



Shrubs

Horizontal clearance between aerial fuels

- Vertical clearance between lower limbs of aerial fuels and the nearest surface fuels and grass/weeds. Vertical clearance removes *ladder fuels* and helps prevent a fire from moving from the shorter fuels to the taller fuels.



Vertical clearance between aerial fuels



*Effective vertical and
horizontal fuel
separation
Photo Courtesy
Plumas Fire Safe
Council.*

Plant Spacing Guidelines		
Guidelines are designed to break the continuity of fuels and be used as a “rule of thumb” for achieving compliance with Regulation 14 CCR 1299.		
Trees	Minimum horizontal space from edge of one tree canopy to the edge of the next	
	Slope	Spacing
	0% to 20 %	10 feet
	20% to 40%	20 feet
	Greater than 40%	30 feet
Shrubs	Minimum horizontal space between edges of shrub	
	Slope	Spacing
	0% to 20 %	2 times the height of the shrub
	20% to 40%	4 times the height of the shrub
	Greater than 40%	6 times the height of the shrub
Vertical Space	Minimum vertical space between top of shrub and bottom of lower tree branches: 3 times the height of the shrub	

Adapted from: Gilmer, M. 1994. California Wildfire LandscapingLandscaping

Case Example of Fuel Separation: Sierra Nevada conifer forests

Conifer forests intermixed with rural housing present a hazardous fire situation. Dense vegetation, long fire seasons, and ample ignition sources related to human access and lightning, makes this home vulnerable to wildfires. This home is located on gentle slopes (less than 20%), and is surrounded by large mature tree overstory and intermixed small to medium size brush (three to four feet in height).

Application of the guideline under 4a. would result in horizontal spacing between large tree branches of 10 feet; removal of many of the smaller trees to create vertical space between large trees and smaller trees and horizontal spacing between brush of six to eight feet (calculated by using 2 times the height of brush).



Case Example of Fuel Separation: Southern California chaparral

Mature, dense and continuous chaparral brush fields on steep slopes found in Southern California represents one of the most hazardous fuel situations in the United States. Chaparral grows in an unbroken sea of dense vegetation creating a fuel-rich path which spreads fire rapidly. Chaparral shrubs burn hot and produce tall flames. From the flames come burning embers which can ignite homes and plants. (Gilmer, 1994). All these factors results in a setting where aggressive defensible space clearing requirements are necessary.



Steep slopes (greater than 40%) and tall, old brush (greater than 7 feet tall), need significant modification. These settings require aggressive clearing to create defensible space, and would require maximum spacing. Application of the guidelines would result in 42 feet horizontal spacing (calculated as 6 times the height of the brush) between retained groups of chaparral.

Case Example of Fuel Separation: Oak Woodlands

Oak woodlands, the combination of oak trees and other hardwood tree species with a continuous grass ground cover, are found on more than 10 million acres in California. Wildfire in this setting is very common, with fire behavior dominated by rapid spread through burning grass.

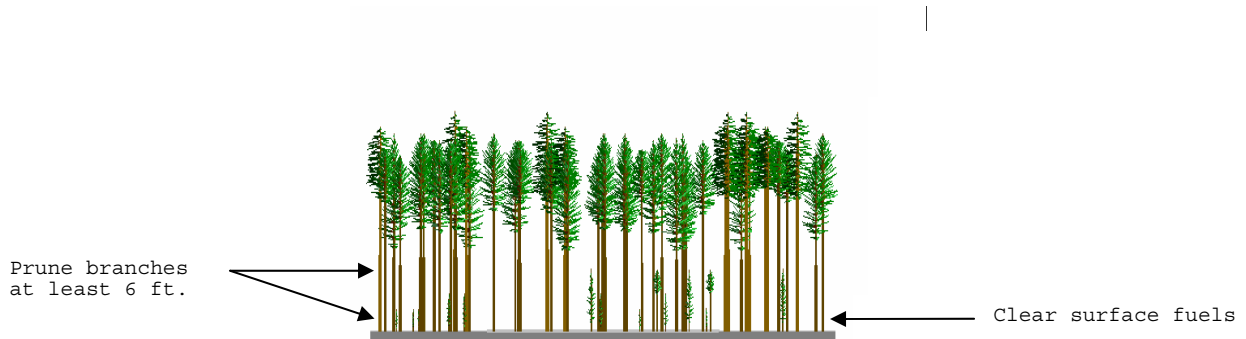
Given a setting of moderate slopes (between 20% and 40%), wide spacing between trees, and continuous dense grass, treatment of the grass is the primary fuel reduction concern. Property owners using these guidelines would cut grass to a maximum 4 inches in height, remove the clippings, and consider creating 20 feet spacing between trees.



4b. Reduced Fuel Zone: Defensible Space with Continuous Tree Canopy

To achieve defensible space while retaining a stand of larger trees with a continuous tree canopy apply the following treatments:

- Generally, remove all surface fuels greater than 4 inches in height. Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
- Remove lower limbs of trees (“prune”) to at least 6 feet up to 15 feet (or the lower 1/3 branches for small trees). Properties with greater fire hazards, such as steeper slopes or more severe fire danger, will require pruning heights in the upper end of this range.



Defensible Space retaining continuous trees



Photo Courtesy Plumas Fire Safe Council.



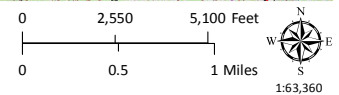
Defensible space with continuous tree canopy by clearing understory and pruning

Authority cited: Section 4102, 4291, 4125-4128.5, Public Resource Code. Reference: 4291, Public Resource Code; 14 CCR 1299 (d).



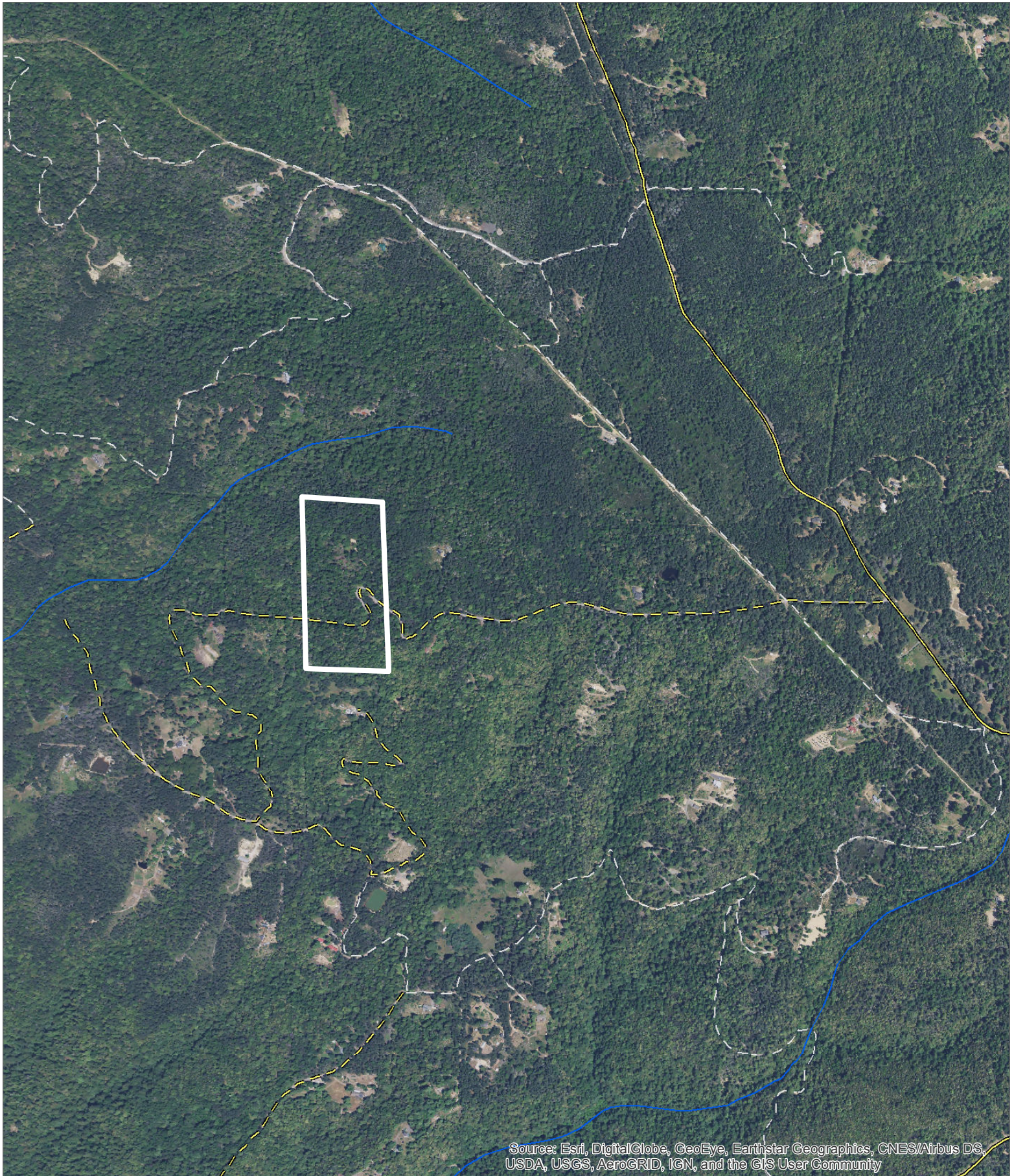
CASE: CDP 2018-0009
 OWNER: LEVY, Adam, ET AL
 APN: 027-361-25
 APLCT: Adam Levy/Keely Tongate
 AGENT: Blair Foster
 ADDRESS: 44924 Zettler Road, Point Arena

- Major Towns & Places
- Major Rivers
- Coastal Zone Boundary
- Highways
- City Limits
- Major Roads



LOCATION MAP

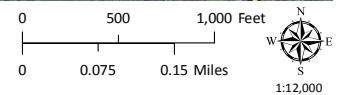
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Named Rivers — — — Driveways/Unnamed Roads
Public Roads
Private Roads



AERIAL IMAGERY

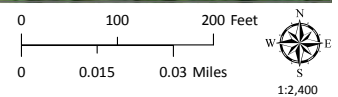
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

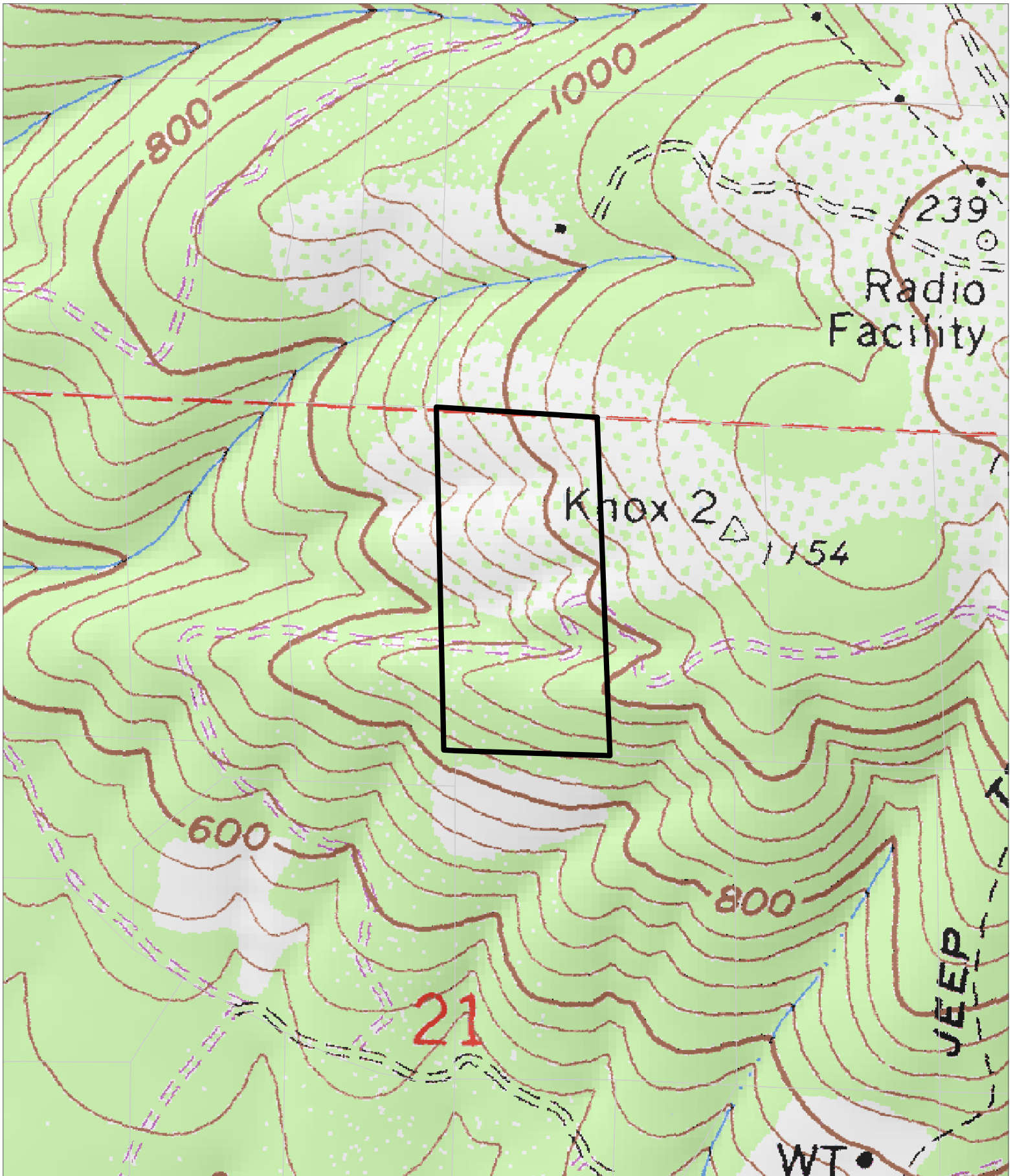
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— — — Named Rivers
— — — Private Roads

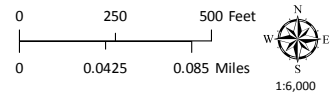


AERIAL IMAGERY

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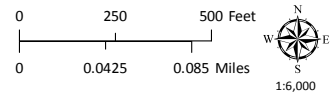


TOPOGRAPHIC MAP
CONTOUR INTERVAL IS 40 FEET

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ADJACENT PARCELS

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Lands of Levy-Tongate
Parcel 2 of Section 21, Township 12 North,
Range 16 West, Mount Diablo Meridian
Mendocino County, CA

General Notes
General Plan Designation: RMR:20:R
Zoning District: RMR:20
Urban/Rural: Rural
Highly Scenic Area: No
Proposed Land Use: SFR, Guest Cottage, Workshop,
Well, Septic & Driveway

Appealable to Coastal Commission: No
Entitlement Permit Type: CDP
Yard Setbacks: 50' all sides
CalFire Setbacks: 30' all sides
Corridor Preservation Setback: 25' from centerline of Zettler Road
Height Limit: 28'
Environmental Constraints: Potential ESHA
Potential Geologic Hazards: No
Landscaping: No
Water Source: On-site well
Wastewater Disposal: On-site septic
Tree Removal: Approx. 69 trees
Approx. 28,158 sf of Tree Canopy

CDP Lot Coverage Tabulation
Gross Site Area: 20.01 ac (871,635 sf)
Maximum allowable lot coverage: 10% (87,163.50 sf)

Lot Coverage:
(P) Footprint Residences: 1,792 sf
(P) Footprint - Covered Porches/Decks: 448 sf
(P) Footprint - Accessory Dwelling Unit: 640 sf
(P) Footprint - Covered Porches/Decks: 256 sf
(P) Footprint - Barn: 1,500 sf
(P) Footprint - Shed: 200 sf
(E) Footprint - Covered Porches/Decks: 320 sf

Total Building (P) Footprint: 4836 sf
Total Building (E) Footprint: 320 sf

Total Building Footprint: 5156 sf

(E) Driveway & Parking: 8,675 sf
(P) Driveway & Parking: 2,204 sf

Total Driveway & Parking: 10,879 sf

Total Lot Coverage (Footprint): 16,035 sf (1.84%)

Landform Alteration:
Cut Approx. 516 yards
(428 yards + 27 yards + 61 yards)

Fill Approx. 52 yards (48 yards + 4 yards)

Sensitive Resources:
Legend Type Distance from Development

BISHOP PINE ALLIANCE
(POTENTIAL ESHA) 127' ±

LEGEND:

- BISHOP PINE ALLIANCE
(POTENTIAL ESHA)
- EPHEMERAL STREAM (NON-ESHA)
- (E) GRAVEL DRIVEWAY
- (P) GRAVEL DRIVEWAY
- (P) WATER LINE
- (P) SEPTIC LINE
- (P) POWER LINE
- (P) PROPANE LINE
- (E) TREE COVERAGE
- 50' BUFFER
- 100' BUFFER
- CORRIDOR PRESERVATION SETBACK
- YARD SETBACK
- CAL FIRE 30' YARD SETBACK

SITE PLAN 1 : 60

1

SHEET

OF 10 SHEETS

REVISION	BY DATE	APN
BUFFEREDIT	TH 5.10.18	027-361-25-00
		DRAWN BY: TH
		DATE: 2/28/2018
		SCALE: AS SHOWN
		APPROVED BY: BF

LEVY-TONGATE

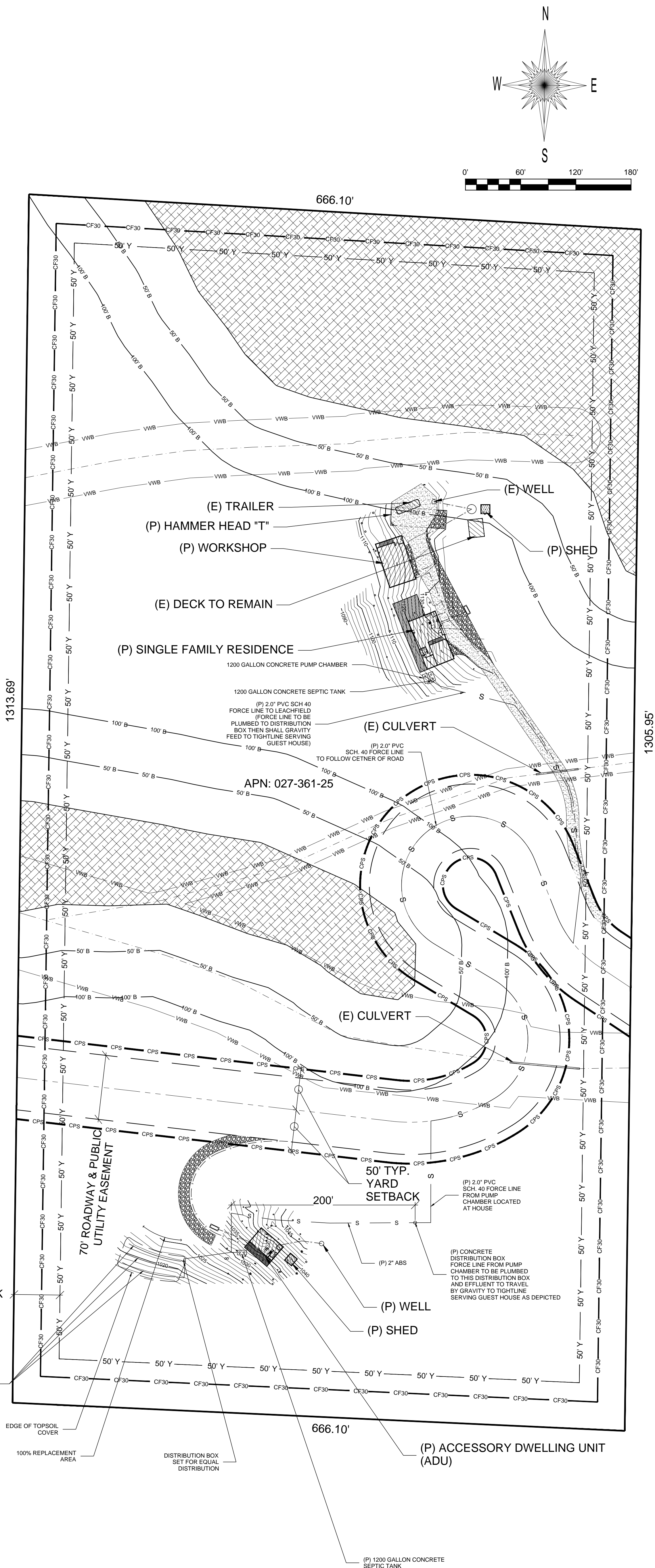
44924 Zettler Road
Point Arena, CA 95468



Wynn Coastal Planning, Inc.
703 N. Main Street
Fort Bragg, California 95437
(707) 964-2537
www.WCPlan.com



Design review, not meant
for construction.



Title 14 Code of California Regulations: Division 1.5, Chapter 7, Subchapter 2, Article 5.
Fuel Modification and Defensible Space Standards
To reduce the intensity of a wildfire by reducing the volume and density of flammable vegetation, the strategic siting of fuel modification and greenbelts shall provide

1. increased safety for emergency fire equipment and evacuating civilians; and
2. a point of attack or defense from a wildfire.

Fuel Modification and Defensible Space Standards (implementation)
Structures on parcels 1 acre and larger shall be set back from the property line at least 30 feet. Smaller parcels shall provide for comparable mitigation. Flammable waste generated by construction or development must be lawfully disposed of before final approval of a project. Greenbelts that are proposed as a part of a development or project shall be strategically located to separate wildland fuels and structures.

DEFENSIBLE SPACE AROUND STRUCTURES
A person that owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, shall at all times do all of the following:

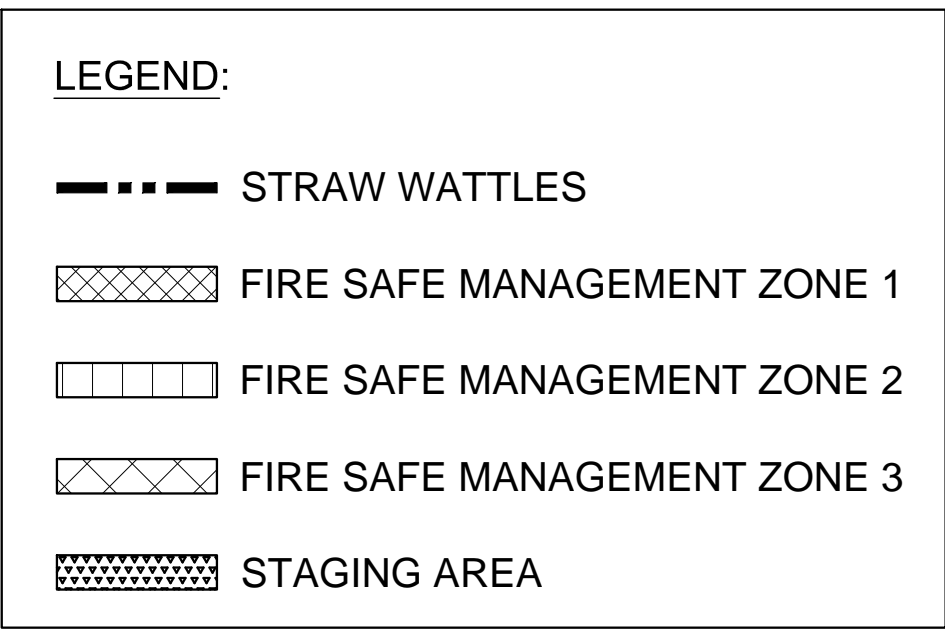
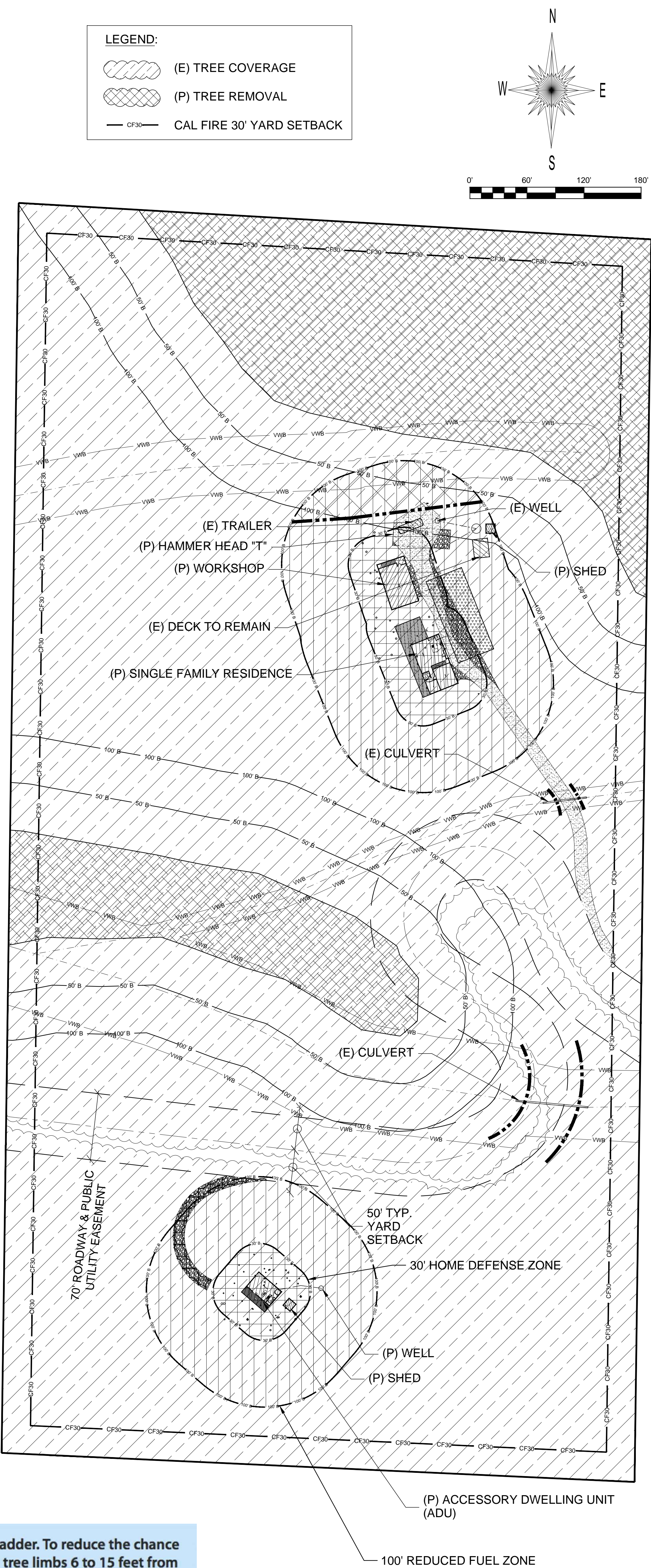
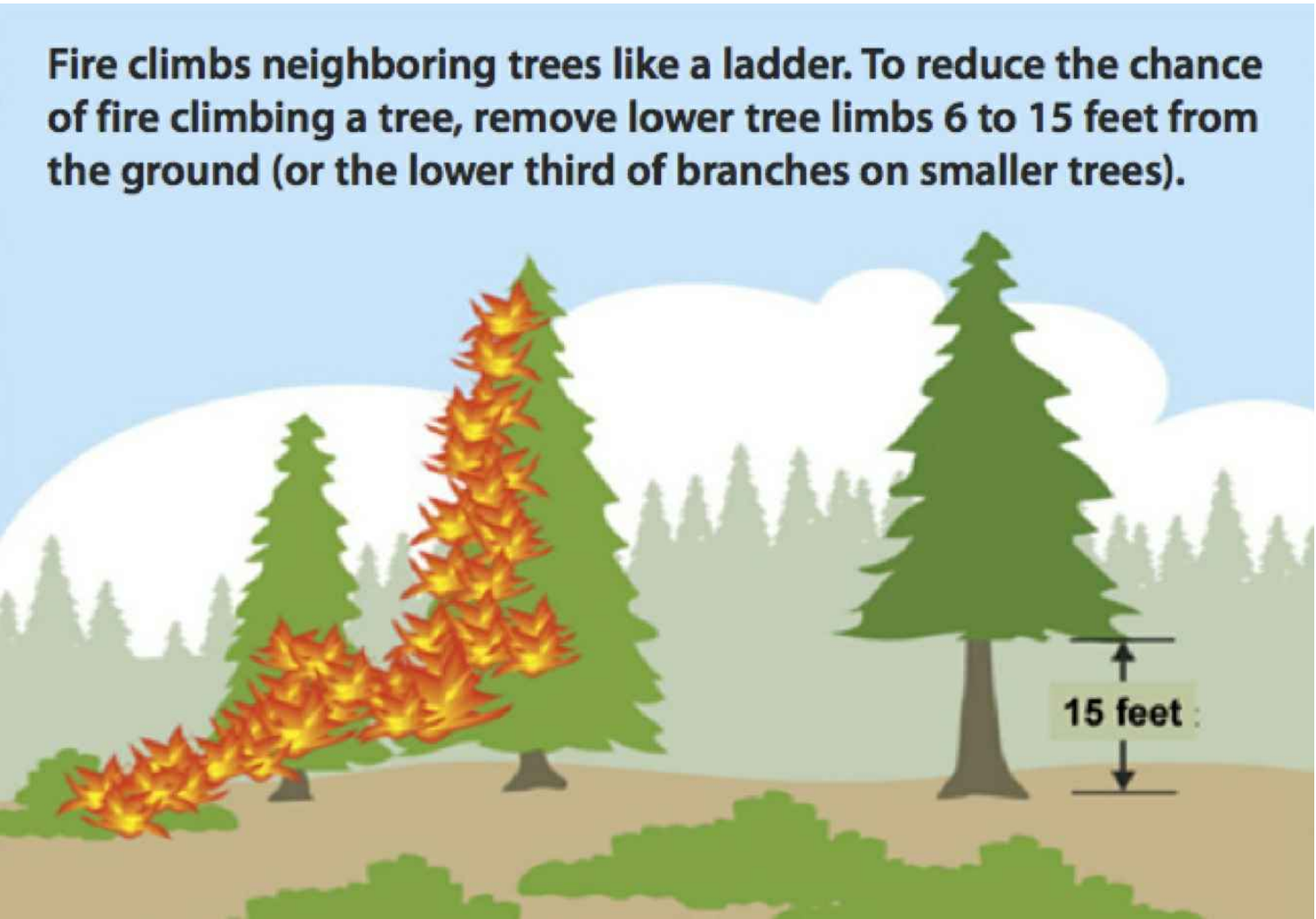
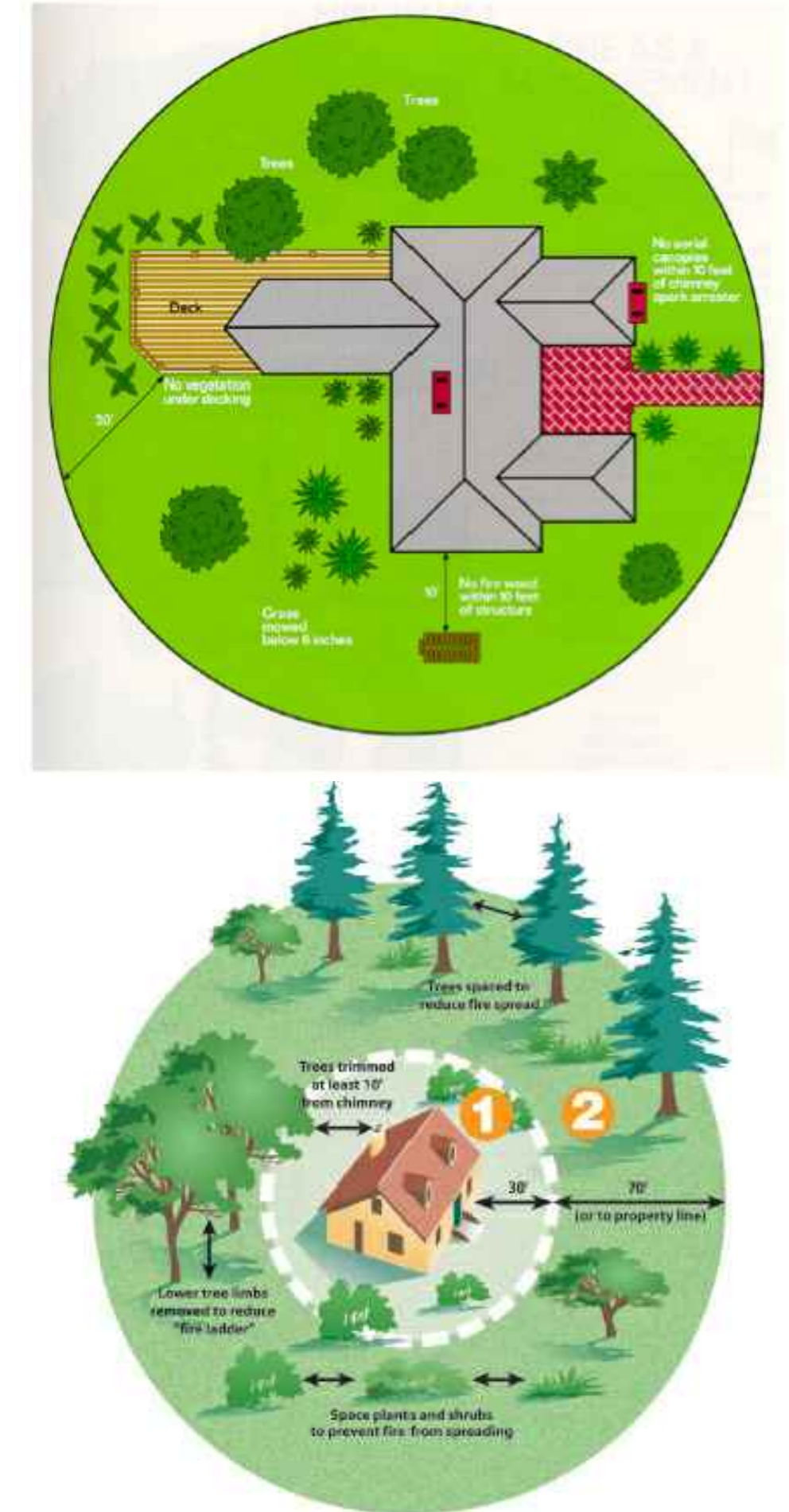
- (a) Maintain around and adjacent to the building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side of the building or structure or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to any building or structure.
- (b) Maintain around and adjacent to the building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth that is located within 100 feet from the building or structure or to the property line or at a greater distance if required by state law, or local ordinance, rule, or regulation. This section does not prevent an insurance company that insures a building or structure from requiring the owner of the building or structure to maintain a firebreak of more than 100 feet around the building or structure. Grass and other vegetation located more than 30 feet from the building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a dwelling or structure.
- (c) Remove that portion of any tree that extends within 10-feet of the outlet of a chimney or stovepipe.
- (d) Maintain any tree adjacent to or overhanging a building free of dead or dying wood.
- (e) Maintain the roof of a structure free of leaves, needles, or other dead vegetative growth.
- (f) Provide and maintain at all times a screen over the outlet of every chimney or stovepipe that is attached to any fireplace, stove, or other device that burns any solid or liquid fuel. The screen shall be constructed of nonflammable material with openings of not more than one-half inch in size. (PRC 4291)

WCPLAN Biological Scoping & Botanical Report Recommendation (2018.01.02):

Fire Safe Management Zone 3:
7.5 Vegetation Removal For Fire Safety Management Within the Bishop Pine Forest Buffer
For the areas between 30 ft and 100 ft of residential structures, vegetation removal will be necessary so that fire safety is maintained, and specifically such that vertical fuel ladders are eliminated Figure 20. To eliminate fuel ladders, all dead material needs to be removed, significant spacing between live vegetation needs to be created, and remaining trees need to be limbed up to 15 ft. The recommended ESHA buffer area between the proposed structures and the Bishop Pine Forest buffer area, approximately 30 to 100 feet from the proposed structures. This area is illustrated in Figure 19 as Fire Safe Management Zone 3.

Measure 5a: To minimize impact of vegetation removal to the Bishop Pine Forest, the following is recommended:

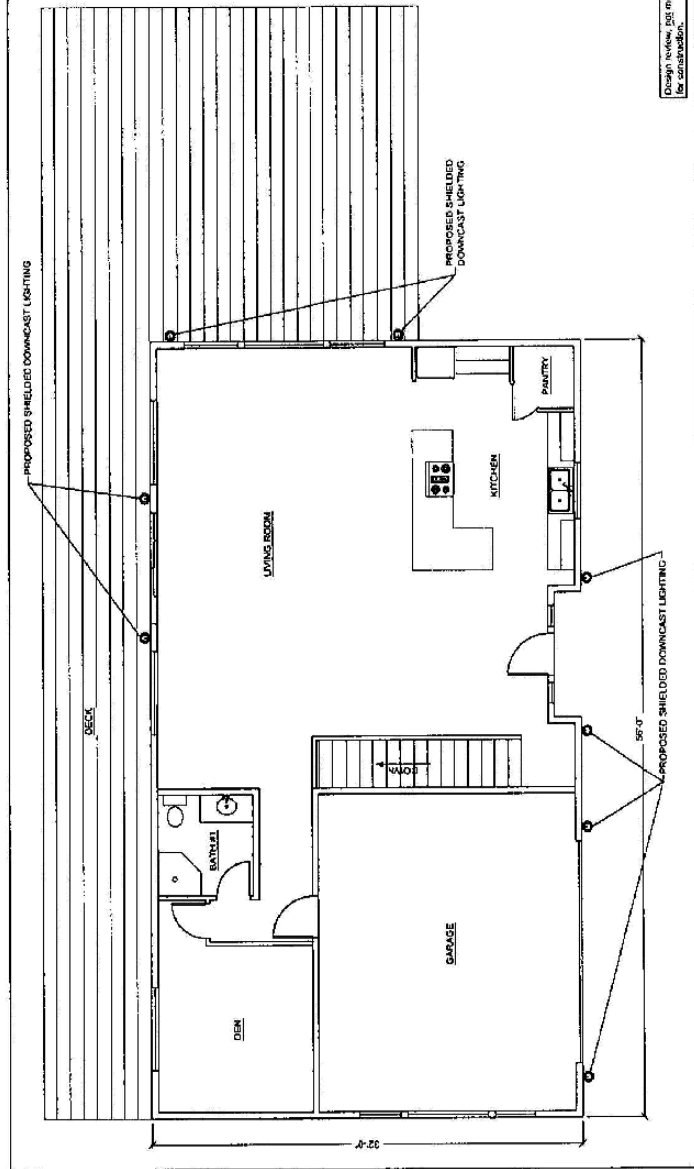
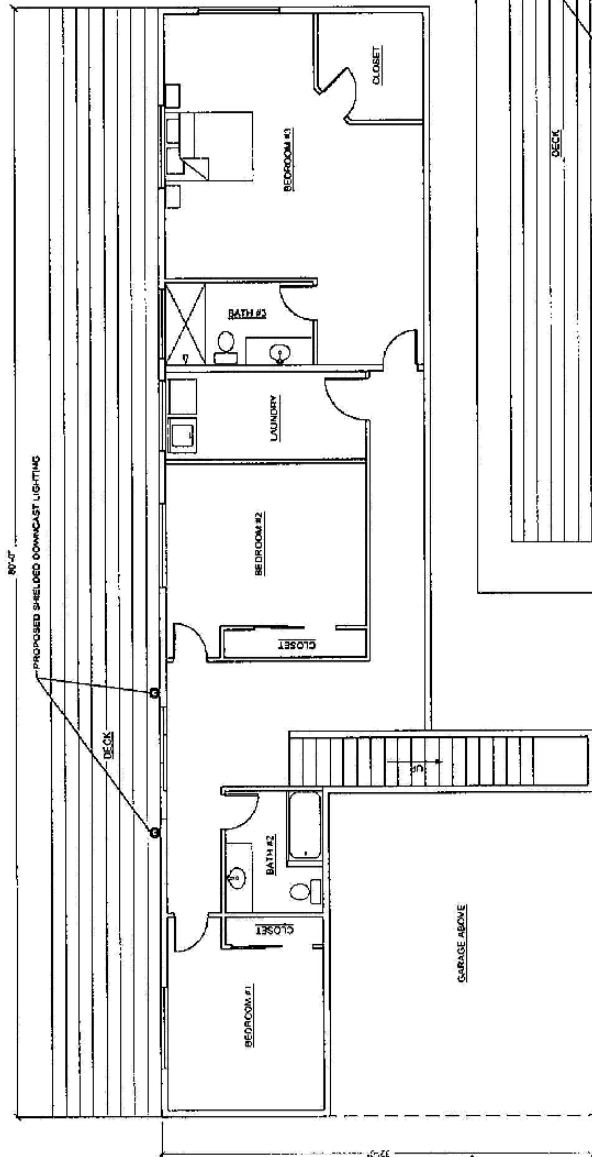
1. Within one month prior to commencement of vegetation removal and development activities, a qualified biologist should conduct a Sonoma tree vole survey for forested areas within 300 feet of the proposed development. If Sonoma tree voles are found, CDFW should be consulted for follow-up action and clearance of the project before initial vegetation removal and construction is begun.
2. If present, leave strategically placed bishop pine seedlings to perpetuate the sustainability of the bishop pine forest.
3. Target the least healthy trees for removal first.



FIRE SAFE PLAN 1 : 60 1



STANDARD DOWNCAST & SHIELDED
EXTERIOR LIGHT DETAIL



- | | | |
|----------------|----------------------------|------------------|
| SIDING: | MATERIAL | COLOR |
| TRIM: | CHARRED CLADDING | AMHERST GRAY |
| WINDOW FRAMES: | HARDIE | SHOJI WHITE |
| DOORS: | ANDERSEN WINDOWS, VINYL | WHITE |
| ROOFING: | FIBERGLASS & GLASS | ARRESTING AUBURN |
| LIGHTING: | STEEL | ANTIQUE BRONZE |
| | SHIELDED DOWNCAST LIGHTING | BLACK |

Design review, JG required
for construction.

UPPER FLOOR PLAN - SFR $\frac{1}{4}" = 1'-0"$ 2

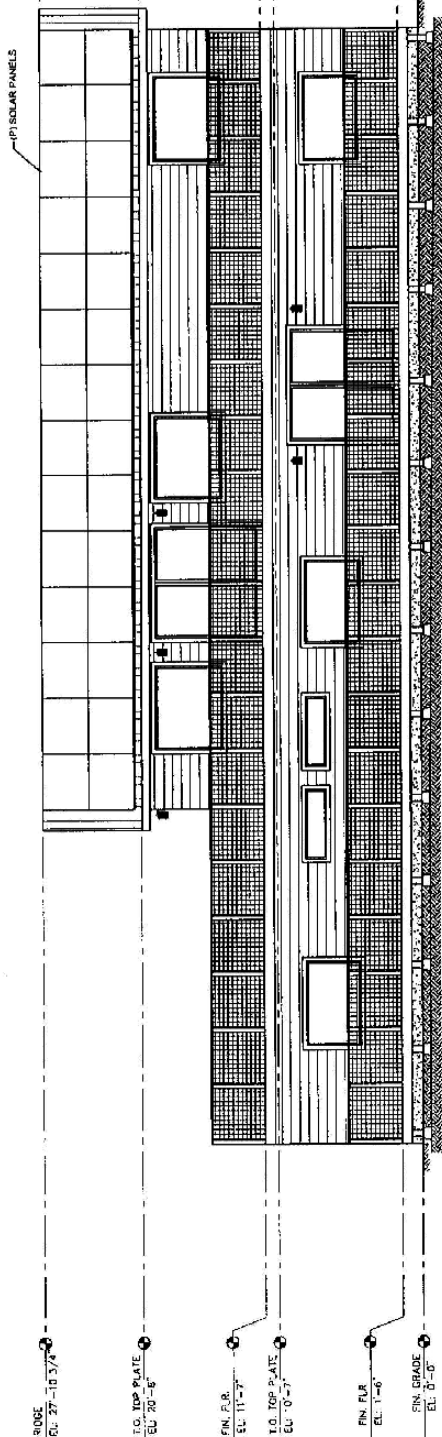
LOWER FLOOR PLAN - SFR $\frac{1}{4}" = 1'-0"$ 1

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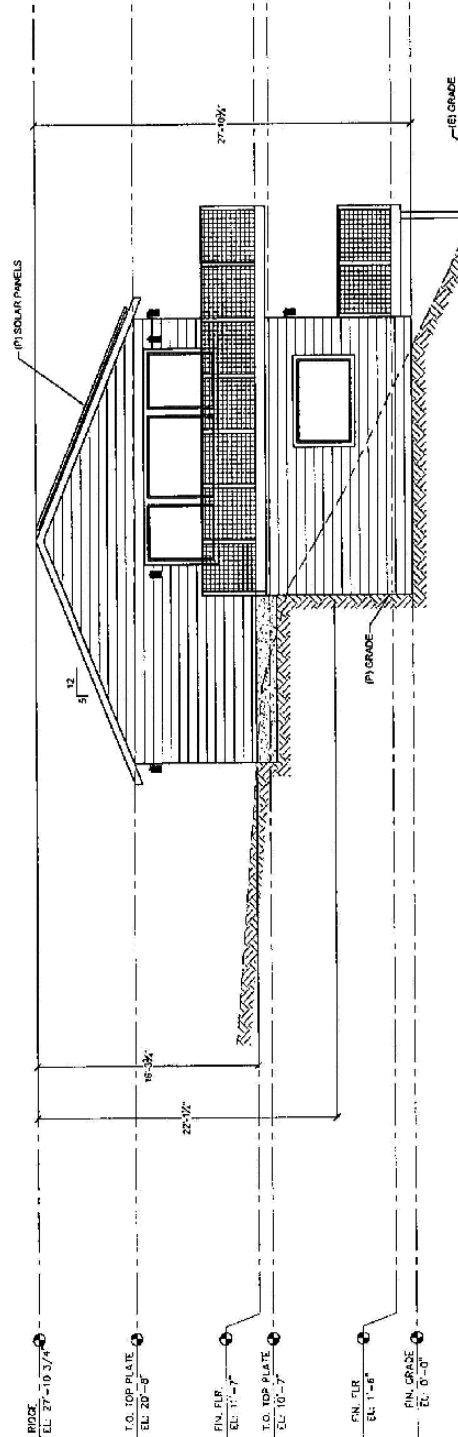
NO SCALE

FLOOR PLAN

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WEST ELEVATION $\frac{1}{4}" = 1'-0"$ 1



Design review not needed for construction.

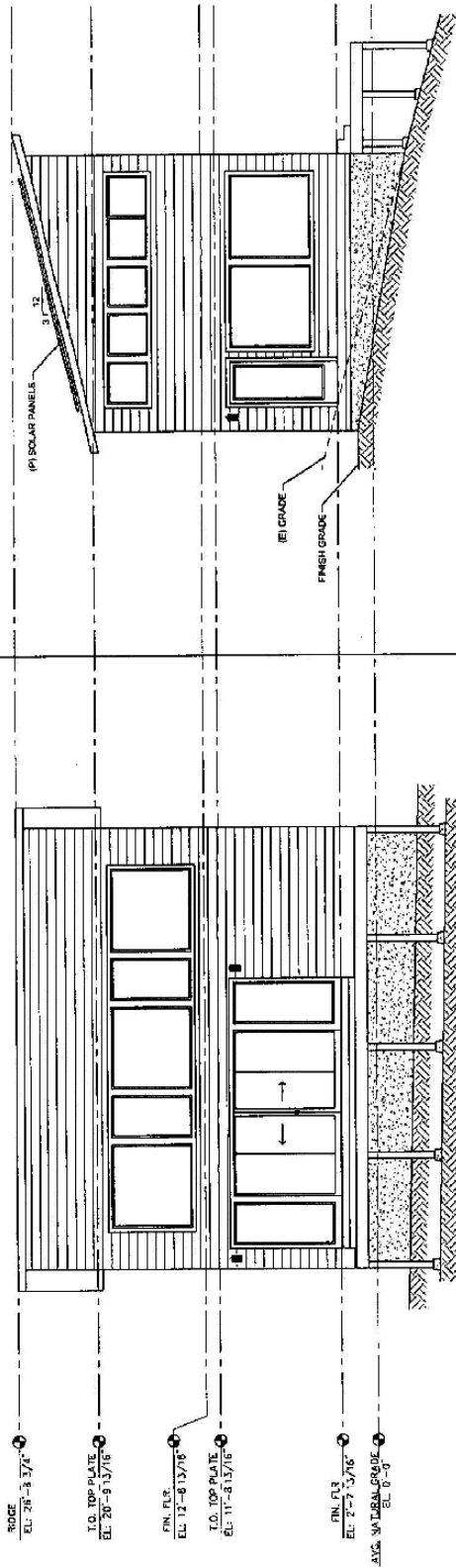
NORTH ELEVATION $\frac{1}{4}" = 1'-0"$ 2

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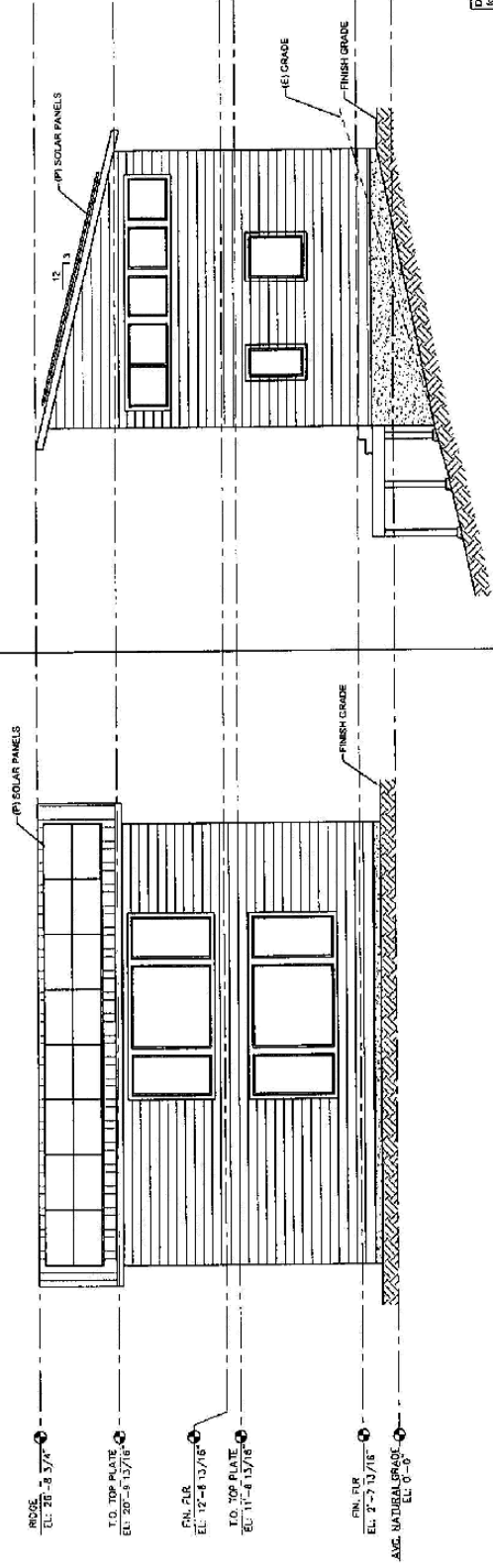
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ELEVATIONS

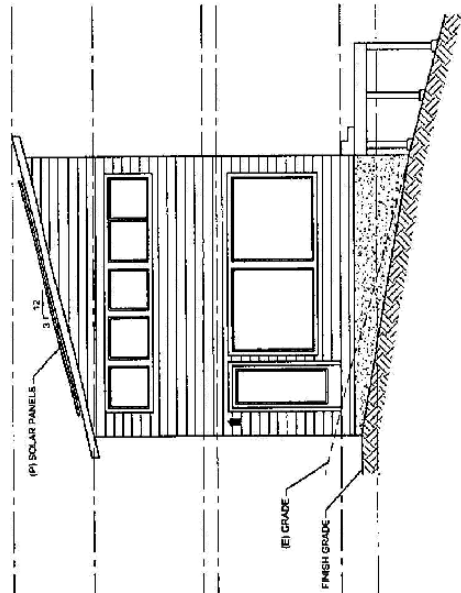
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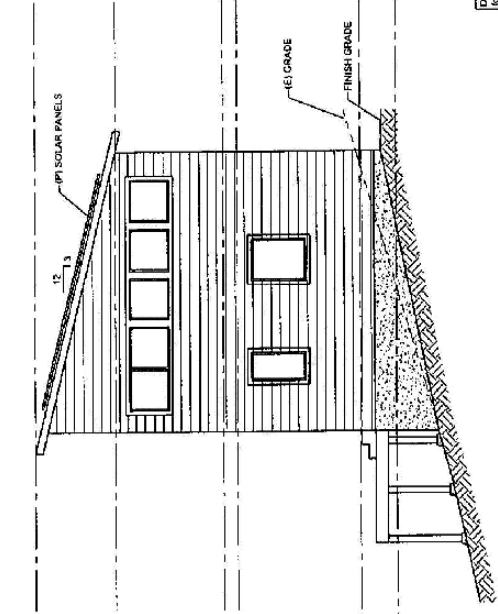
SOUTHWEST ELEVATION $\frac{1}{4}'' = 1'-0''$ 1



NORTHEAST ELEVATION $\frac{1}{4}'' = 1'-0''$ 3



NORTHWEST ELEVATION $\frac{1}{4}'' = 1'-0''$ 2



SOUTHEAST ELEVATION $\frac{1}{4}'' = 1'-0''$ 4

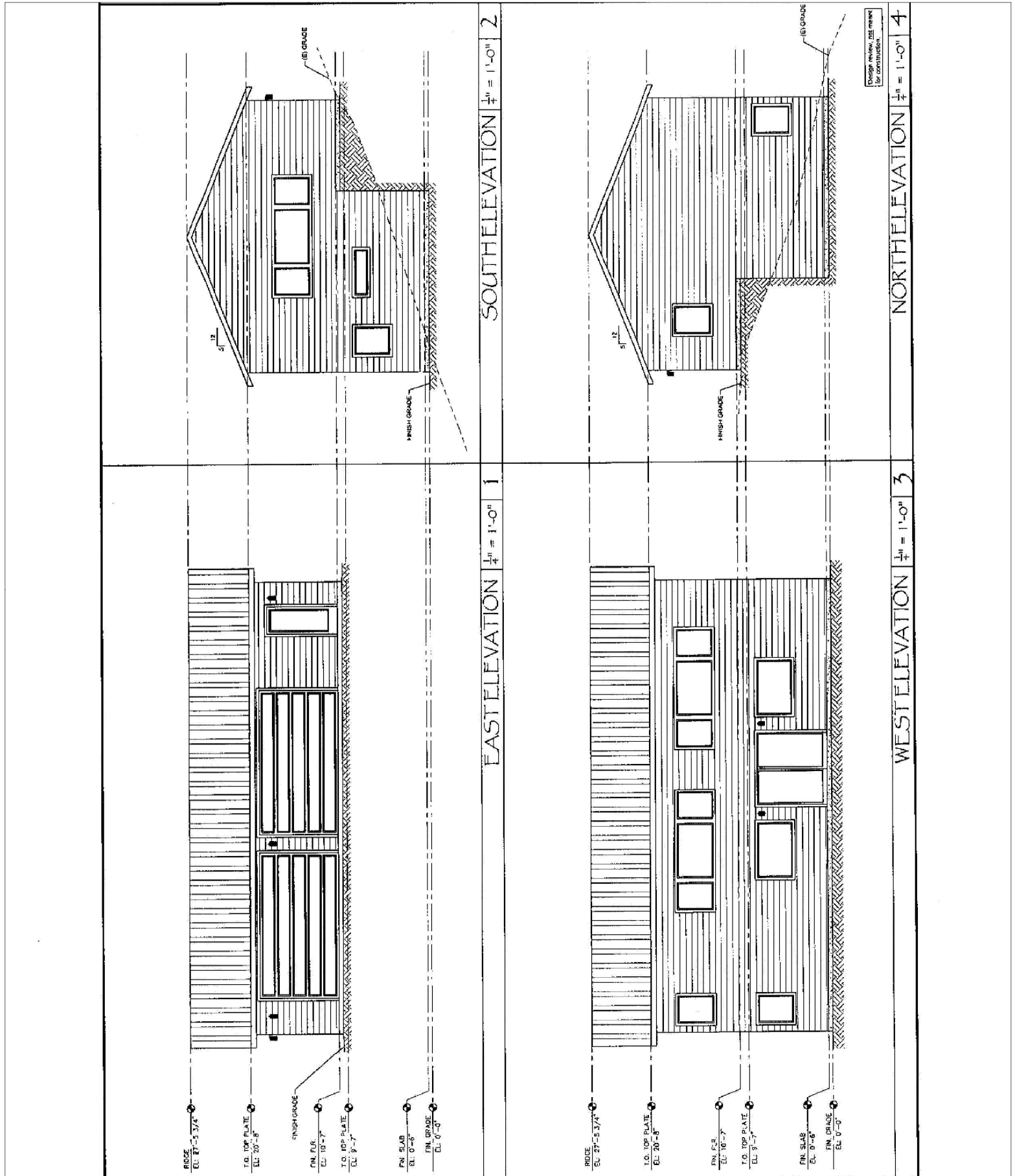
Design review, 365 means for construction.

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NO SCALE

ELEVATIONS

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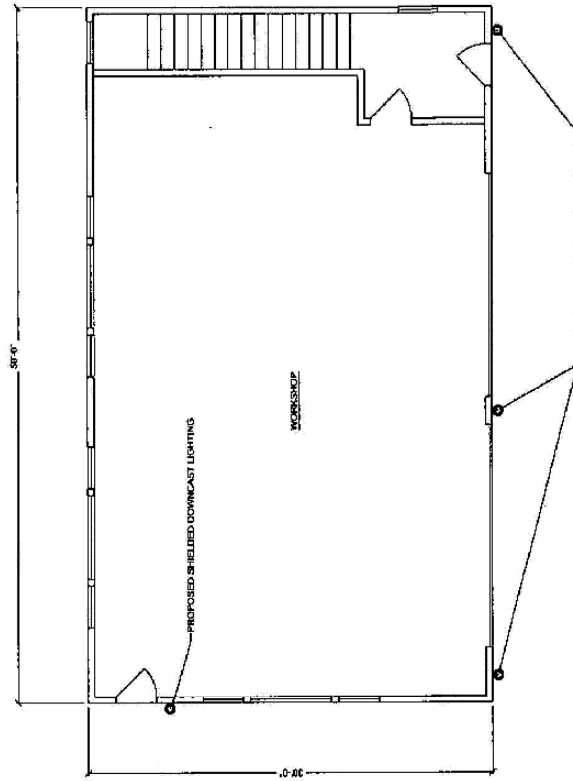
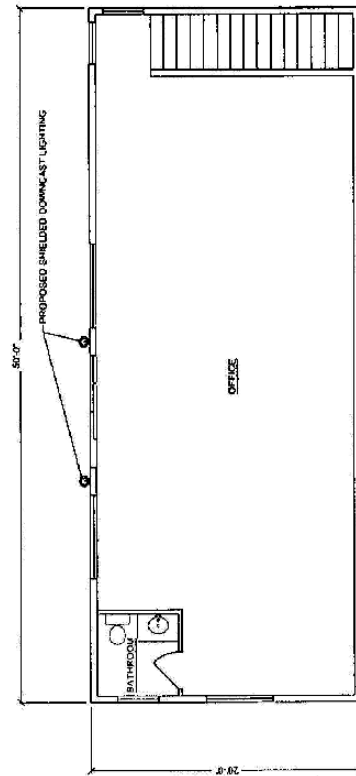
NO SCALE

ELEVATIONS



STANDARD DOWNCAST & SHIELDED
EXTERIOR LIGHT DETAIL

SIDING:	MATERIAL	COLOR
TRIM:	CHARRED CLADDING	AMHERST GRAY
WINDOW FRAMES:	HARDIE	SHOJI WHITE
DOORS:	ANDERSEN WINDOWS/VINYL	WHITE
ROOFING:	FIBERGLASS & GLASS	ARRESTING AUBURN
LIGHTING:	STEEL	ANTIQUE BRONZE
	SHIELDED DOWNCAST LIGHTING	BLACK



Design review not meant
for construction.

LOWER FLOOR PLAN - WORKSHOP & OFFICE. 1/4" = 1'-0" 1

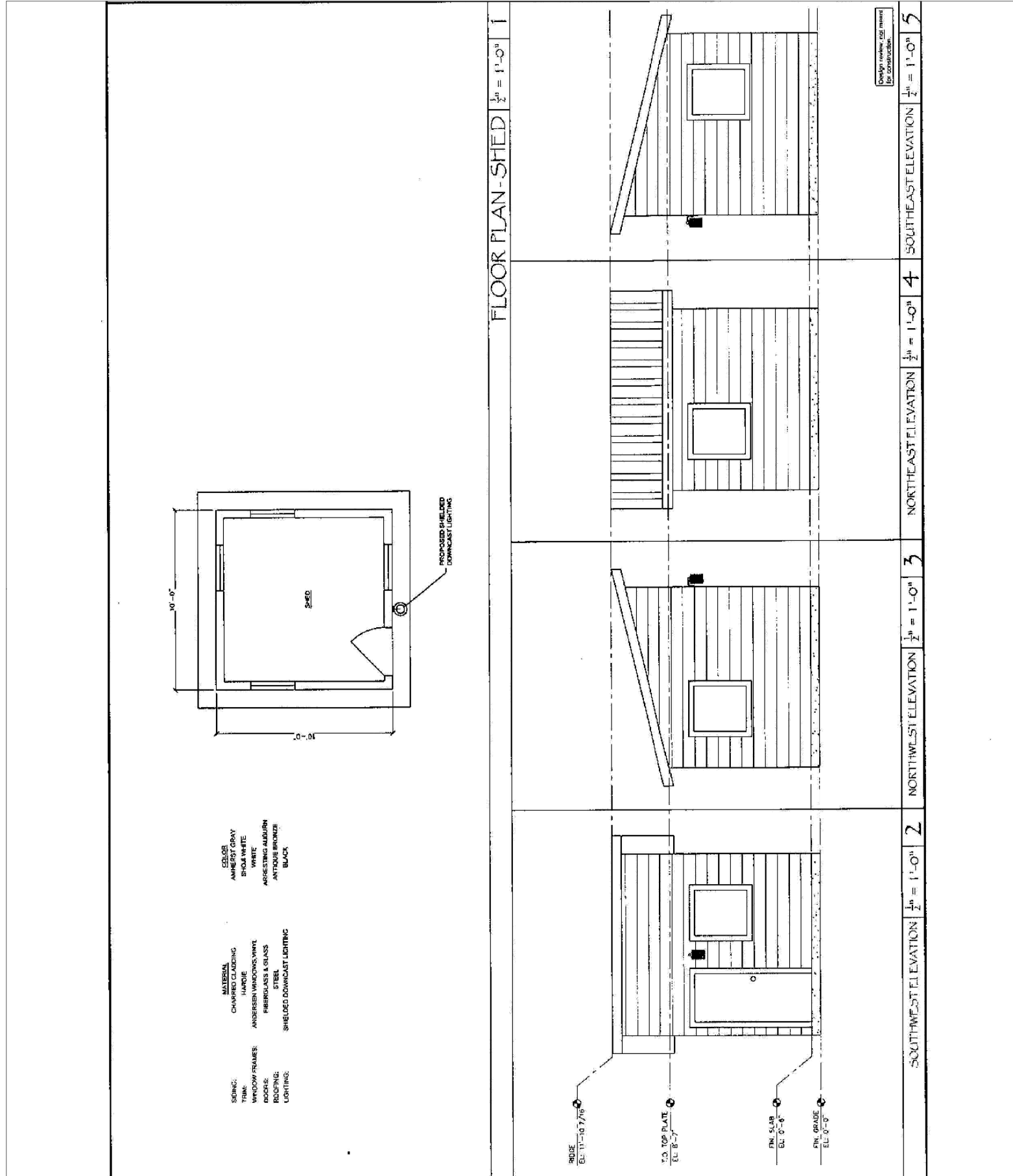
UPPER FLOOR PLAN - WORKSHOP & OFFICE. 1/4" = 1'-0" 2

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NO SCALE

FLOOR PLAN

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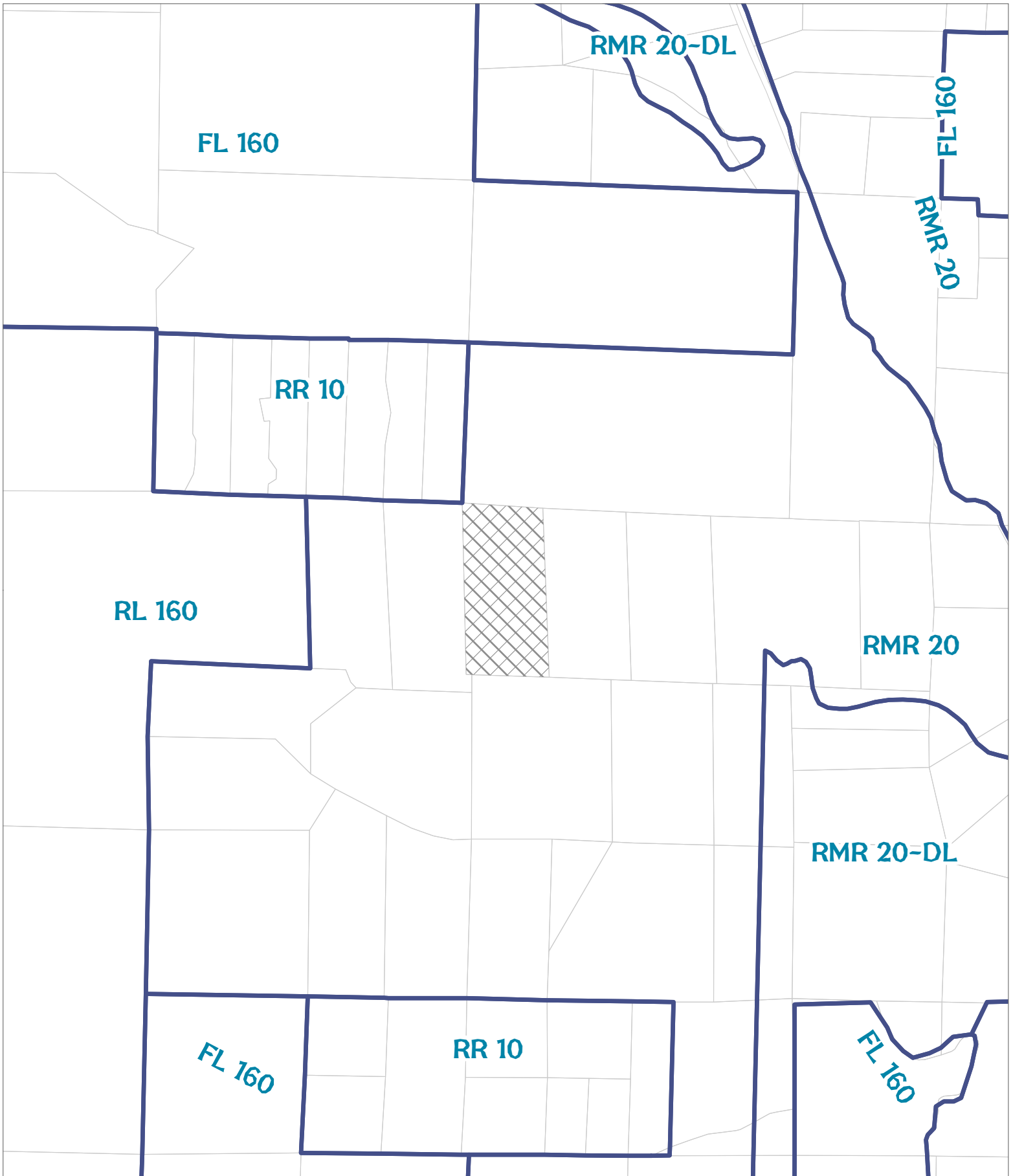


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NO SCALE

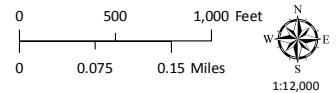
ELEVATIONS

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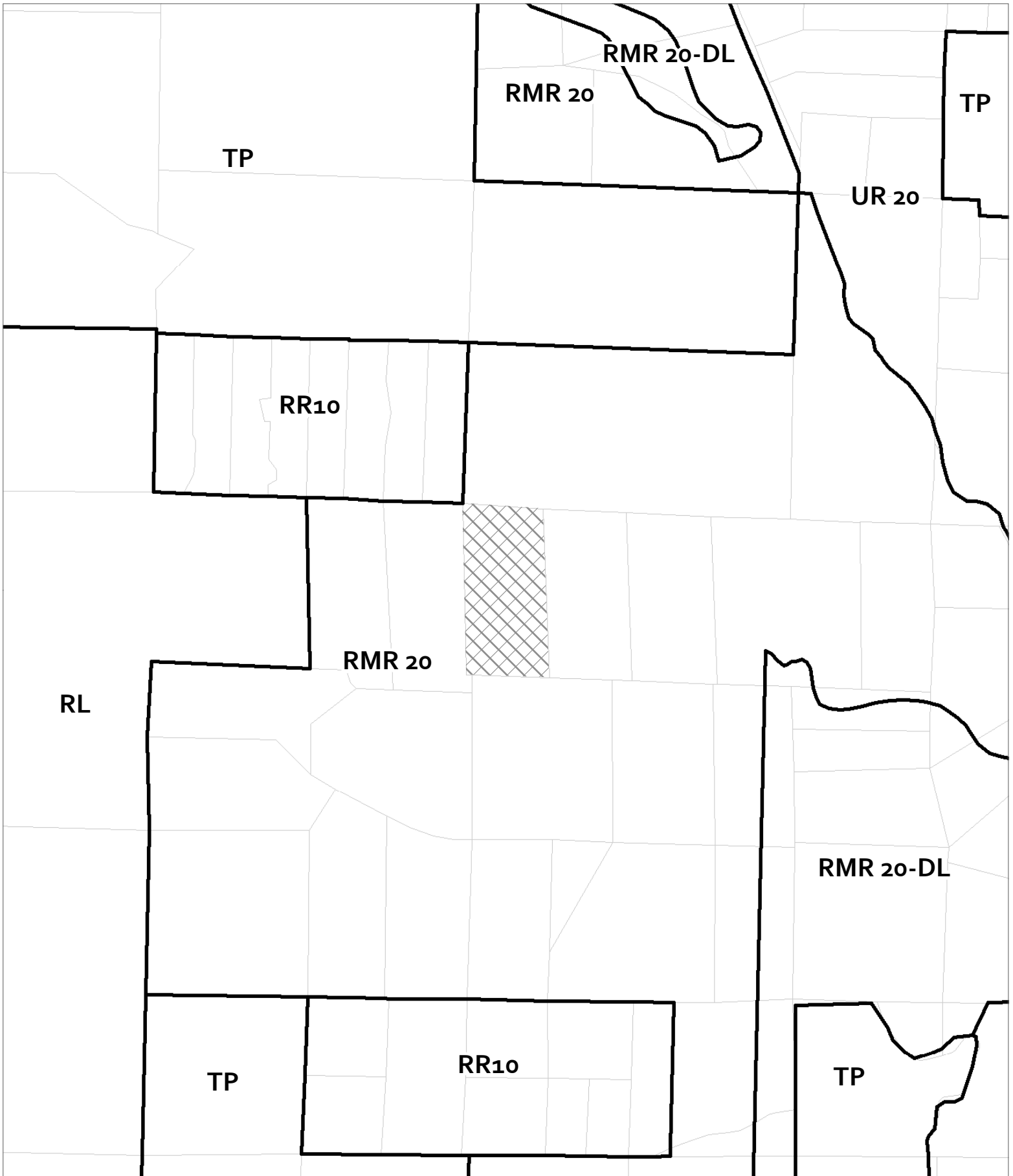
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 General Plan Classes




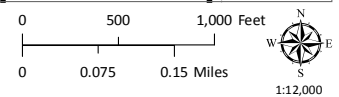
GENERAL PLAN CLASSIFICATIONS

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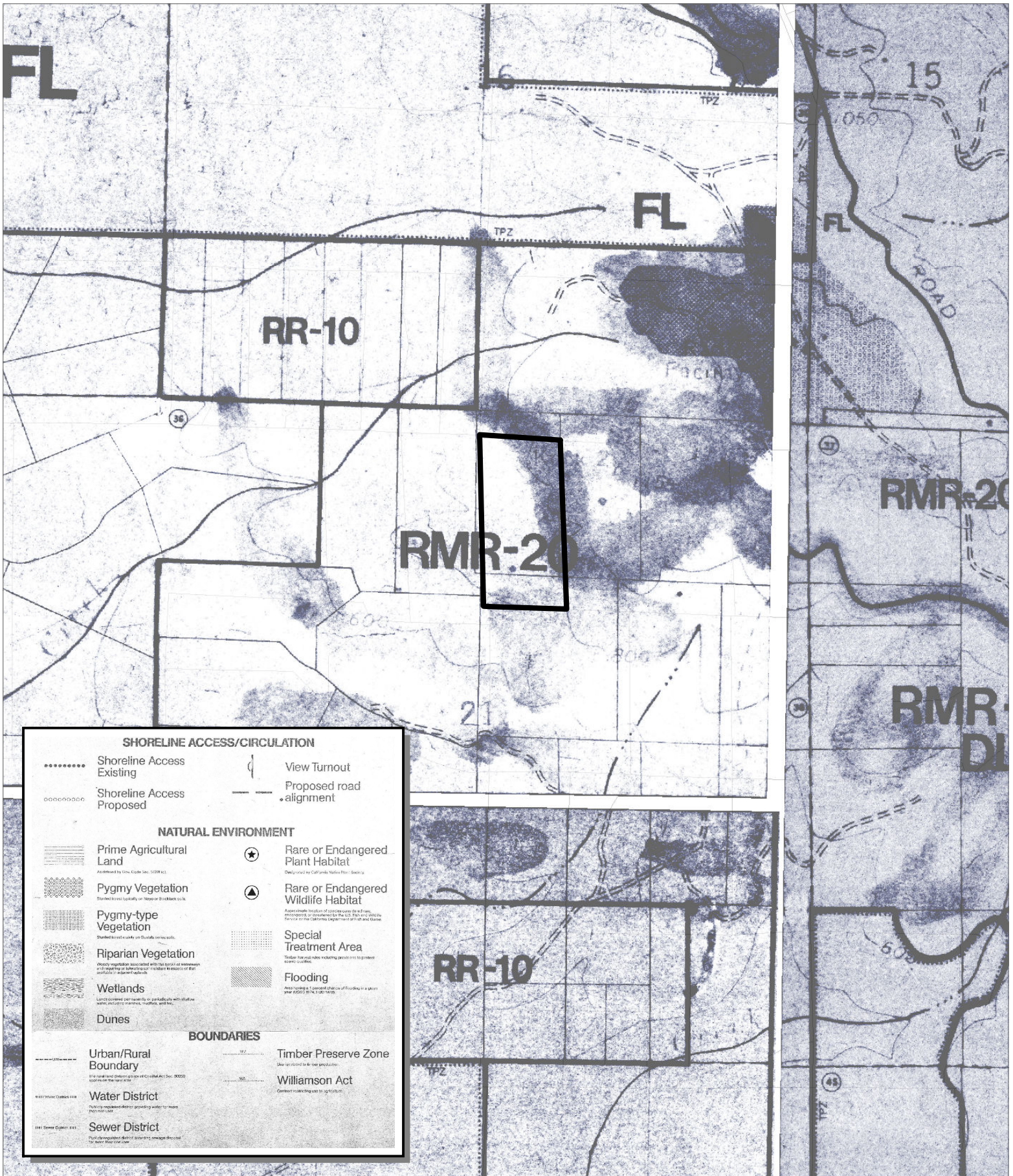
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OWNER: LEVY, Adam, ET AL
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AGENT: Blair Foster
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 Zoning Districts

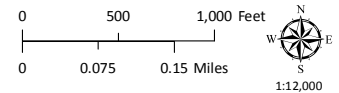


ZONING DISPLAY MAP

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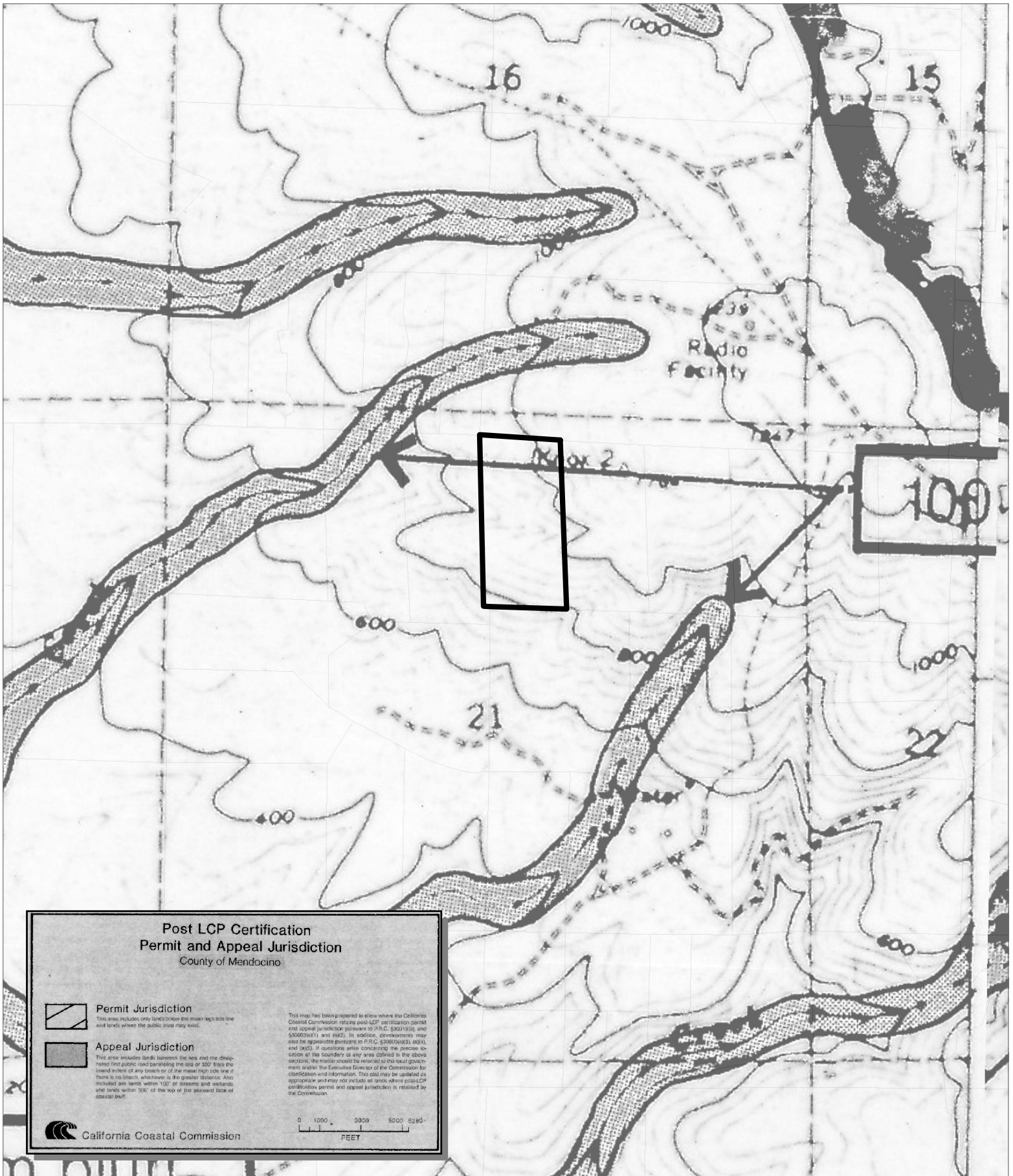


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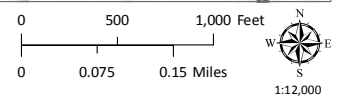


LCP LAND USE MAP 25: POINT ARENA

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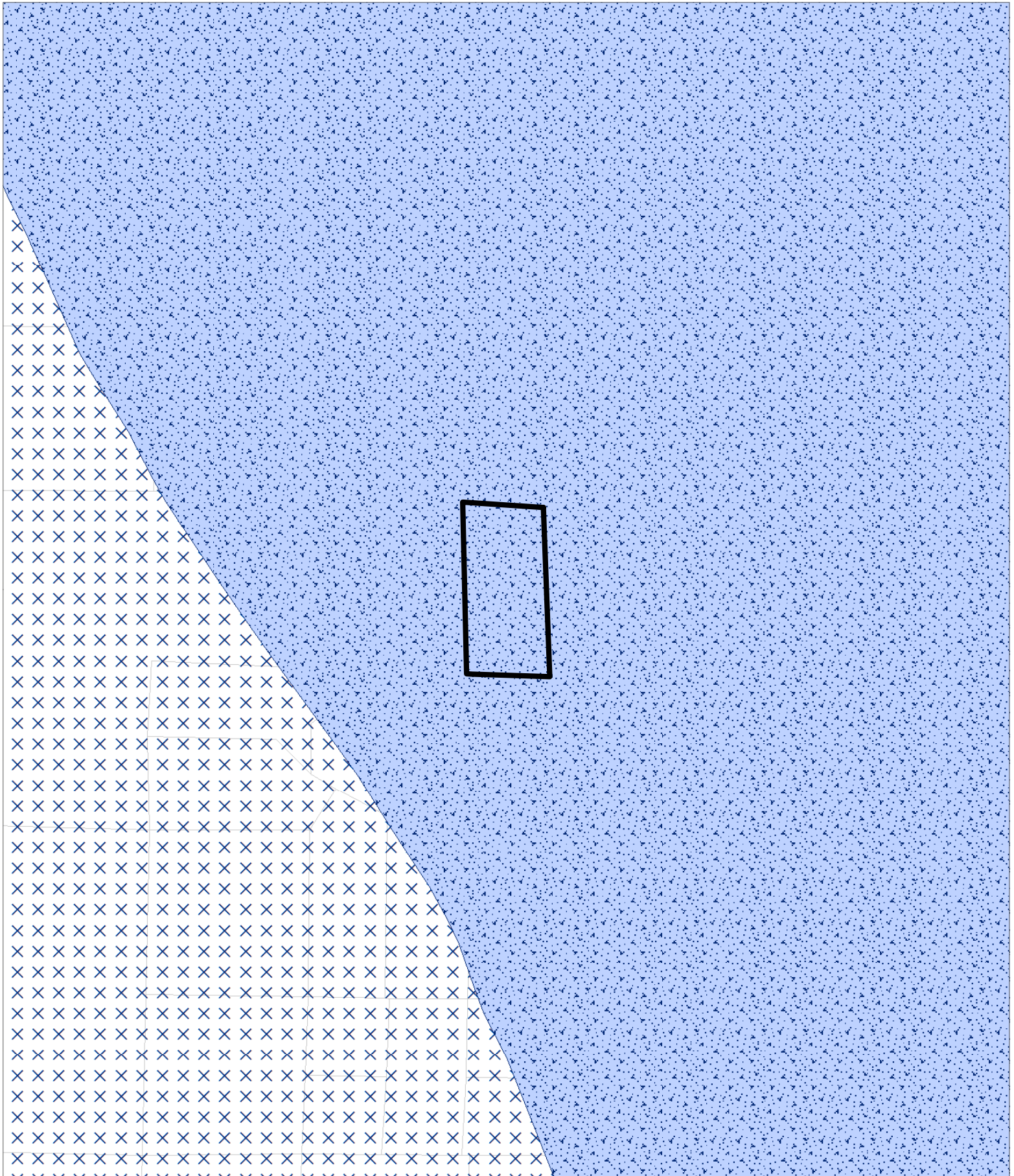


CASE: CDP 2018-0009
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 APN: 027-361-25
 APLCT: Adam Levy/Keely Tongate
 AGENT: Blair Foster
 ADDRESS: 44924 Zettler Road, Point Arena






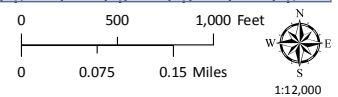
APPEALABLE AREAS

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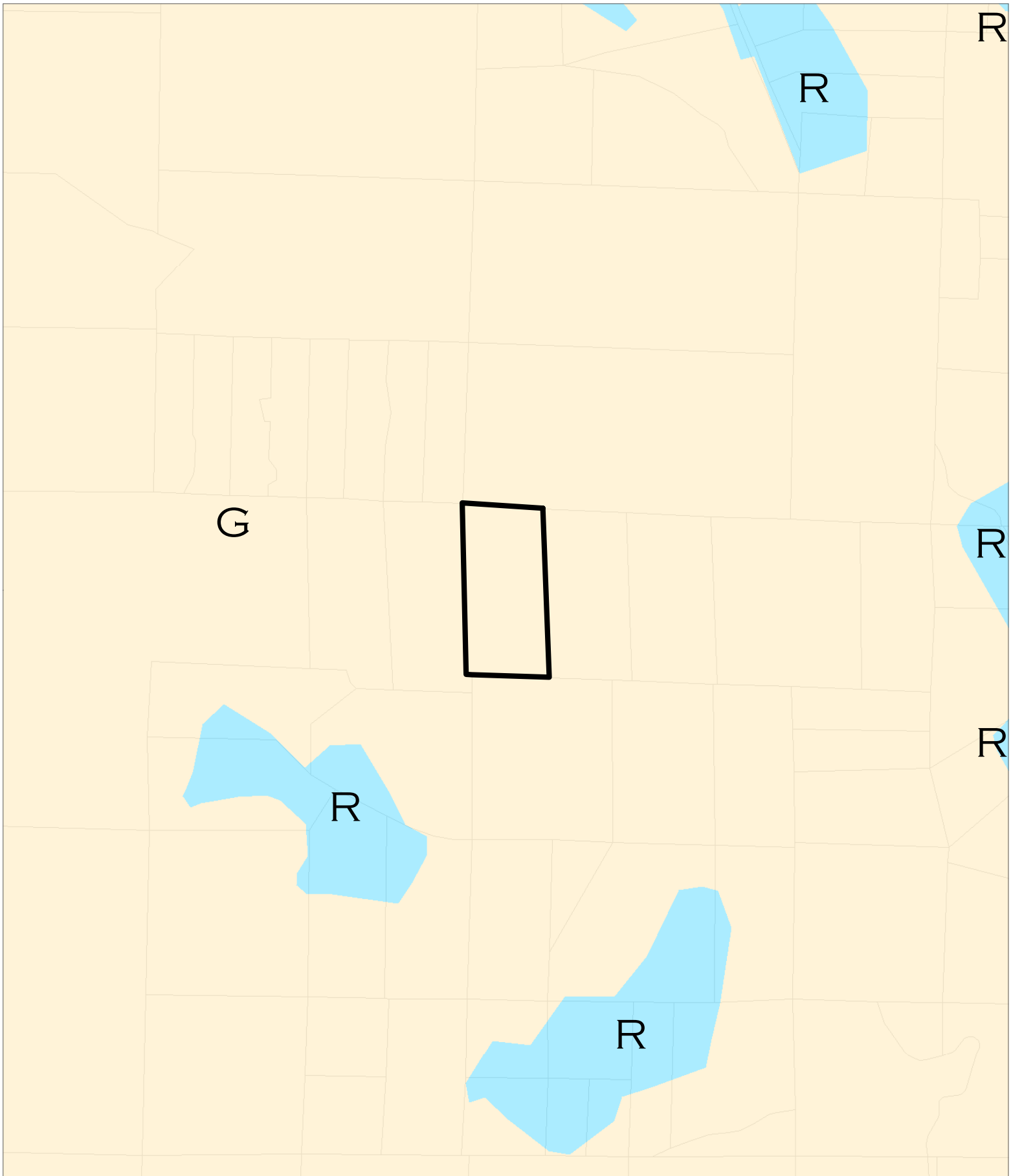
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-   Critical Water Areas
-  Critical Water Resources Bedrock





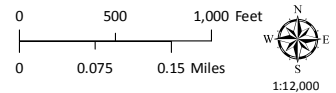
GROUND WATER RESOURCES

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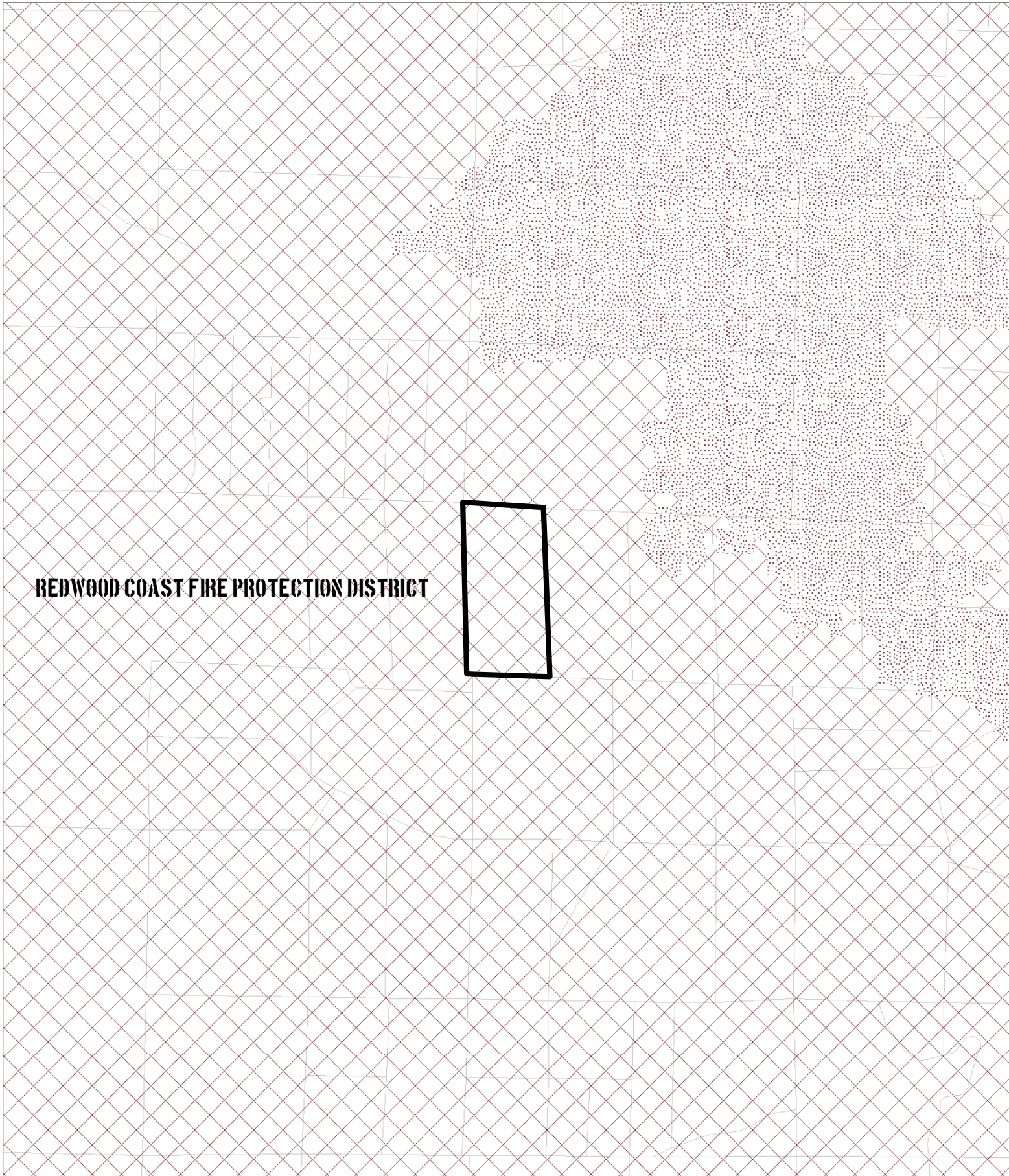
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 Grazing Land (G)
 Rural Residential & Rural Commercial (R)






IMPORTANT FARMLAND

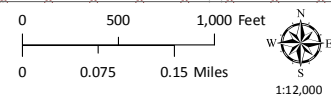
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REDWOOD COAST FIRE PROTECTION DISTRICT

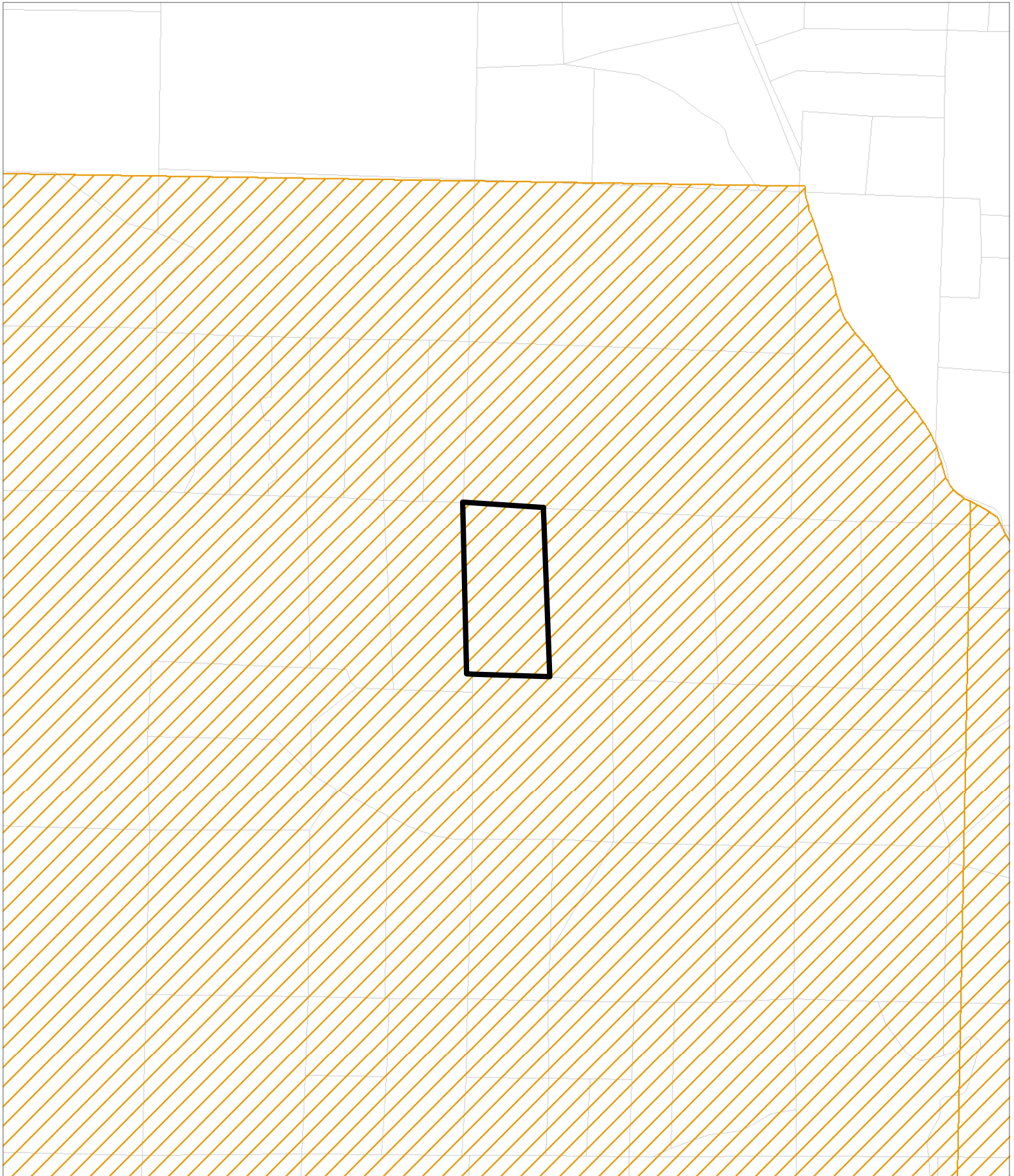
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 County Fire Districts
 Very High Fire Hazard
 High Fire Hazard




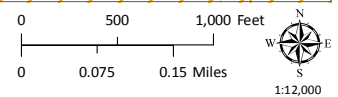
FIRE HAZARD ZONES & RESPONSIBILITY AREAS
STATE RESPONSIBILITY AREA

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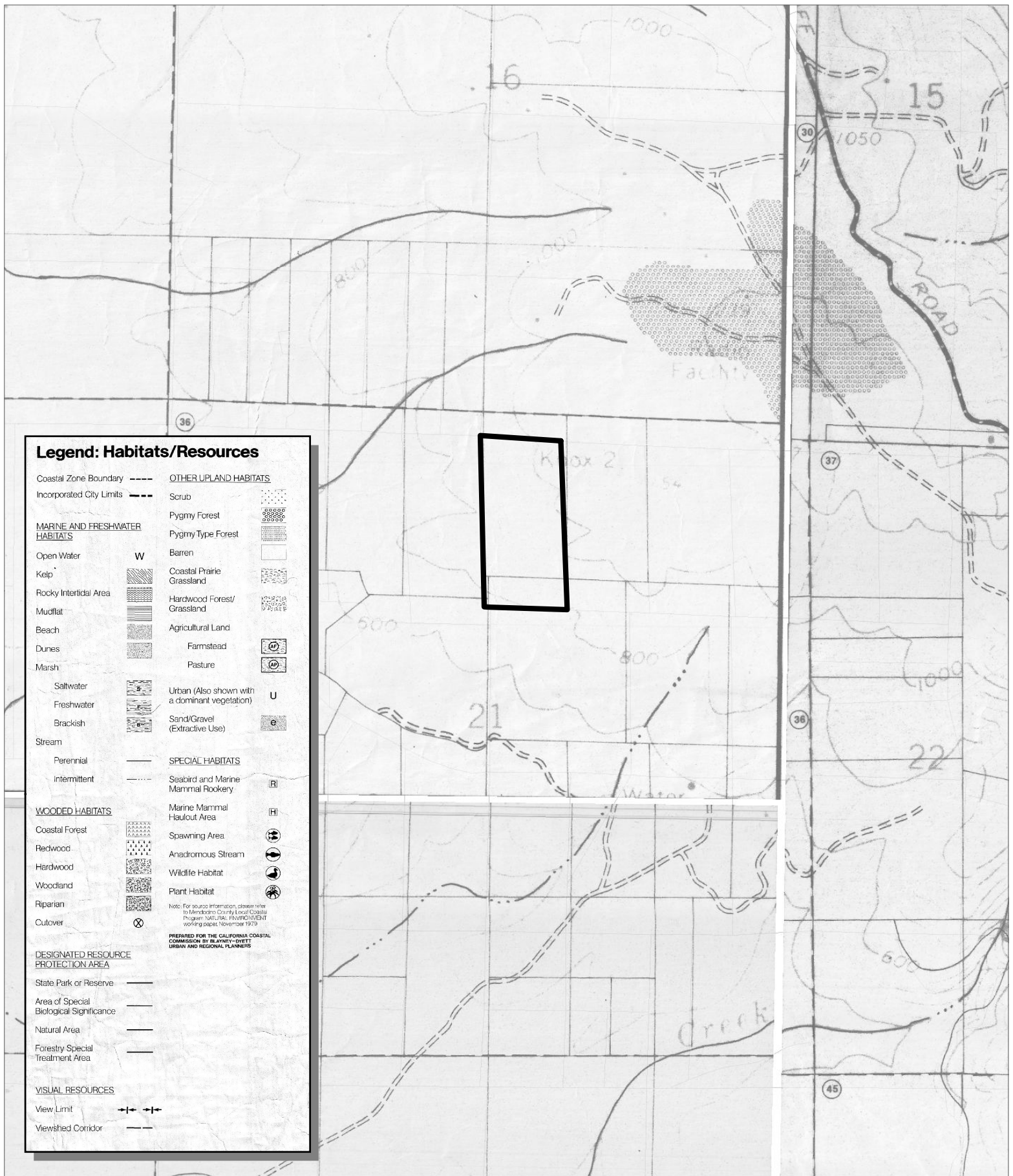
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 Highly Scenic Area (Conditional)

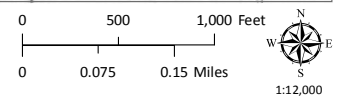


HIGHLY SCENIC & TREE REMOVAL AREAS

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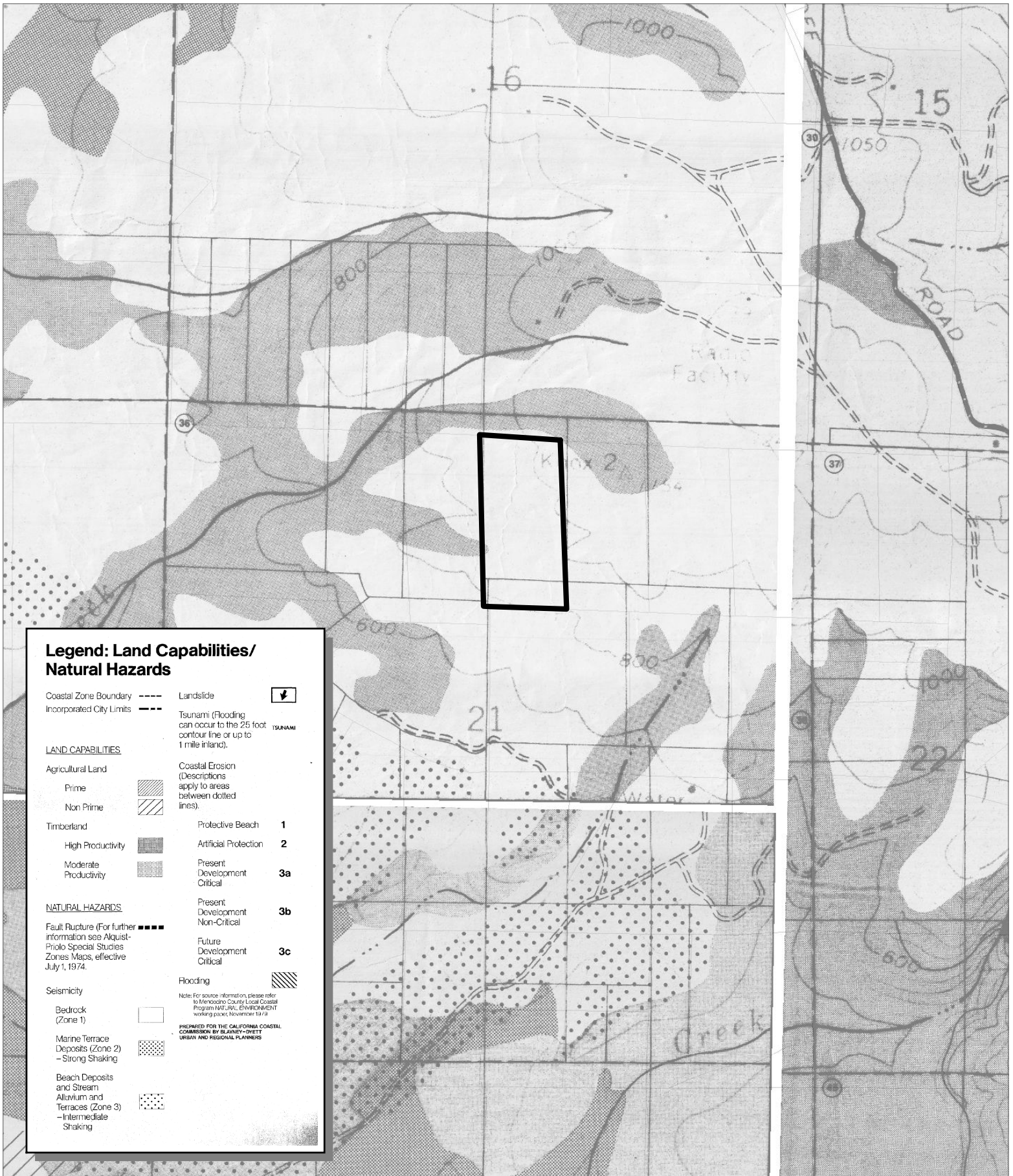


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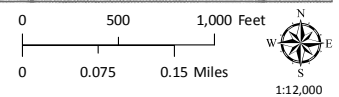


LCP HABITATS & RESOURCES

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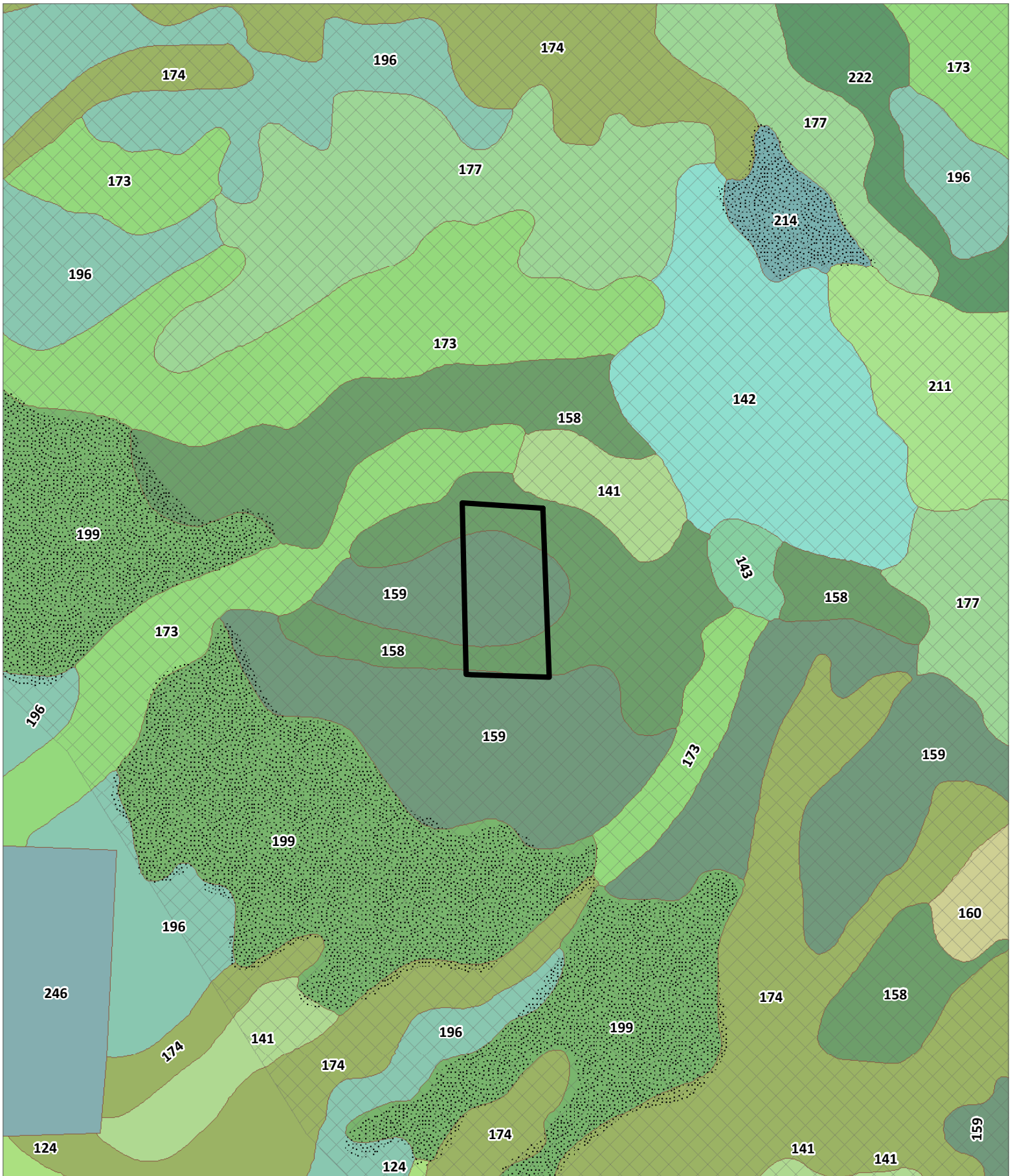


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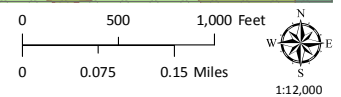
LCP LAND CAPABILITIES & NATURAL HAZARDS

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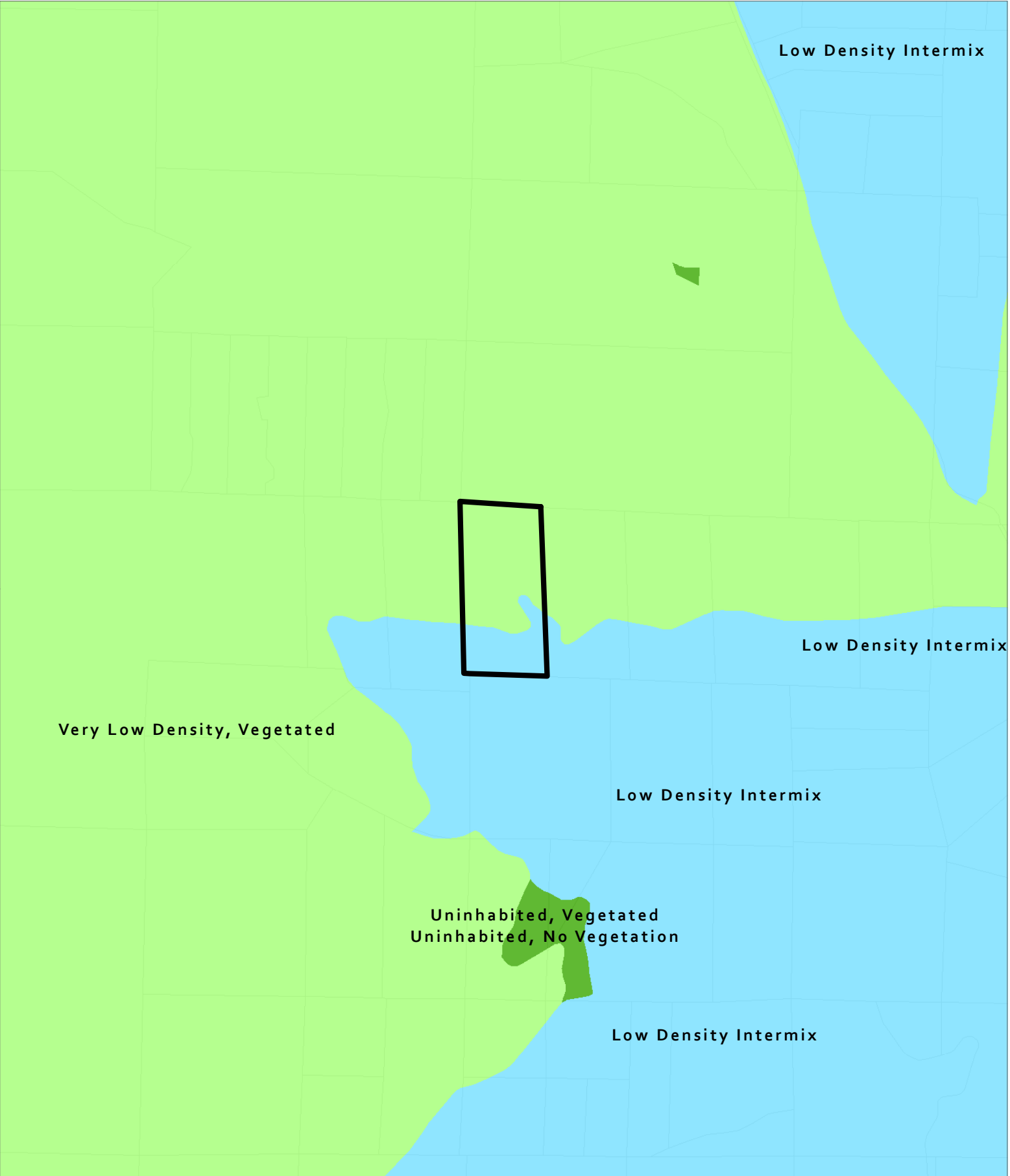
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 Shinglemill-Gibney Complex
 Bishop Pine
 Western Study Soil Types



LOCAL SOILS

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WILDLAND-URBAN INTERFACE ZONES

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