COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET - 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123

TOM BURNS, PLANNING DIRECTOR

February 12, 2008

Planning Commission
County of Santa Cruz
701 Ocean Street

Santa Cruz, CA 95060

Agenda Date: April 9, 2008
APN: 083-251-47,48,49,50,51,54,55,56,57,58,59,60
Application: 07-0572
Item #: 10
Time: After 9 AM

Subject: A public hearing to consider a proposal to rezone a parcel from the Agriculture (A) and eleven parcels from the Special Use (SU) zone districts to the Timber Production (TP) zone district.

Members of the Commission:

On September 20, 2007, the County Planning Department accepted this application for a rezoning to Timber Production (TP). This is a proposal to rezone 83.6 acres from the Agriculture (A) and Special Use (SU) zone districts to the Timber Production (TP) zone district. The uses on the property consist of vacant rural acreage.

Background

This project qualifies for a rezoning under California Government Code Section 51113. This section allows a property owner to petition the County to rezone land to the TP zone. The requirements for this type of rezoning are listed in Government Code section 51113(c)[1]. The County may not place any additional requirements on this petition to rezone the property to TP.

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[1] c) On or before March 1, 1977, the board or council by ordinance shall adopt a list of criteria required to be met by parcels being considered for zoning as timberland production under this section.
The criteria shall not impose any requirements in addition to those listed in this subdivision and in subdivision (d). The following shall be included in the criteria:
(1) A map shall be prepared showing the legal description or the assessor's parcel number of the property desired to be zoned.
(2) A plan for forest management shall be prepared or approved as to content, for the property by a registered professional forester.
The plan shall provide for the eventual harvest of timber within a reasonable period of time, as determined by the preparer of the plan.
(3) (A) The parcel shall currently meet the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the forest practice rules adopted by the State Board of Forestry and Fire Protection for the district in which the parcel is located, or the owner shall sign an agreement with the board or council to meet those stocking standards and forest practice rules by the fifth anniversary of the signing of the agreement. If the parcel is subsequently zoned as timberland production under subdivision (a), failure to meet the stocking standards and forest practice rules within this time period provides the board or council with a ground for rezoning of the parcel pursuant to Section 51121.
(B) Upon the fifth anniversary of the signing of an agreement, the board shall determine whether the parcel meets the timber stocking standards in effect on the date that the agreement was signed.
Notwithstanding the provisions of Article 4 (commencing with Section
51130), if the parcel fails to meet the timber stocking standards, the board or council shall immediately rezone the parcel and specify a new zone for the parcel, which is in conformance with the county general plan and whose primary use is other than timberland.
(4) The parcel shall be timberland, as defined in subdivision (f) of Section 51104.
(5) The parcel shall be in compliance with the compatible use ordinance adopted by the board or council pursuant to Section 51111.
(d) The criteria required by subdivision (c) may also include any or all of the following:
(1) The land area concerned shall be in the ownership of one person, as defined in Section 38106 of the Revenue and Taxation Code, and shall be comprised of single or contiguous parcels of a certain number of acres, not to exceed 80 acres.
(2) The land shall be a certain site quality class or higher under
Section 434 of the Revenue and Taxation Code, except that the parcel shall not be required to be of the two highest site quality classes.

County Code Section 13.10.375(c) – "Zoning to the TP District" implements Government Code section 51113 and specifies the six criteria which must be met in order to rezone to TP.

In accordance with County Code Section 13.10.375(c), the project meets the following six criteria for rezoning to Timber Production:

1. A map has been submitted with the legal description or assessor's parcel number of the property to be rezoned.

2. A Timber Management Plan, undated, prepared by a registered professional forester has been submitted for the property (Exhibit E).

3. The parcel currently meets the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the Forest Practice Rules for the district in which the parcel is located (see Exhibit E).

4. The parcel is timberland, as the entire parcel is capable of producing a minimum of 15 cubic feet of timber per acre annually and is almost entirely located within a mapped Timber Resource area.

5. The uses on the parcel are in compliance with the Timber Production Zone uses set forth in Section 13.10.372.

6. The land area to be rezoned is in the ownership of one person, as defined in Section 38106 of the Revenue and Taxation Code, and is comprised of at least five acres in area.

This project qualifies for a statutory exemption (Exhibit D) in accordance with the California Environmental Quality Act and the County Environmental Review Guidelines (Article 17, Section 1703).

Conclusion

All of the criteria have been met for rezoning the parcels to the Timber Production zoning designation. All required findings can be made to approve this application and the rezoning is consistent with the General Plan policies and land use designations.

Recommendation

Staff recommends that your Commission adopt the attached Resolution (Exhibit A), sending a recommendation to the Board of Supervisors for approval of Application No. 07-0572 based on the attached findings (Exhibit B).

EXHIBITS

A. Planning Commission Resolution, with Ordinance/ Findings
B. APN Map
C. Location, Current Zoning and General Plan Designation Maps
D. Notice of Exemption from CEQA
E. Timber Management Plan by Roy Webster, RPF #1765, dated November 30, 2007.

Maria Porcila Perez
Project Planner
Development Review

Reviewed By: Mark M. Deming
Mark Deming
Assistant Planning Director

BEFORE THE PLANNING COMMISSION
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

RESOLUTION NO._____

On the motion of Commissioner
duly seconded by Commissioner
the following Resolution is adopted:

PLANNING COMMISSION RESOLUTION
SENDING RECOMMENDATION TO THE BOARD OF SUPERVISORS
ON PROPOSED AMENDMENT TO THE ZONING ORDINANCE

WHEREAS, the Planning Commission has held a public hearing on Application No. 07-0572, involving properties located on the north and south sides of Empire Grade, at the intersection with Jamison Creek Road, and the Planning Commission has considered the proposed rezoning, all testimony and evidence received at the public hearing, and the attached staff report.

NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission recommends that the Board of Supervisors adopt the attached ordinance amending the Zoning Ordinance by changing properties from the Agriculture (A) and Special Use (SU) zone districts to the Timber Production (TP) zone district.

BE IT FURTHER RESOLVED, that the Planning Commission makes findings on the proposed rezoning as contained in the Report to the Planning Commission.

PASSED AND ADOPTED by the Planning Commission of the County of Santa Cruz, State of California, this _____ day of _____, 2008, by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSENT: COMMISSIONERS
ABSTAIN: COMMISSIONERS

_____
Chairperson

ATTEST: _____
MARK DEMING, Secretary

APPROVED AS TO FORM:

_____
COUNTY COUNSEL

EXHIBIT A

ORDINANCE NO. _____

ORDINANCE AMENDING CHAPTER 13 OF THE SANTA CRUZ COUNTY CODE CHANGING FROM ONE ZONE DISTRICT TO ANOTHER

The Board of Supervisors of the County of Santa Cruz ordains as follows:

SECTION I

The Board of Supervisors finds that the public convenience, necessity and general welfare require the amendment of the County Zoning Regulations to implement the policies of the County General Plan and Local Coastal Program Land Use Plan regarding the timber resource properties located on the north and south sides of Empire Grade, at the intersection with Jamison Creek Road; finds that the zoning to be established herein is consistent with all elements of the Santa Cruz County General Plan and the Santa Cruz County Code, as modified by the *Big Creek* decision; and finds and certifies that the project is subject to a statutory exemption under the California Environmental Quality Act.

SECTION II

The Board of Supervisors hereby adopts the Zoning Plan Amendment as described in Section III, and adopts the findings in support thereof without modification as set forth below:

1. The proposed zone district will allow a density of development and types of uses which are consistent with the objectives and land use designations of the adopted General Plan; and

1. The proposed zone district is appropriate for the level of utilities and community services available to the land; and

2. The character of development in the area where the land is located has changed or is changing to such a degree that the public interest will be better served by a different zone district; and

3. The property meets the requirements of Government Code section 51113 or 51113.5 and County Code Section 13.10.375(c).

EXHIBIT A

SECTION III

Chapter 13.10 - Zoning Regulations of the Santa Cruz County Code is hereby amended by amending Section 13.10.210 - Zoning Plan to change the following properties from the existing zone district to the new zone district as follows:

Assessor's Parcel Number	Existing Zone District	New Zone District
083-251-48	Agriculture (A)	TP
083-251-47,49,50,51, 54,55,56,57,58,59,60	Special Use (SU)	TP

SECTION IV

This ordinance shall take effect on the 31st day after the date of final passage.

PASSED AND ADOPTED THIS _____ day of _____ 2008, by the Board of Supervisors of the County of Santa Cruz by the following vote:

AYES: SUPERVISORS
NOES: SUPERVISORS
ABSENT: SUPERVISORS
ABSTAIN: SUPERVISORS

_____
Chairman of the Board of Supervisors

ATTEST: _____
Clerk of the Board

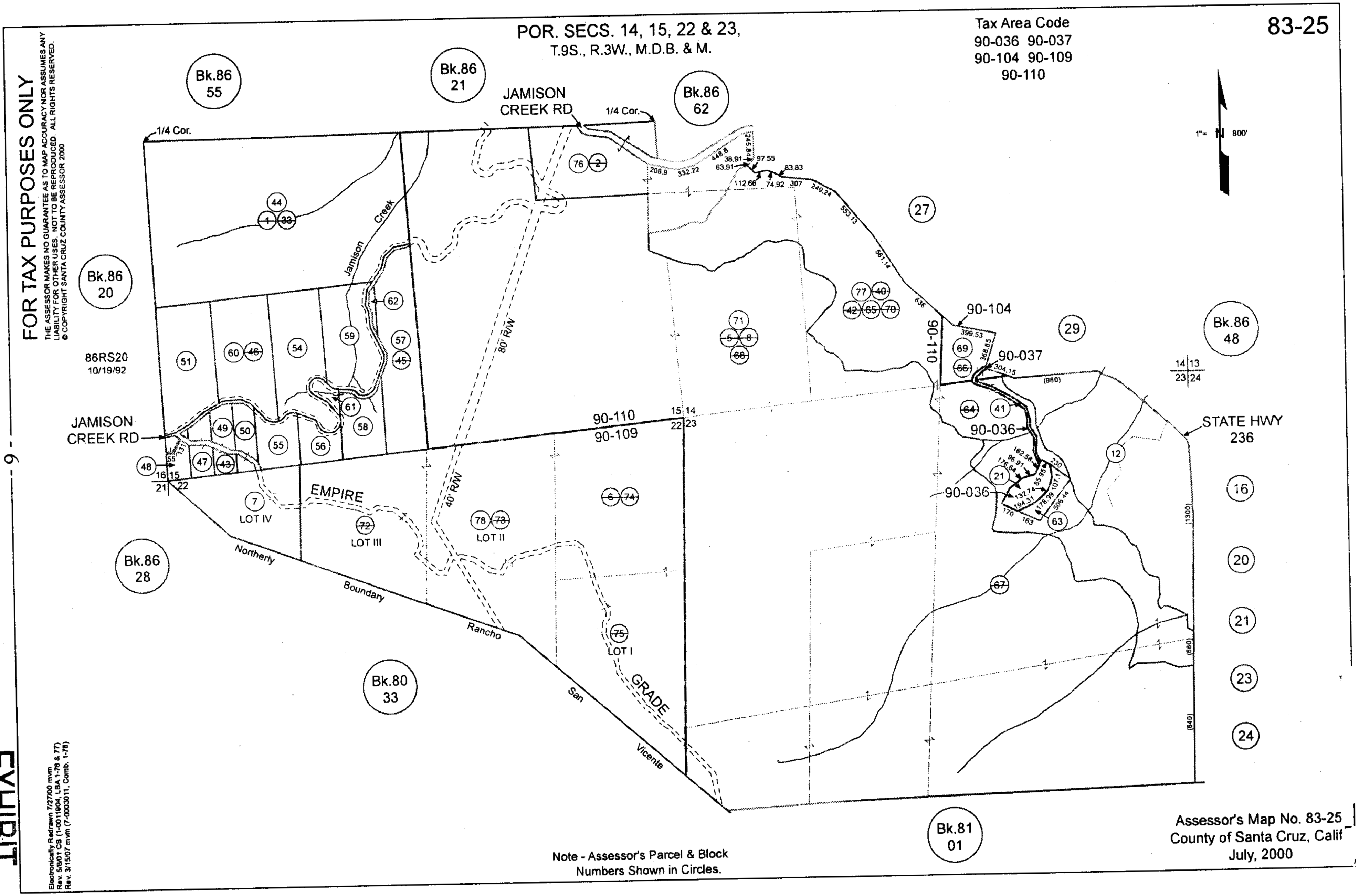
APPROVED AS TO FORM:

_____
Assistant County Counsel

Exhibit: Rezoning Map

DISTRIBUTION: County Counsel
Planning
Assessor
County
GIS

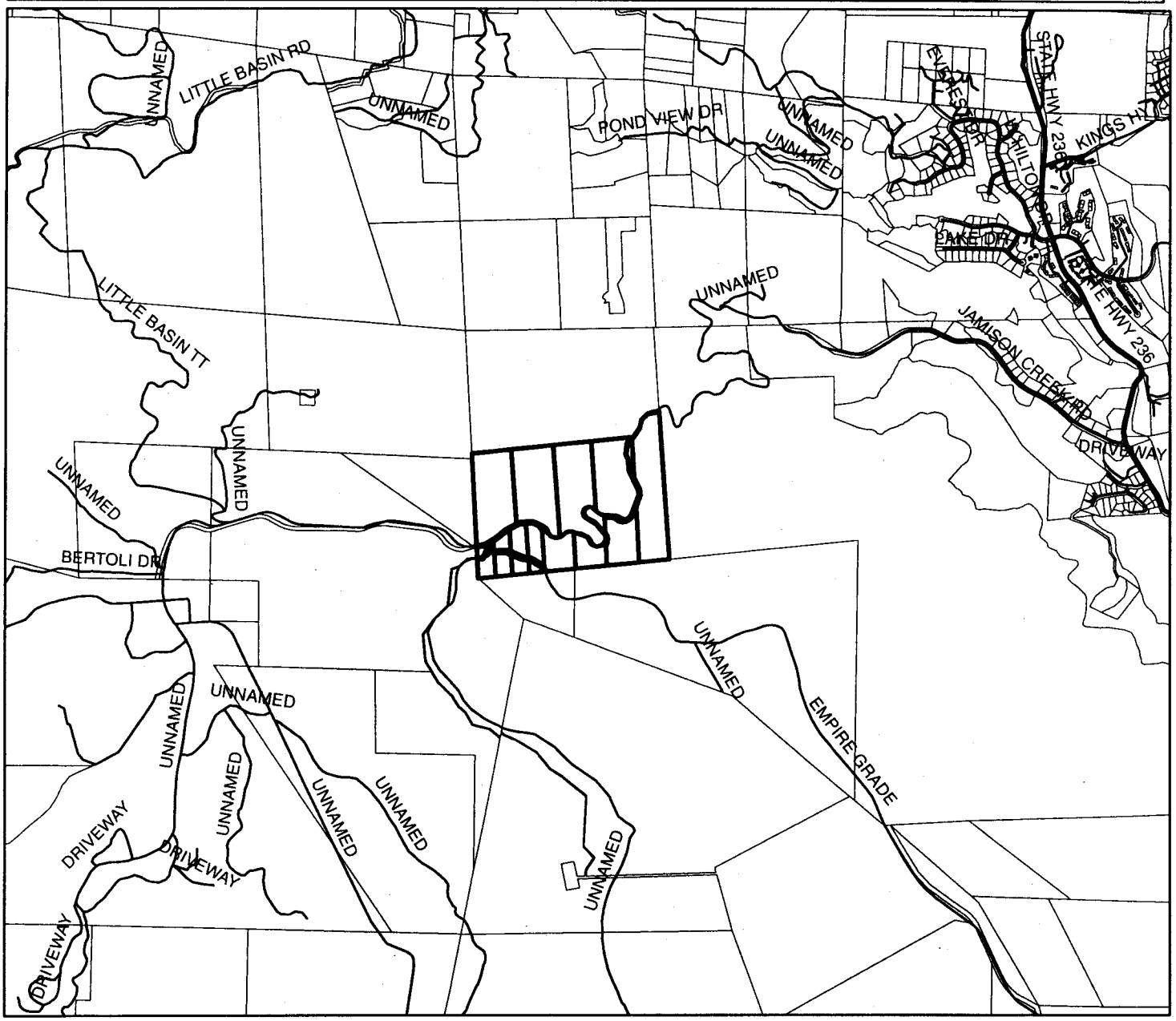
EXHIBIT A


83-25
POR. SECS. 14, 15, 22 & 23,
T.9S., R.3W., M.D.B. & M.
Tax Area Code
90-036 90-037
90-104 90-109
90-110
1"= 800'
FOR TAX PURPOSES ONLY
86RS20
10/19/92
JAMISON CREEK RD
1/4 Cor.
Bk.86 55
Bk.86 21
Bk.86 62
Bk.86 20
Bk.86 28
Bk.86 48
Bk.80 33
Bk.81 01
Jamison Creek
EMPIRE
GRADE
80' R/W
40' R/W
LOT I
LOT II
LOT III
LOT IV
Northerly Boundary Rancho San Vicente
STATE HWY 236
90-110
90-109
90-104
90-037
90-036
Note - Assessor's Parcel & Block Numbers Shown in Circles.
Assessor's Map No. 83-25
County of Santa Cruz, Calif
July, 2000
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.

Electronically Redrawn 7/27/00 mvm
Rev. 5/8/01 CB (1-0011904, LBA 1-76 & 77)
Rev. 3/15/07 mvm (7-0003011, Comb. 1-78)

EXHIBIT B

Location Map



LEGEND

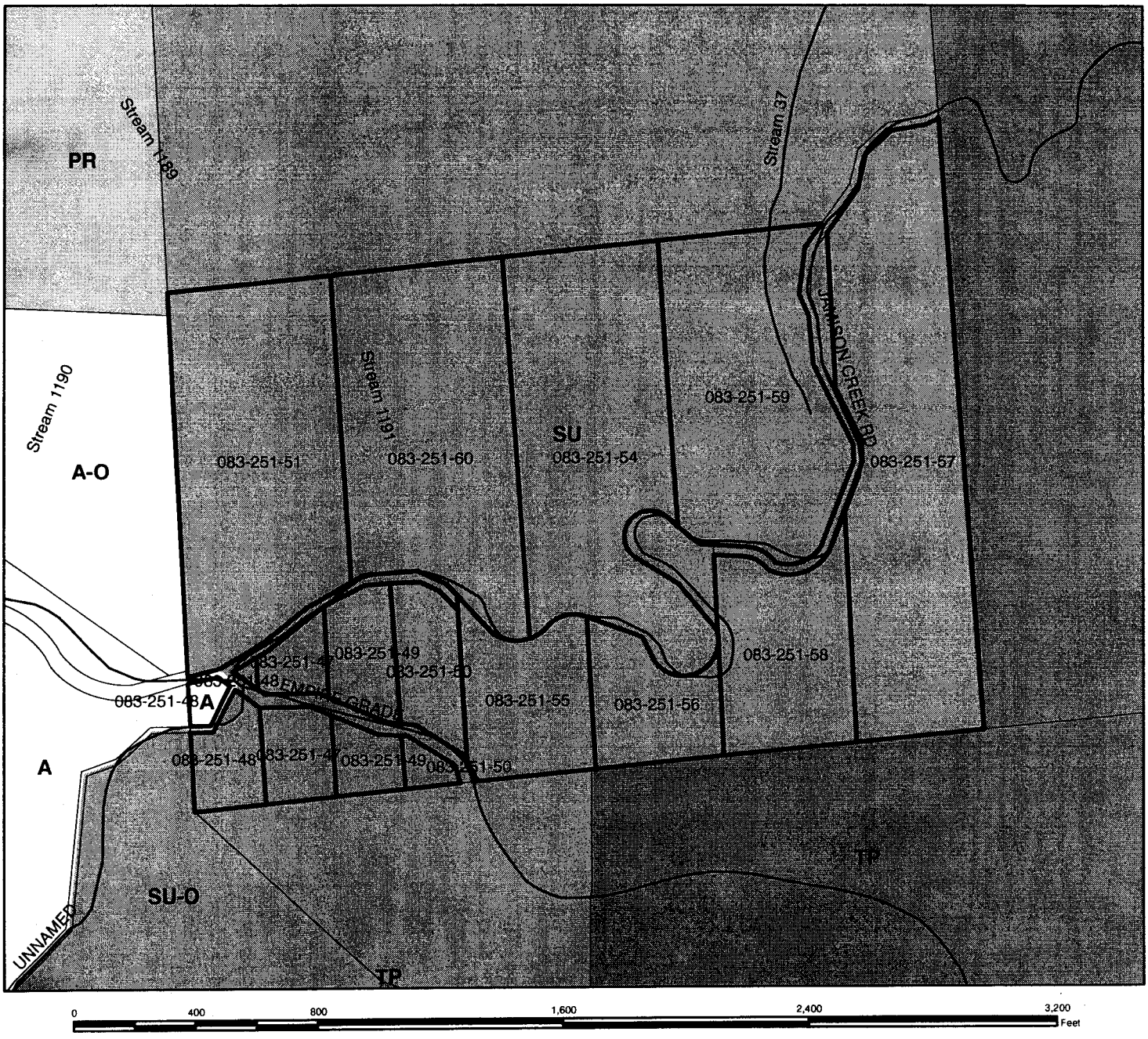
- Subject Parcels
- Assessors Parcels
- Streets
- State Highways

N
W E
S

Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT C

Zoning Map



LEGEND

- Subject Parcels
- Assessors Parcels
- Streets

STREAMTYPE

- PERENNIAL
- INTERMITTENT
- AGRICULTURE
- SPECIAL USE
- TIMBER PRODUCTION
- PARK

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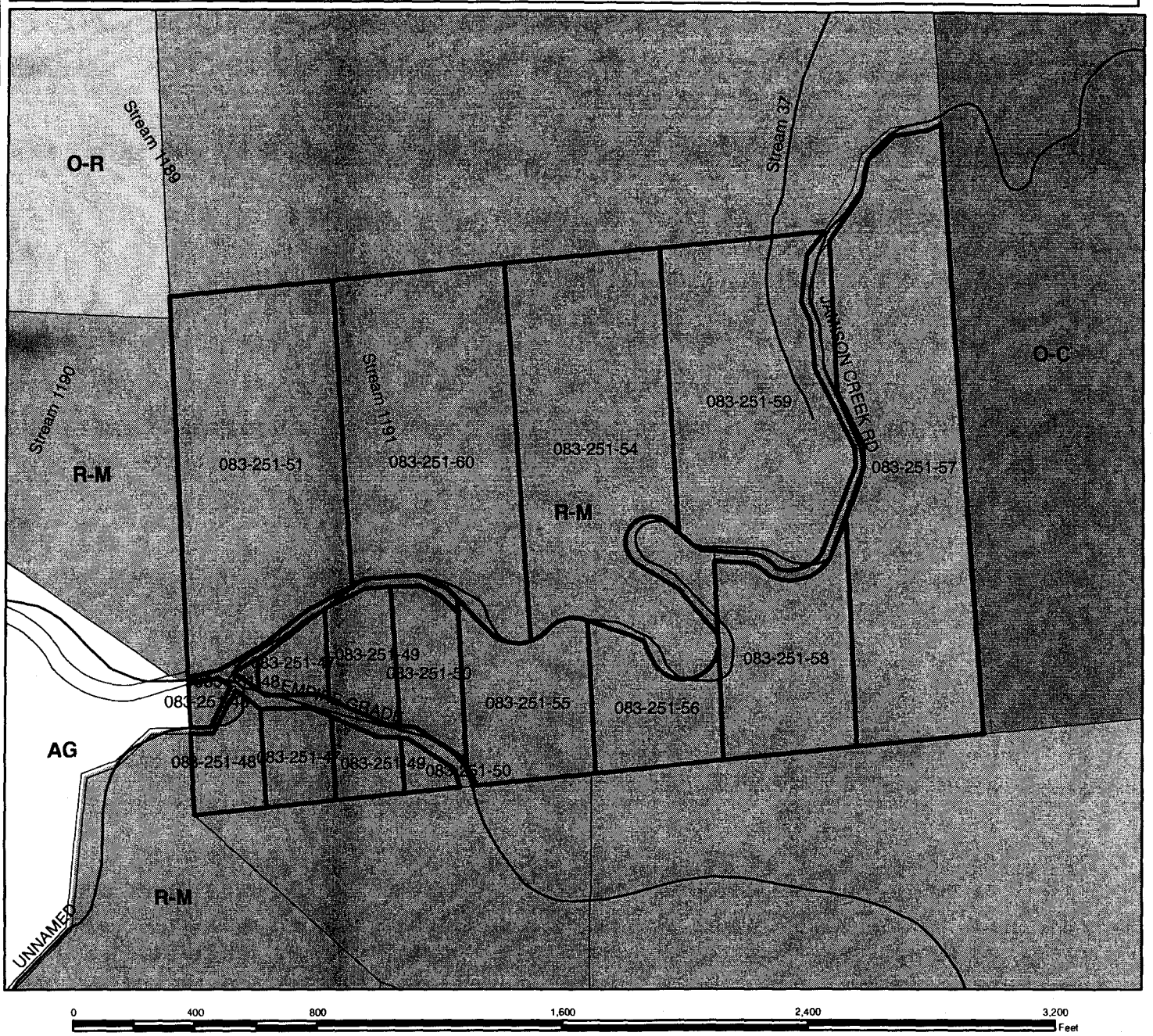
Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT C

General Plan Designation Map



LEGEND

- Subject Parcels
- Assessors Parcels
- Streets

STREAMTYPE

- PERENNIAL
- INTERMITTENT
- *Residential-Mountain*
- *Agriculture*
- Parks and Recreation
- Resource Conservation

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Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT C

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 07-0572
Assessor Parcel Number: 083-251-47,48,49,50,51,54,55,56,57,58,59,60
Project Location: Properties located on the north and south sides of Empire Grade, at the intersection with Jamison Creek Road.

Project Description: Rezone a parcel from the Agriculture (A) and Special Use (SU) zone district to the Timber Production (TP) zone district.

Person or Agency Proposing Project: William Codiga

Contact Phone Number: (831) 426-3322

A. _____ The proposed activity is not a project under CEQA Guidelines Section 15378.

B. _____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).

C. _____ **Ministerial Project** involving only the use of fixed standards or objective measurements without personal judgment.

D. __X__ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285). [Section 1703]

In addition, none of the conditions described in Section 15300.2 apply to this project.

_____ Date:_____

Maria Porcila Perez, Project Planner

EXHIBIT D

WEBSTER & ASSOCIATES
2-2590 EAST CLIFF DRIVE
SANTA CRUZ, CA 95062
831-462-6237

November 30, 2007

County of Santa Cruz Planning Department
Attn.: Maria Perez
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

RE: APPLICATION NO.: 07-0572.
TPZ Rezoning of Assessor's Parcel # 083-251-47,48,49,50,51,54,55,56,57,58,59, & 60.

Dear Ms. Perez,

This letter requests rezoning the Santa Cruz County Assessor's Parcel numbers listed above (83.6 acres) from their current designation (Agriculture (A) zone district for one parcel and Special Use (SU) for eleven parcels) to Timber Production Zone (TPZ). The parcels are owned by Christopher Codiga et al and meet the following criteria:

1. The parcels currently meet the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the Forest Practice Rules adopted by the State Board of Forestry for the Southern Sub district of the Coast Forest District (see Forest Management Plan).

2. The parcels meet the definition of "Timberland" per Section 51104(f) of the Government Code (see FMP).

3. The parcels meet the permitted use requirements per County Code Section 13.10.372.

4. The parcels have been harvested previously under an approved Timber Harvesting Plan in 1992, copy attached.

5. The parcels meet the minimum 5-acre size requirement (83.6 acres total).

Attached in the TMP is an Assessor's Parcel Map.

Sincerely,

R. Webster

Roy Webster
RPF # 1765

EXHIBIT E

LANDS OF CODIGA
Santa Cruz County, California

FOREST AND LAND MANAGEMENT PLAN

Webster and Associates
Forestry Consultants

R. Webster

Roy Webster, RPF #1765

DECEMBER 2007

EXHIBIT E

Table of Contents

EXHIBIT E

Landowner

Barton, Christopher, Clark, & Grant Codiga
C/o William Codiga
525 High Street
Santa Cruz, CA 95060

Property Location

Portion of SW ¼ Section 15, Township 9 South, Range 3 West, MDBM.

APN 083-251-47, 48, 49, 50, 51, 55, 56, 57, 58, 59, 60, & 61.

General Description

The property contains a total of 83.6 acres. Approximately 5 acres of the tract is on the southwest side of Empire Grade and is located in the Big Creek watershed. The majority of the ownership, 78.6 acres, is on the northeast side of Empire Grade and is in the Jamison Creek watershed, which is a tributary of Boulder Creek. Access to the property is by taking Empire Grade northwesterly from the City of Santa Cruz to the intersection with Jamison Creek Road. The end of Empire Grade at the Lockheed facility is located approximately 1 mile past (West) of the intersection of Jamison Creek Road and Empire Grade. See the maps in the appendix for the location in relationship to Empire Grade and Jamison Creek Road. Elevations range from 2460 feet at the ridge top at the southwest corner of the property and another ridge north of Jamison Creek Road and near the center of the property, to 1840 feet at Jamison Creek along the north property line.

Slopes are highly variable from 0 to 20% on the ridge to 50 to 75% on the steepest side slopes. The dominant vegetation is also highly variable from pure hardwood stands composed of Madrone (Arbutus menziesii) and/or Tanoak (Lithocarpus densiflora) to pure Redwood stands (Sequoia sempervirens) to a mixture of both hardwoods and redwoods. There are occasional Douglas fir (Pseudotsuga menziesii). Other tree species of minor extent are Coast Live Oak (Quercus agrifolia) and California Bay Laurel (Umbellularia californica). Of special note were two Ponderosa Pine (Pinus ponderosa) found near Landing B (see contour map). Species noted in the under story were suppressed and shrub like Tanoak, Swordfern (Polystichum munitum), Wood Fern (Dryopteris arguta), Poison Oak (Toxicodendron diversiloba), California Blackberry (Rubus ursinus), California Hazelnut (Corylnus cornuta), Wild Rose (Rosa californica), Deer Brush (Ceanothus integerrimus), and Monkey Flower (Mimulus guttatus).

Existing logging roads and skid trails make much of the property accessible (see maps).

Land Use History

The property was clear cut of all merchantable timber in the late 1800's to early 1900's as would be typical of much of the Santa Cruz Mountains. Evidence of this is presence of the large, old stumps and annual ring counts on the second growth trees. A well-stocked second growth mixed evergreen redwood and hardwood forest replaced the old growth clear-cut area.

There are relatively high quality hardwood stands on the ownership, but since the stumps rot fairly quickly, there is no visible evidence of their previous harvest history, if any. Because of the proximity of a tannery along the San Lorenzo River and lime kilns on the Gray Whale Ranch in the past, it is quite possible that hardwoods were harvested, either for the bark used in tanning, or for fuel wood.

EXHIBIT E

This tract was selectively harvested in 1993 pursuant to an approved Timber Harvesting Plan # 1-92-299 SCR (see THP attached). That harvest removed about 40% of the trees over 18 inches DBH (diameter at breast height).

The subject property does not contain any structures.

Management Objectives

The goal of the owner's property management is to achieve an intermittent economic return from the timberland and perhaps build structures in locations that do not conflict with future timber harvest operations. The owners will take measures to maximize growth and overall health of the forest for long-term timber production, and for reduction of fire hazard. The owner seeks to rezone the property to **Timber Production** in order to facilitate these objectives.

The owner's overall objective is to make management a self-sufficient enterprise from a cost standpoint, while preserving the outstanding natural values of the property. All future activities will recognize the sensitive nature of the watershed and biotic diversity on the property. Future management objectives will be to develop the timber stand into an un-even aged character promoting growth and regeneration of timberland species while preserving the natural character of the property. Maintenance of existing improvements (roads, trails, and landings) will be given a high priority both to preserve their beneficial use and reduce impacts from their use. Preservation of biotic diversity on the property is an ongoing goal of management.

Resources

Soils

According to the Soil Survey of Santa Cruz County, the property is underlain by soils #113, Ben Lomond-Catelli-Sur complex on the south side of Jamison Creek Road and #173, Sur-Catelli complex on the north side.

The Ben Lomond-Catelli-Sur complex is about 30 percent Ben Lomond sandy loam, 30 percent Catelli sandy loam, and 20 percent Sur stony sandy loam. The Ben Lomond soil is deep and well drained. It formed in residuum derived from sandstone or quartz diorite. Typically, a 2-inch mat of partially decomposed needles and twigs covers the soil. The surface layer is dark grayish brown, slightly acid and neutral sandy loam about 19 inches thick. The subsoil is brown, medium acid sandy loam about 11 inches thick. The substratum is pale brown, medium acid sand loam about 16 inches thick. Weathered sandstone is at a depth of 46 inches. Permeability of the Ben Lomond soil is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water capacity is 4 to 8.5 inches. Runoff is rapid to very rapid, and the hazard of erosion is high to very high.

The Catelli soil is moderately deep and well drained. It formed in residuum derived from sandstone or granitic rock. Typically, the soil is covered by a 3-inch mat of partially decomposed leaves, bark, and twigs. The surface layer is brown, slightly acid sandy loam about 7 inches thick. The subsoil is yellowish brown and light yellowish brown, slightly acid and medium acid sandy loam about 16 inches thick. The substratum is very pale brown, strongly acid sandy loam about 14 inches thick. Weathered sandstone is at a depth of 37 inches. Permeability of the Catelli soil is moderately rapid. Effective rooting depth is 20 to 40 inches. Available water capacity is 2 to 5 inches. Runoff is rapid to very rapid, and the hazard of erosion is high to very high.

EXHIBIT E

The Sur soil is moderately deep and somewhat excessively drained. It formed in residuum derived from sandstone, schist, or granitic rock. Typically, the soil is covered by a 1-inch mat of needles, leaves, and twigs. The surface layer is brown, neutral and slightly acid stony sandy loam about 18 inches thick. The underlying material is reddish yellow, medium acid very stony sandy loam. Unweathered granodiorite is at a depth of 35 inches. Permeability of the Sur soil is moderately rapid. Effective rooting depth is 20 to 40 inches. Availability water capacity is 1 to 3.5 inches. Runoff is rapid to very rapid, and the hazard of erosion is high to very high.

The soils discussed above are used mainly for timber production, recreation, wildlife habitat, and watershed. They are also used for firewood production and as home sites. The Ben Lomond soil is well suited to the production of redwood and Douglas-fir timber because of the deeper soil profile, the Catelli soil is somewhat well suited, and the Sur soil is somewhat poorly suited. The Catelli and Sur soils are less well suited for timber production because of the presence of bedrock at a depth of 20 to 40 inches and by the higher rock fragment content. The later two soils are shallower and this limits rooting depth and available water capacity. They are more likely to contain the hardwood stands on the ownership as these tree species are better adapted to shallow soils.

Watershed

By far the majority of the parcels drain into Jamison Creek, a tributary of Boulder Creek. Boulder Creek joins the San Lorenzo River in the town of Boulder Creek. The San Lorenzo River drains to the Pacific Ocean at the Boardwalk in the City of Santa Cruz.

The San Lorenzo River is a 138 square mile watershed located in northern Santa Cruz County. It is the largest watershed lying completely within Santa Cruz County. The watershed consists of a 25-mile long main stem and 9 principal tributaries, one of which is Boulder Creek. The San Lorenzo River is listed on the 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments for sediment, pathogens, and nutrients.

According to the Southwest Fisheries Science Center, National Oceanic and Atmospheric Administration, there have been documented historical occurrences of Coho Salmon in both Boulder Creek and the San Lorenzo River. However, in three stream surveys done on the San Lorenzo River since 1991, no Coho Salmon were observed. By implication, it is assumed that Boulder Creek has no Coho occurrences as well.

The California Regional Water Quality Control Board lists the San Lorenzo River as having Coho Salmon Habitat. In 1989 the Board listed the San Lorenzo River as 20% impaired. Since 1998 it is considered 100% impaired.

Fish Net Guidelines 2004, notes the presence of steelhead migrating up through the main stem of the San Lorenzo River, heading for spawning grounds higher in the watershed. High flows prohibit spawning along most of the main stem until approximately Boulder Creek. Migrating steelhead may be present in Boulder Creek but could not be documented by Fish Net because the locations would be on private property and could not be accessed.

In planning any harvesting operation, great care must be taken to avoid erosion and siltation that might enter watercourses by treating bared soil, leaving undisturbed buffers adjacent to watercourses and minimizing construction and use of skid trails and roads. Any winter operations, if permitted, should be done during dry, rainless periods. No significant erosion or siltation problems were observed during field review of the parcel.

EXHIBIT E

Cultural

A limited field survey and check of the California Archaeological Inventory for any recorded archaeological or historical sites was done for the 1992 THP application. No sites were discovered. A field survey and records search will be conducted during the preparation of any future Timber Harvest Plan. Due to the diverse nature of historic and pre-historic sites it can be presumed that some discoveries of historic artifacts might be made in the future. If these are found during any future management activity they should be preserved, applicable agencies notified and the proper records of their discovery should be filed.

Wildlife

Redwood habitats provide food, cover, or special habitat elements for 193 wildlife species. This total is comprised of 12 reptiles, 18 amphibians, 109 birds, and 54 mammals. Moreover, a variety of sensitive species are found in this habitat. Species such as the red-legged frog, ensatina, osprey, ringtail, fisher and marbled murrelet show a relatively high preference for various redwood habitat phases and stages. To a minor extent, sensitive species such as the peregrine falcon, pileated woodpecker, spotted owl, and northern flying squirrel can be found, but are usually vagrants in the habitat. The endangered bald eagle can also be found in the habitat, but is usually not a common visitor. Not all of these species are found in the southern range (including Santa Cruz County).

Animals typical of the Santa Cruz Mountains frequent the area including deer, bobcat, squirrels, and raccoon. The area would fit with the classification of 5D in the wildlife habitat relationship classification system. This type has moderate to large size trees with dense spacing. Forest management directed at opening the canopy will improve forage and variety for small and large mammals as well as increase raptor use.

Large raptors may use the property for roosting and nesting with tall, dead topped conifers being particularly attractive. These will be preserved wherever feasible to promote this use where there is deemed to be minimal conflict with wildfire suppression.

During the timber cruise for this project, a moderate number of small to mid size hardwood snags was observed. There was presence also of small to mid size woody debris, much generated by the 1993 harvest of conifers. There were few large hardwood or conifer snags observed, or large woody debris. Although often seen as a useless part of the landscape and a fire hazard, snags provide important habitat for numerous wildlife species. The same is true for large downed logs. Future management schemes should seek to preserve several prominent snags per acre and large downed logs to promote diversity.

Continuing maintenance of roads, trails, and all erosion control measures will protect Jamison Creek and the other associated waterways as a fishery, insect habitat and a water source.

Ancient Trees

Two remnant old growth redwood trees were observed on the property. A 46-inch specimen was noted on cruise plot # 8. A 60-inch specimen was seen at plot # 9. Both trees were highly defective which is why they were not removed in the original clear-cut logging or the 1993 harvest. They are better retained for wildlife habitat, aesthetics, and bio-diversity.

EXHIBIT E

Recreation

This parcel is privately owned and public use of the property is not allowed. Management activities will be designed to provide and maintain habitat diversity. Selective harvesting will be employed to preserve the aesthetics of the existing timber stand. This will provide high quality recreation for the landowners and their invited guests.

Timber Inventory

Results

The tract is a mixed evergreen forest containing pure stands of redwood, pure stands of hardwoods, and some intermixed stands. There are some Douglas fir present as well. Hardwoods were primarily Tanoak and Madrone with some Coast Live Oak. As is typical for the area, a range of micro-site factors, particularly soil type, predicates the distribution of conifers and hardwoods. While the entire property is timberland, 77 acres was typed as presently growing conifers and/or hardwoods. The remaining 6 acres is capable of growing trees, but it is lower site class and currently contains bare soil, grassland, and/or brush.

The property was first harvested around 100 years ago. This harvest was typical for the period, with evidence of clear cutting and burning remaining today. Stumps that survived the early harvest show the potential for growth of large diameter trees on much of the property. A crop of 14 year-old sprouts was initiated by the selective harvest in 1993. Thus there are mostly two age classes present. Many of the mid story conifers are suppressed and growth would be augmented by another selective harvest. Areas with Sur-Catelli complex soils and drier areas have a predominance of hardwoods. There were a moderate number of dead and dieing Tanoak and Madrone observed.

In November 2007, a cruise consisting of eighteen 0.1-acre circular plots was conducted to better assess stand conditions and growth. This comprises a 2.3% sample of the timber stand. While this is a reliable sample for planning purposes, it is not sufficient for valuation purposes. Selected trees were cored to measure growth. A summary of the cruise is found in Appendix A. However, the trends will be discussed below.

Measured heights of typical dominant second growth trees varied from 130' to 140', which indicates a low Site 3. Some dominant trees were as tall as 155 feet tall or as short as 115 feet. So the range was low to high site 3. The higher sites with taller trees were generally in the drainage ways or specific areas of deeper soil. The lower site class was generally found on drier ridge top areas and/or shallower soils. This is average site productivity compared to other Redwood stands along the Coast, and is typical for the Santa Cruz Mountains.

Estimated conifer volumes from these plots would predict an average standing volume of 18,925 board feet per acre. This is broken down into 17,916 board feet per acre of Redwood and 1,009 board feet per acre of Douglas fir. Hardwood volume is estimated at 2,064 cubic feet per acre, or, 16 cords per acre. This is broken out to 1,696 cubic feet per acre of Tanoak and 368 cubic feet per acre of Madrone. Average DBH (diameter at breast height) for commercial conifers is 21.5 inches for redwood and 18 inches for Douglas fir. Total standing volume of conifers on the 77 acres of timberland is estimated at 1,457,228 board feet. Total basal area of conifers is 110 square feet per acre. Total standing volume of hardwoods is 158,895 cubic feet or, 1,241 cords of fuel wood. Average diameter of hardwoods was 16 inches. Total basal area of hardwoods is 118 square feet per acre. There are a total of 91 hardwoods and 45 conifers per acre.

By use of increment boring and a stand table projection, stand growth is estimated to be roughly 1.5% per year for redwood and 5.6% for Douglas fir. This equates to 20,909 board feet per year growth for

EXHIBIT E

redwood and 4,370 board feet of Douglas fir on the ownership. On a per acre basis the total stand is averaging 329 board feet per acre per year of conifers, or 27 cubic feet per acre per year.

Growth of hardwoods (Tanoak and Madrone) is estimated to be 0.75% per year. This equates to 1,192 cubic feet of hardwoods per year on the parcels, or 15.5 cubic feet per acre per year.

For all tree species the stand is growing 42.5 cubic feet per acre per year, almost three times the state standards for rezoning.

Management Practices

Timber management

The stand, in general, has two-age class, the trees that naturally regenerated or sprouted after the first clear cut logging in the late 1800's or early 1900's and those generated by the 1993 harvest. These trees form the bulk of the commercial timber stand. There are other age and size classes that have naturally seeded since that time, but they are mostly suppressed and/or stunted from the excessive shade and competition provided by the older trees. A selective thinning will open up the stand and release many of the trees for more rapid growth.

Hardwood stocking is relatively high for such stands, and this represents both problems and potential for future timber management. One goal of timber management should be to reduce hardwood stocking and increase conifer stocking and growth. Though hardwood trees are currently a marginal economic product, this could change as markets and technology change. The hardwoods on the parcel are some of the highest quality and size hardwoods in the Santa Cruz Mountains. There is no reason that the hardwoods could not be harvested at some point in time if markets are developed. Studies have shown that they can be used for higher economic benefit than the current use for fuel wood or fiber. It is feasible for these trees to be used for furniture making or similar products. Therefore, it is not recommended to utilize the high quality and larger hardwoods for fuel wood or fiber at this time. Lower quality, defective, and smaller hardwoods could be harvested for those uses.

Future selective harvesting of conifers to promote an uneven-aged pattern of stocking and growth is expected to occur on a roughly fifteen-year cycle. A goal of these harvests will be to balance tree size classes throughout the stand and, over time, create the classic **Inverse J curve** (see Exhibit B). When the fully regulated forest is achieved a graph of number of trees per acre by size class should show number of trees declining as size increases. This will be achieved by using the following marking criteria: Maximize spacing between residual trees and remove slower growing and defective trees. While the goal is to achieve a balance of all age and size classes, marking should also focus on removing the larger, over story trees which will allow more sunlight into the mid and under story and increase growth of residuals. Based on this analysis future harvests should be directed at trees in the 26 inch and above size class to achieve the optimal uneven-aged size class distribution. Thinning of trees 20 inches and under should only be done in areas where spacing is overly crowded or where defect or poor structure is observed. Where beneficial, group selection will be used as a cutting practice to allow increased light into a suppressed under story, or to create large enough openings to facilitate tree planting. Due to the complete over story occupation, and limited light in the under story, there is minimal recruitment and light reaching the smaller trees. The stand table shows a lack of smaller tree diameters in the stand. Group selection and harvesting dominant slow growing trees will help to alleviate this condition.

Current stand conditions call for a volume removal of 380,000 board feet every 15 years on a sustainable basis.

EXHIBIT E

Timber Stand Improvement

Intermediate treatments to foster the health and growth of the stand will include sprout thinning and selected hardwood removal. Multiple sprouts resulting from harvesting will be thinned to an average of 2 to 4 healthy sprouts per stump. This practice will be conducted immediately after harvest. This removal of competition will produce healthier and more vigorous young trees in the under story. During this thinning, dead and unhealthy small trees and sprouts will also be removed to reduce fire hazard and competition. This should be done to further improve spacing and promote the health of remaining trees. All thinnings will be chipped or removed, or lopped to within 30" of the ground.

Additional release can be achieved by hardwood removal where needed and practical. This is particularly important for this property due to current abundant hardwood growth. The current stand contains an average basal area of 118 square feet per acre of hardwoods. This is reducing growth on conifers below what is feasible. Hardwood removal will be non-commercial or at best marginally economic, however, it could be combined with a timber harvest to allow for reduced cost. Sometimes the hardwood removal can be economically accomplished with the timber harvest by trading the fuel wood for the increased clean up cost of slash and debris disposal. Removal of hardwoods would be beneficial to allow light into the under story and remove competition from regrowing conifers. Resulting hardwood stump sprouts will provide important deer browse. Where conducting hardwood removal for stand improvement, emphasis should be on removal of hardwoods closest to and competing with the conifers or on deeper soils that can produce higher value conifers over hardwoods.

Tree Planting

While not required, post harvest management can include planting of conifer seedlings within one year of harvest. The redwood should be 2-0 stock (or 1-0 redwood inoculated with mycorhizae). Seed sources should be selected to match the seed zone as closely as possible. Plantings should be limited to those areas that have been opened sufficiently to allow for a reasonable chance of establishment and growth and that contain the deeper soil profile. Trees should be planted on an approximate 8' spacing (430 per acre). Browse protection may be necessary due to the large deer population and, although it will increase the cost of the practice, it is likely to increase the chances of seedling survival. This need should be evaluated prior to planting. A "clean and release" around established seedlings should be conducted by hand within the first three years after planting.

Fire Protection

The major threat to the property from a fire protection standpoint appears to be the possibility of fire spreading into the property from Empire Grade or Jamison Creek Road. There is also the possibility of ignitions due to trespass. The trespass issue can be handled by limiting access. Gates or logs currently block all access roads. The biggest potential problem from a fire standpoint is the large number of small hardwoods present that would provide fuel if fire started on the property. These potential fuels can be lopped and scattered or chipped as part of stand improvement measures. Roads on the parcel provide good access for fire fighting equipment. Overhanging vegetation should be cleared periodically to make access for equipment easier on the primary access road to the parcel.

When harvesting occurs, to reduce fire hazards slash and debris should be loped and scattered to within 30 inches of the ground. To provide more efficient fuel breaks the areas within 50 feet of Empire Grade and Jamison Creek Roads should be kept free of slash greater than 1 inch in diameter. Slash between 50 and 100 feet of these roads should be treated by piling and burning, chipping, burying, removal or lopping to within 12 inches above the ground not later than April 1 of the year following its creation.

EXHIBIT E

References

U.S.D.A. Soil Conservation Service, Soil Survey Santa Cruz County, 1979.

California Wildlife Habitat Relationships System, California Department of Fish and Game.

California Natural Diversity Data Base (Maps and listings).

Arvola, T.F. 1978. *California Forestry Handbook.* State of California, Dept of Forestry. 232. pp.

Cooper, Clark, and Associates. Preliminary Map of Landslide Deposits in Santa Cruz County.

Santa Cruz County Biotic Resource Maps.

Crustali 4.0, Resource Consulting International (A timber inventory program).

Log Scaling and Timber Cruising, Bell and Dillworth, 1997 revised edition.

Forest Mensuration, Husch, Miller and Beers, The Ronald Press Company, 1972.

San Lorenzo Urban River Plan, City of Santa Cruz and the San Lorenzo Urban River Plan Task Force, Adopted June 24, 2003

Resource Inventory, "Aquatic Life", Big Basin Redwoods State Park, June 2000, by Douglas Rischbieter.

NOAA Technical Memorandum NMFS, "Historical Occurrence of Coho Salmon..." Southwest Fisheries Science Center, October 2005.

EXHIBIT E

EXHIBIT A

PLOT INFORMATION

Dataset Name: Codiga 11/28/2007

Tract: Codiga		**Cruise:** Plot Cruise		
Plot Size: 0.1		**No.Points:** 18		**Acres:** 77
Products :	LUMBER	LUMBER	HARDWOOD	HARDWOOD
Measure :	BOARD FEET	BOARD FEET	Cu. Ft.	Cu. Ft.
Species :	1	1	1	1

Codiga: LUMBER-REDWOOD

DBH: 4 - 38 by 2 **Height Measure:** LOGS/BOLTS 1 - 8 by 1 - 16 Logs
Vol Eq: M & G Form Class Bd.Ft.-V" top **Form Class:** 67 **Log Rule:** Scribner

Codiga: LUMBER-DOUGLAS FIR

DBH: 8 - 26 by 2 **Height Measure:** LOGS/BOLTS 1 - 9 by 1 - 16 Logs
Vol Eq: M & G Form Class Bd.Ft.-V" top **Form Class:** 72 **Log Rule:** Scribner

Codiga: HARDWOOD-TANOAK

DBH: 2 - 38 by 2 **Height Measure:** MERCH FEET 20 - 60 by 5
Vol Eq: Minor Form Class Cu.Ft.-3" top **Form Class:** 67 **Log Rule:** Cubic Feet

Codiga: HARDWOOD-MADRONE

DBH: 2 - 38 by 2 **Height Measure:** TOTAL FEET 20 - 60 by 5
Vol Eq: Minor Form Class Cu.Ft.-3" top **Form Class:** 67 **Log Rule:** Cubic Feet

EXHIBIT E

EXHIBIT A

Codiga — **Plot Cruise Volume Summary** — **11/28/2007**

	Per Acre			77 - Acres		Ave Tree		Cruise		
Product	**Volume**	**Trees**	**BA**	**Volume**	**Trees**	**Volume**	**DBH**	**Plts**	**Size**	**%Cr**
LUMBER	**BOARD**									
REDWOOD	17915.54	41.2	103.5	1379497	3172	434.84	21.5	18	0.10	2.3
LUMBER	**17915.54**	**41.2**	**103.5**	**1379497**	**3172**	**434.84**	**21.5**	**18**	**0.10**	**2.3**
LUMBER	**BOARD**									
DOUGLAS FIR	1009.49	3.5	6.0	77731	270	288.43	17.7	18	0.10	2.3
LUMBER	**1009.49**	**3.5**	**6.0**	**77731**	**270**	**288.43**	**17.7**	**18**	**0.10**	**2.3**
HARDWOOD	**Cu. Ft.**									
TANOAK	1696.05	71.8	94.7	130596	5529	23.62	15.6	18	0.10	2.3
HARDWOOD	**1696.05**	**71.8**	**94.7**	**130596**	**5529**	**23.62**	**15.6**	**18**	**0.10**	**2.3**
HARDWOOD	**Cu. Ft.**									
MADRONE	367.52	19.1	23.4	28299	1471	19.24	15.0	18	0.10	2.3
HARDWOOD	**367.52**	**19.1**	**23.4**	**28299**	**1471**	**19.24**	**15.0**	**18**	**0.10**	**2.3**
STAND		**135.6**	**227.6**		**10442**		**17.5**	**18**	**0.10**	**2.3**

EXHIBIT E

EXHIBIT A

Codiga **Plot Cruise Volume Statistics-95%** **11/28/2007**

Product	Plots	Size	Cruise%	Samp Err%	CoeffVar%	StdError
LUMBER						
REDWOOD	18	0.10	2.3	68.4	137.5	5807.31
LUMBER	**18**	**0.10**	**2.3**	**68.4**	**137.5**	**5807.31**
LUMBER						
DOUGLAS FIR	18	0.10	2.3	142.8	287.1	683.18
LUMBER	**18**	**0.10**	**2.3**	**142.8**	**287.1**	**683.18**
HARDWOOD						
TANOAK	18	0.10	2.3	45.8	92.0	367.80
HARDWOOD	**18**	**0.10**	**2.3**	**45.8**	**92.0**	**367.80**
HARDWOOD						
MADRONE	18	0.10	2.3	92.6	186.1	161.25
HARDWOOD	**18**	**0.10**	**2.3**	**92.6**	**186.1**	**161.25**

Stand Level Statistics are computed using Minor Form Class 77 (Cu. Ft.) volumes of all species

STAND	**18**	**0.10**	**2.3**	**32.4**	**65.2**	**1017.79**

EXHIBIT E

EXHIBIT A

Product: LUMBER **Species: REDWOOD** **11/28/2007**

.1 Acre PLOT CRUISE M & G Form Class Bd.Ft.-V" top

	Per Acre			77 Acres	
DBH	**Trees**	**Basal Area**	**BOARD**	**Trees**	**BOARD FEET**
4	1.7	0.1	0.00	128	0.00
6	0.6	0.1	0.40	43	31.09
8	0.6	0.2	4.43	43	341.21
10	2.2	1.2	40.14	171	3090.80
12	4.4	3.5	137.72	342	10604.39
14	4.4	4.8	207.77	342	15998.09
16	3.9	5.4	411.98	299	31722.25
18	2.2	3.9	407.86	171	31405.60
20	2.2	4.8	622.77	171	47953.03
22	3.9	10.3	1399.64	299	107772.00
24	3.3	10.5	1674.00	257	128898.00
26	2.2	8.2	1501.86	171	115643.60
28	2.2	9.5	1944.60	171	149733.90
30	3.9	19.1	4117.30	299	317031.90
32	0.6	3.1	688.33	43	53001.62
34	1.7	10.5	2623.48	128	202008.30
36	0.6	3.9	999.10	43	76930.66
38	0.6	4.4	1134.16	43	87330.63
	41.2	103.5	17915.54	3164	1379497.00

1

EXHIBIT E

EXHIBIT A

Product: LUMBER **Species: DOUGLAS FIR** **11/28/2007**

.1 Acre PLOT CRUISE M & G Form Class Bd.Ft.-V" top

	Per Acre			77 Acres	
DBH	**Trees**	**Basal Area**	**BOARD**	**Trees**	**BOARD FEET**
8	0.6	0.2	5.94	43	457.31
16	1.7	2.3	274.02	128	21099.48
22	0.6	1.5	272.28	43	20965.37
26	0.6	2.0	457.25	43	35208.39
	3.5	6.0	1009.49	257	77730.55

EXHIBIT E

EXHIBIT A

Product: HARDWOOD **Species: TANOAK** **11/28/2007**

.1 Acre PLOT CRUISE Minor Form Class Cu.Ft.-3" top

	Per Acre			77 Acres	
DBH	**Trees**	**Basal Area**	**Cu. Ft.**	**Trees**	**Cu. Ft.**
2	0.6	0.0	0.00	43	0.00
4	3.9	0.3	2.28	299	175.57
6	12.2	2.4	31.30	941	2410.35
8	7.8	2.7	36.72	599	2827.39
10	3.9	2.1	33.98	299	2616.53
12	8.9	7.0	109.52	684	8433.09
14	6.7	7.1	109.33	513	8418.28
16	4.4	6.2	110.54	342	8511.58
18	5.0	8.8	154.96	385	11931.80
20	5.6	12.1	209.62	428	16140.36
22	3.3	8.8	175.05	257	13478.78
24	4.4	14.0	275.18	342	21188.54
26	2.2	8.2	160.13	171	12329.75
28	1.7	7.1	138.24	128	10644.21
34	0.6	3.5	66.70	43	5135.56
38	0.6	4.4	82.50	43	6352.72
	71.8	94.7	1696.05	5517	130594.50

EXHIBIT E

EXHIBIT A

Product: HARDWOOD **Species: MADRONE** **11/28/2007**

.1 Acre PLOT CRUISE Minor Form Class Cu.Ft.-3" top

	Per Acre			77 Acres	
DBH	**Trees**	**Basal Area**	**Cu. Ft.**	**Trees**	**Cu. Ft.**
4	0.6	0.0	0.24	43	18.66
8	2.8	1.0	11.80	214	908.81
10	1.1	0.6	8.69	86	668.96
12	0.6	0.4	6.18	43	476.14
14	6.1	6.5	90.94	471	7002.15
16	3.3	4.7	74.65	257	5748.36
18	1.7	2.9	46.59	128	3587.51
20	0.6	1.2	18.92	43	1457.05
22	1.7	4.4	78.61	128	6053.00
24	0.6	1.7	30.90	43	2379.68
	19.1	23.4	367.52	1456	28300.32

4

EXHIBIT E

Dataset: CODIGA 11/28/2007

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
1	HARDWOOD	MADRONE	14.0	40.0	2
1	HARDWOOD	MADRONE	18.0	50.0	1
1	HARDWOOD	MADRONE	10.0	40.0	1
1	HARDWOOD	MADRONE	8.0	30.0	1
1	HARDWOOD	TANOAK	28.0	60.0	1
1	HARDWOOD	TANOAK	20.0	50.0	2
1	HARDWOOD	TANOAK	24.0	60.0	2
1	HARDWOOD	TANOAK	22.0	60.0	1
1	HARDWOOD	TANOAK	18.0	50.0	1
1	LUMBER	REDWOOD	14.0	1.0	1
1	LUMBER	REDWOOD	16.0	2.0	1
1	LUMBER	REDWOOD	18.0	3.0	1
1	LUMBER	REDWOOD	12.0	1.0	2
1	LUMBER	REDWOOD	30.0	7.0	1
2	HARDWOOD	MADRONE	4.0	20.0	1
2	HARDWOOD	MADRONE	22.0	60.0	1
2	HARDWOOD	MADRONE	24.0	60.0	1
2	HARDWOOD	MADRONE	16.0	50.0	2
2	HARDWOOD	MADRONE	14.0	40.0	3
2	HARDWOOD	MADRONE	8.0	30.0	2
2	HARDWOOD	MADRONE	10.0	40.0	1
2	HARDWOOD	MADRONE	20.0	50.0	1
2	HARDWOOD	MADRONE	18.0	50.0	1
2	HARDWOOD	TANOAK	4.0	20.0	1
2	LUMBER	DOUGLAS FIR	8.0	1.0	1
3	HARDWOOD	TANOAK	38.0	60.0	1
3	HARDWOOD	TANOAK	22.0	60.0	2
3	HARDWOOD	TANOAK	10.0	40.0	1
3	HARDWOOD	MADRONE	16.0	50.0	1
3	LUMBER	REDWOOD	28.0	7.0	1
3	LUMBER	REDWOOD	20.0	4.0	1
3	LUMBER	REDWOOD	14.0	1.0	1
4	HARDWOOD	TANOAK	22.0	60.0	1
4	HARDWOOD	TANOAK	24.0	60.0	2
4	HARDWOOD	TANOAK	26.0	60.0	2
4	HARDWOOD	TANOAK	6.0	30.0	3
4	HARDWOOD	TANOAK	12.0	40.0	3
4	HARDWOOD	TANOAK	4.0	20.0	1
4	HARDWOOD	TANOAK	16.0	50.0	2
5	LUMBER	REDWOOD	12.0	1.0	2
5	LUMBER	REDWOOD	28.0	7.0	2
5	LUMBER	REDWOOD	10.0	1.0	1
5	LUMBER	REDWOOD	22.0	4.0	3

EXHIBIT E

EXHIBIT A

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
5	LUMBER	REDWOOD	34.0	8.0	1
5	LUMBER	REDWOOD	18.0	3.0	1
5	LUMBER	REDWOOD	14.0	1.0	1
5	LUMBER	REDWOOD	38.0	8.0	1
5	LUMBER	REDWOOD	24.0	5.0	1
5	LUMBER	REDWOOD	16.0	2.0	1
5	LUMBER	REDWOOD	6.0	1.0	1
6	LUMBER	REDWOOD	36.0	8.0	1
6	LUMBER	REDWOOD	12.0	1.0	2
6	LUMBER	REDWOOD	18.0	3.0	1
6	LUMBER	REDWOOD	24.0	5.0	1
6	LUMBER	REDWOOD	26.0	6.0	1
6	HARDWOOD	TANOAK	18.0	50.0	1
6	HARDWOOD	MADRONE	22.0	60.0	1
7	HARDWOOD	MADRONE	14.0	40.0	1
7	HARDWOOD	MADRONE	8.0	30.0	1
7	LUMBER	REDWOOD	14.0	1.0	1
7	LUMBER	REDWOOD	22.0	4.0	1
7	LUMBER	REDWOOD	16.0	2.0	1
7	HARDWOOD	TANOAK	4.0	20.0	1
7	HARDWOOD	TANOAK	8.0	30.0	4
7	HARDWOOD	TANOAK	6.0	30.0	4
7	HARDWOOD	TANOAK	14.0	40.0	3
7	HARDWOOD	TANOAK	18.0	50.0	2
7	HARDWOOD	TANOAK	20.0	50.0	1
7	HARDWOOD	TANOAK	16.0	50.0	3
7	HARDWOOD	TANOAK	22.0	60.0	1
7	HARDWOOD	TANOAK	10.0	40.0	2
7	HARDWOOD	TANOAK	12.0	40.0	4
8	HARDWOOD	MADRONE	14.0	40.0	1
8	LUMBER	REDWOOD	32.0	7.0	1
8	HARDWOOD	TANOAK	6.0	30.0	3
8	HARDWOOD	TANOAK	14.0	40.0	3
8	HARDWOOD	TANOAK	18.0	50.0	1
8	HARDWOOD	TANOAK	12.0	40.0	2
8	HARDWOOD	TANOAK	20.0	50.0	1
8	HARDWOOD	TANOAK	8.0	30.0	2
9	HARDWOOD	TANOAK	26.0	60.0	2
9	HARDWOOD	TANOAK	34.0	60.0	1
9	LUMBER	REDWOOD	16.0	2.0	1
10	LUMBER	DOUGLAS FIR	16.0	3.0	1
10	LUMBER	DOUGLAS FIR	26.0	6.0	1
10	HARDWOOD	TANOAK	4.0	20.0	1
10	HARDWOOD	TANOAK	10.0	40.0	1

EXHIBIT E

EXHIBIT A

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
10	HARDWOOD	TANOAK	8.0	30.0	1
10	HARDWOOD	MADRONE	16.0	50.0	1
11	HARDWOOD	TANOAK	4.0	20.0	2
11	HARDWOOD	TANOAK	8.0	30.0	4
11	HARDWOOD	TANOAK	6.0	30.0	2
11	HARDWOOD	TANOAK	2.0	20.0	1
11	HARDWOOD	TANOAK	18.0	50.0	2
11	HARDWOOD	TANOAK	22.0	60.0	1
11	HARDWOOD	TANOAK	20.0	50.0	1
11	HARDWOOD	TANOAK	14.0	40.0	1
11	HARDWOOD	TANOAK	10.0	40.0	1
11	HARDWOOD	TANOAK	28.0	60.0	2
11	HARDWOOD	TANOAK	12.0	40.0	2
11	HARDWOOD	MADRONE	14.0	40.0	1
11	LUMBER	REDWOOD	10.0	1.0	2
11	LUMBER	REDWOOD	20.0	4.0	1
11	LUMBER	REDWOOD	30.0	7.0	1
11	LUMBER	REDWOOD	16.0	2.0	1
11	LUMBER	REDWOOD	26.0	6.0	2
11	LUMBER	REDWOOD	22.0	4.0	1
12	LUMBER	DOUGLAS FIR	16.0	3.0	2
12	LUMBER	DOUGLAS FIR	22.0	5.0	1
12	HARDWOOD	MADRONE	22.0	60.0	1
12	HARDWOOD	MADRONE	18.0	50.0	1
12	HARDWOOD	MADRONE	16.0	50.0	2
12	HARDWOOD	MADRONE	12.0	40.0	1
12	HARDWOOD	MADRONE	8.0	30.0	1
12	HARDWOOD	MADRONE	14.0	40.0	1
12	HARDWOOD	TANOAK	4.0	20.0	1
12	HARDWOOD	TANOAK	6.0	30.0	2
12	HARDWOOD	TANOAK	20.0	50.0	1
13	LUMBER	REDWOOD	34.0	8.0	2
13	LUMBER	REDWOOD	30.0	7.0	2
13	LUMBER	REDWOOD	12.0	1.0	2
13	LUMBER	REDWOOD	4.0	1.0	2
13	LUMBER	REDWOOD	18.0	3.0	1
13	LUMBER	REDWOOD	26.0	6.0	1
13	LUMBER	REDWOOD	20.0	4.0	1
13	LUMBER	REDWOOD	8.0	1.0	1
13	LUMBER	REDWOOD	10.0	1.0	1
14	LUMBER	REDWOOD	28.0	6.0	1
14	LUMBER	REDWOOD	20.0	4.0	1
14	LUMBER	REDWOOD	4.0	1.0	1
14	LUMBER	REDWOOD	14.0	1.0	1

EXHIBIT E

EXHIBIT A

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
14	HARDWOOD	TANOAK	20.0	50.0	2
14	HARDWOOD	TANOAK	12.0	40.0	2
14	HARDWOOD	TANOAK	16.0	50.0	3
14	HARDWOOD	TANOAK	14.0	40.0	1
14	HARDWOOD	TANOAK	6.0	30.0	2
14	HARDWOOD	TANOAK	24.0	60.0	2
14	HARDWOOD	TANOAK	18.0	50.0	1
15	LUMBER	REDWOOD	30.0	7.0	3
15	LUMBER	REDWOOD	24.0	5.0	4
15	LUMBER	REDWOOD	22.0	4.0	2
15	LUMBER	REDWOOD	14.0	1.0	3
15	LUMBER	REDWOOD	16.0	2.0	2
16	HARDWOOD	TANOAK	14.0	40.0	2
16	HARDWOOD	TANOAK	6.0	30.0	2
16	HARDWOOD	TANOAK	12.0	40.0	3
16	HARDWOOD	TANOAK	20.0	50.0	2
17	HARDWOOD	TANOAK	8.0	30.0	3
17	HARDWOOD	TANOAK	14.0	40.0	2
17	HARDWOOD	TANOAK	18.0	50.0	1
17	HARDWOOD	MADRONE	14.0	40.0	2
18	HARDWOOD	TANOAK	6.0	30.0	4
18	HARDWOOD	TANOAK	24.0	60.0	2
18	HARDWOOD	TANOAK	10.0	40.0	2
18	HARDWOOD	TANOAK	2.0	0.0	0

EXHIBIT B

Typical Inverse J Curve

In an uneven-aged forest, the trees in the crown canopy are of many heights, resulting in an irregular stand profile as viewed from a vertical cross-section. The [illegible] shade-tolerant species tend to form uneven-aged stands. Cutting methods which remove only scattered trees at short intervals maintain forest conditions favorable to shade-tolerant species and an uneven-aged stand.

The typical diameter distribution for an uneven-aged stand is a large number of small trees with decreasing frequency as the diameter increases, as shown in Fig. 17–2. The diameter distribution for small areas

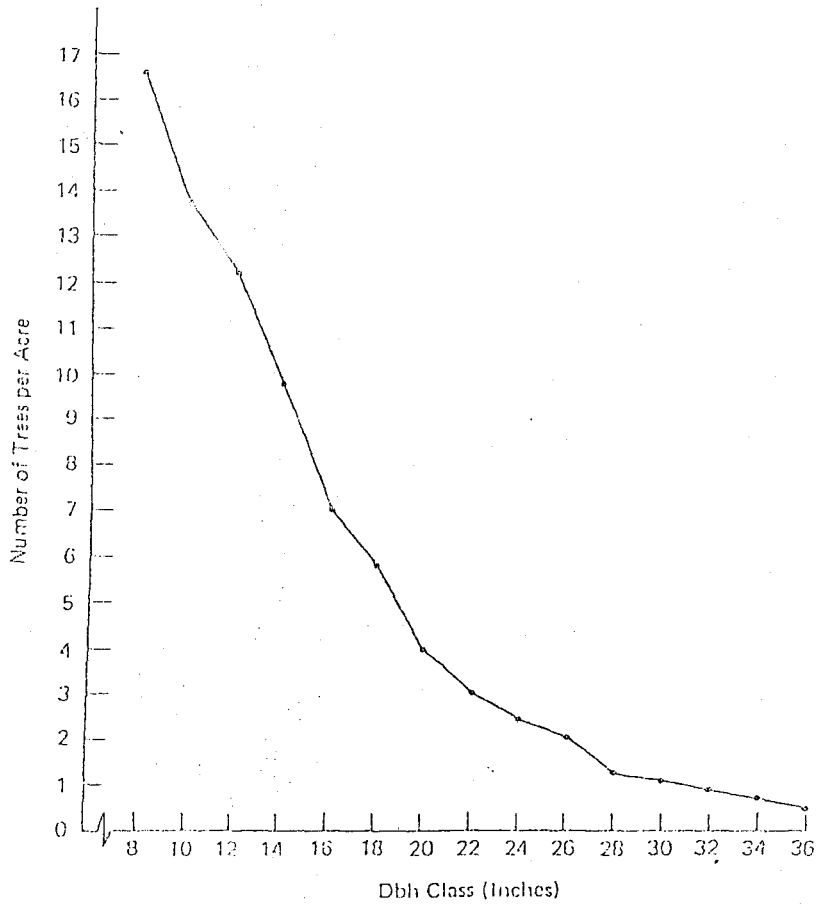


Fig. 17–2. Diameter distribution per acre for an uneven-aged virgin stand of beech–birch–maple–hemlock (adapted from Meyer and Stevenson, 1943).

EXHIBIT E

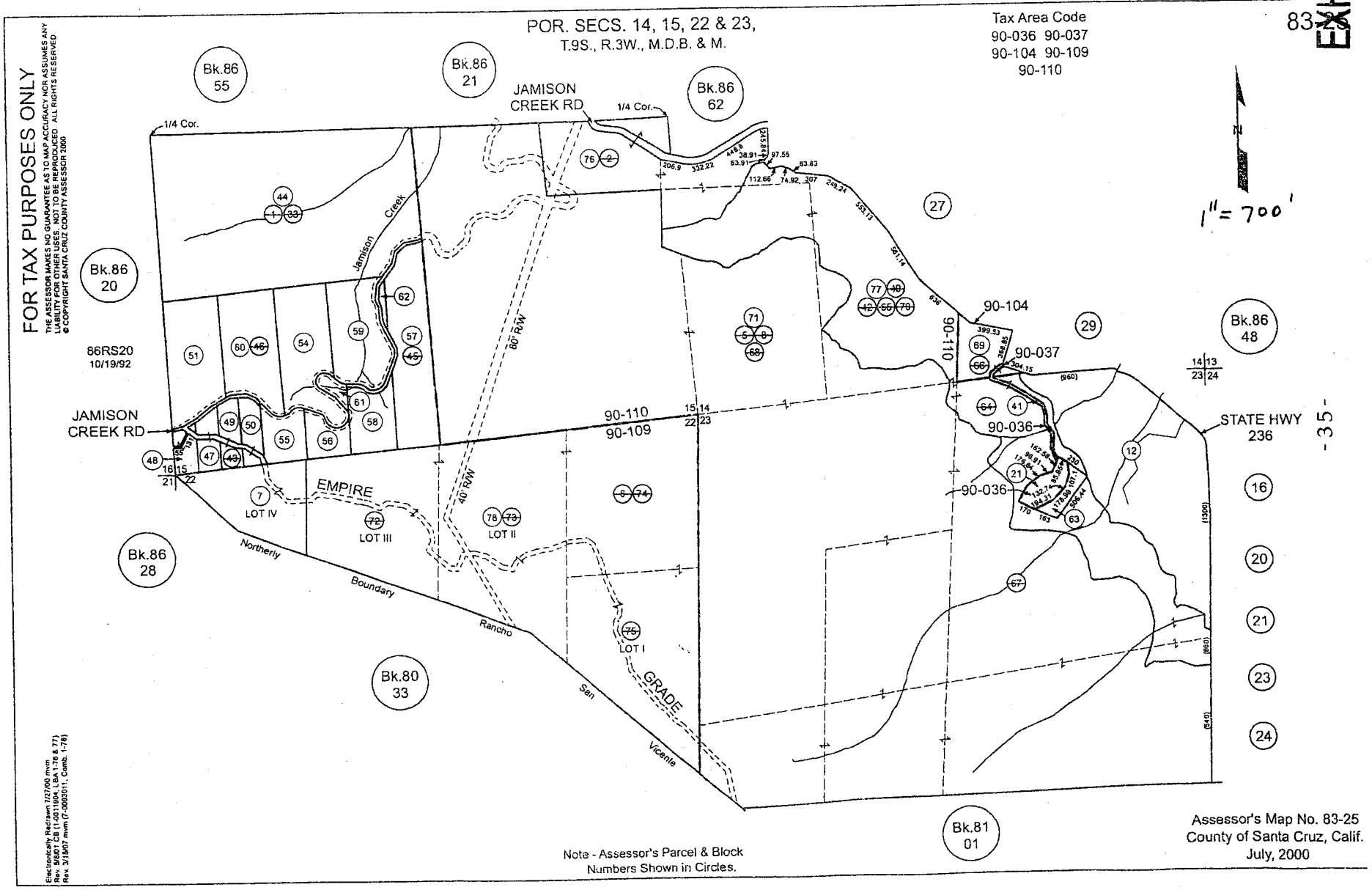
EXHIBIT C

CODIGA TRACT

SANTA CRUZ COUNTY APN'S

083-251-47,48,49,50,51,55,56,57,58,59,60,61.

EXHIBIT E



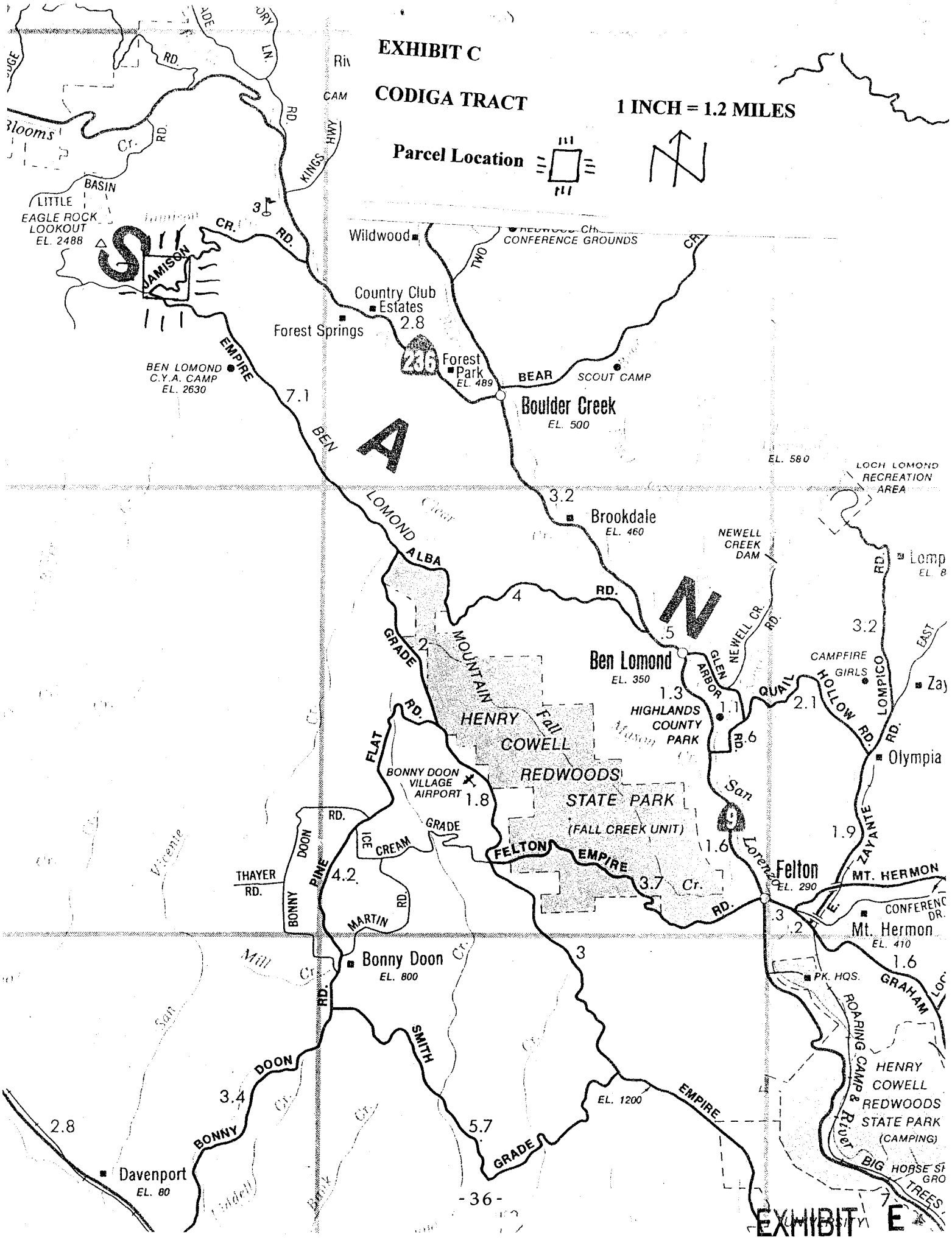


EXHIBIT C
CODIGA TRACT
1 INCH = 1.2 MILES
Parcel Location
LITTLE EAGLE ROCK LOOKOUT EL. 2488
JAMISON
CR.
RD.
KINGS
HWY
Wildwood
CONFERENCE GROUNDS
TWO
Country Club Estates
Forest Springs
2.8
Forest Park EL. 489
BEAR
SCOUT CAMP
BEN LOMOND C.Y.A. CAMP EL. 2630
EMPIRE
7.1
Boulder Creek EL. 500
BEN LOMOND
ALBA
3.2
Brookdale EL. 460
EL. 580
LOCH LOMOND RECREATION AREA
NEWELL CREEK DAM
Lomp
EL. 8
4
RD.
.5
NEWELL CR. RD.
3.2
EAST
CAMPFIRE GIRLS
Zay
GRADE
2
MOUNTAIN
Ben Lomond EL. 350
GLEN ARBOR
1.3
HIGHLANDS COUNTY PARK
1.1
QUAIL HOLLOW RD.
2.1
LOMPICO RD.
Olympia
HENRY COWELL REDWOODS STATE PARK (FALL CREEK UNIT)
Fall
FLAT
RD.
BONNY DOON VILLAGE AIRPORT
1.8
.6
San Lorenzo
1.6
1.9
ZAYANTE
ICE CREAM
GRADE
FELTON EMPIRE
3.7
Cr.
Felton EL. 290
MT. HERMON
THAYER RD.
BONNY DOON RD.
PINE
4.2
MARTIN
RD.
.3
.2
CONFERENC DR.
Mt. Hermon EL. 410
1.6
Bonny Doon EL. 800
3
PK. HQS.
GRAHAM
ROARING CAMP & BIG TREES
HENRY COWELL REDWOODS STATE PARK (CAMPING)
SMITH
DOON
3.4
BONNY
EL. 1200
EMPIRE
5.7
GRADE
2.8
Davenport EL. 80
Mill Cr.
San Vicente Cr.
Laguna Cr.
Bonny Doon Cr.
Zayante Cr.
Bear Cr.
Newell Cr.
Two Bar Cr.
Big Trees & Santa Cruz Railroad
EXHIBIT E

CODIGA TIMBER HARVEST PLAN

T9S R3W M.D.B.M. Portion of Section 15 1"=375'

Property Boundary		Timber Harvest Boundary	
Paved Public Road		Existing, seasonal road	
Proposed, seasonal road	P	Existing skid trail	
Proposed skid trail		Existing landing	⊙
Proposed landing	○	Watercourse Class	3
Spring	✳	Watercourse crossing	a – d
		old unstable area	

EXHIBIT C

CODIGA TRACT

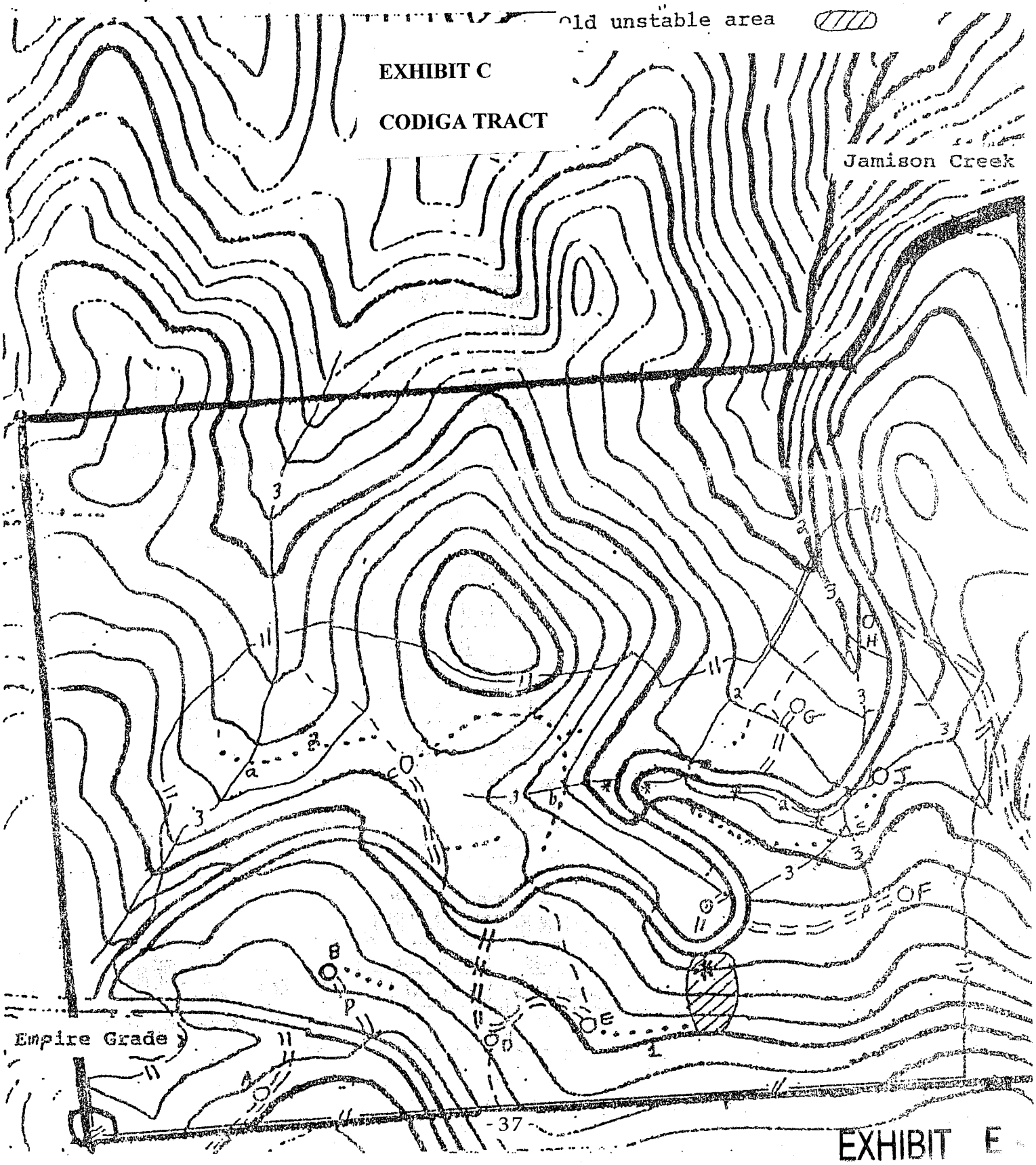


EXHIBIT E

CODIGA TIMBER HARVEST PLAN

T9S R3W M.D.B.M. Portion of Section 15 1"=375'

Property Boundary		Timber Harvest Boundary	
Paved Public Road		Existing, seasonal road	
Proposed, seasonal road	P	Existing skid trail	
Proposed skid trail		Existing landing	O
Proposed landing	O	Watercourse Class	3
Spring	*	Watercourse crossing	a – d
		old unstable area	

EXHIBIT C

CODIGA TRACT

TIMBER CRUISE PLOT LOCATIONS

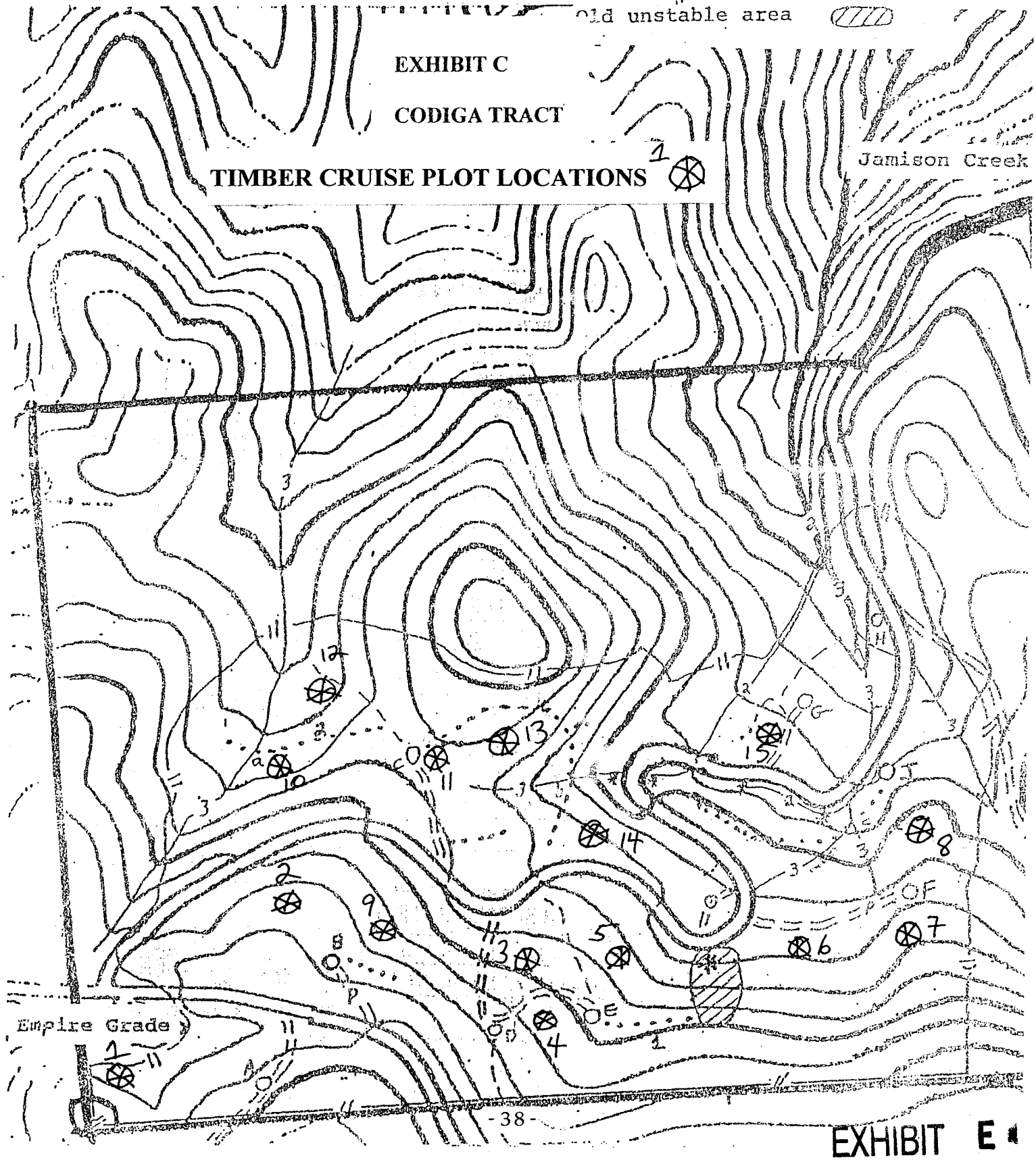


EXHIBIT E

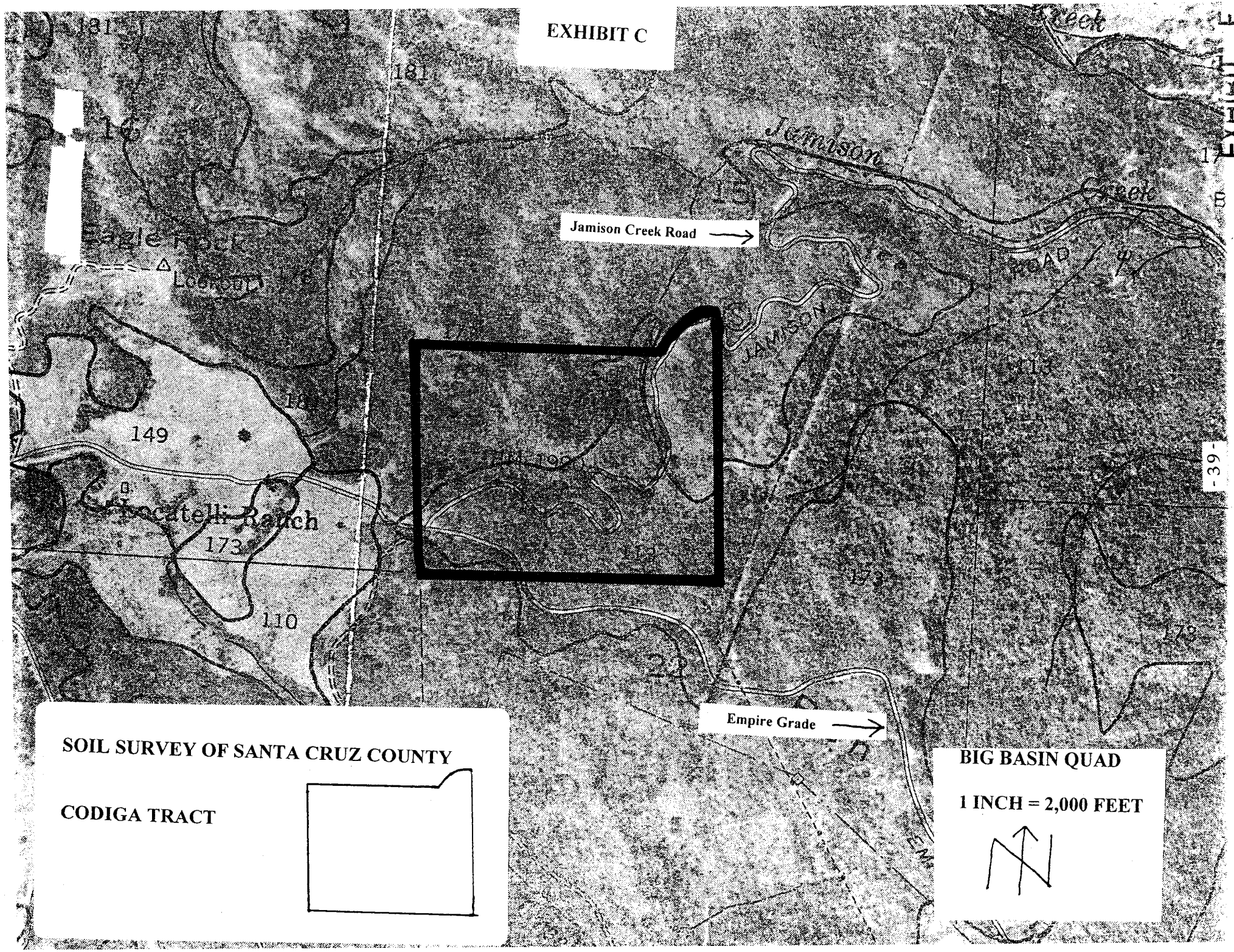


EXHIBIT C
Jamison Creek Road
Empire Grade
Eagle Rock
Lookout
Locatelli Ranch
149
173
110
181
SOIL SURVEY OF SANTA CRUZ COUNTY
CODIGA TRACT
BIG BASIN QUAD
1 INCH = 2,000 FEET
EXHIBIT E
- 39 -

EXHIBIT D

STOCKING ANALYSIS

Background: Government Code Section 51113(c)(3)(A) requires that parcels meet the timber stocking standards set forth in Section 4561 of the Public Resources Code and Section 913.8(a)(1) of the California Code of Regulations (CCR). The timber stocking standards pertaining to CCR Section 913.8(a) are met if the timberland contains an average, minimum post-harvest basal area of at least 75 square feet/acre for Site III land. The requirements of PR C 4561 are less stringent.

Analysis: Current stocking is 110 square feet of basal area per acre of conifers, well above the required standards. There will be no problem in leaving 75 square feet of basal area per acre after each selective harvest.

WOOD FIBER ANALYSIS

Background: Government Code Section 51113(c)(4) requires that parcels zoned timber production must meet the definition of "Timberland" which is defined in Government Code Section 511 04(f) as: "Privately owned land, or land acquired for state purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre".

Analysis: Field review of the property suggests that the parcel is capable of producing wood fiber in excess of 15 cubic feet/acre/year. The timberland is currently growing 329 board feet per acre per year of conifers. One cubic foot equals 12 board feet. Therefore the timberland is growing 27 cubic feet per acre per year of conifers. Growth of hardwoods is 15.5 cubic feet per acre per year. For all tree species the stand is growing 42.5 cubic feet per acre per year, almost three times the state standards for rezoning to TPZ.

COMPATIBLE USE ANALYSIS

The primary land use on the parcel has been commercial timber production. In the future, development for home sites is possible. The large acreage and sufficient gentle slopes means that siting of residences can and should be done without limiting timber production and harvesting.

EXHIBIT E

EXHIBIT E

STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY
RM-63(6/86)

TIMBER HARVESTING PLAN

(FOR ADMINISTRATIVE USE ONLY
(THP No. 1-92-299 SCR
(Date Recd AUG 21 1992
(Date Filed AUG 31 1992
(Date Apprvd OCT 7 1992
(==========

This Timber Harvesting Plan (THP) form, when properly completed, is designed to comply with the Forest Practice Act (FPA) and Board of Forestry rules. See separate instructions for information on completing this form. NOTE: The form must be printed legibly in ink or typewritten.

1. TIMBER OWNER(S): Name: William Codiga

   Address: 525 High Street

   City: Santa Cruz State: CA Zip: 95060 Phone: 408-426-3322

2. TIMBERLAND OWNER(S): Name: same as #1

   Address:

   City: State: Zip: Phone:

3. TIMBER OPERATOR(S): Name: G & H Tree Service

   Address: 240 8th Avenue license #: A6750

   City: Santa Cruz State: CA Zip: 95062 Phone: 408-479-1263

4. PLAN SUBMITTER(S): Name: same as #1

   If the plan submitter is different from 1,2,or 3 explain authority to submit plan:

5. Person to contact on-site who is responsible for the conduct of the operation:

   Name: Roy Webster

   Address: 136 Rancho Del Mar

   City: Aptos State: CA Zip: 95003 Phone: 408-688-8787

6. RPF preparing the THP: Name: Roy Webster

   Address: 136 Rancho Del Mar Registration #: 1765

   City: Aptos State: CA Zip: 95003 Phone: 408-688-8787

CDF STOCK NO. 7540-130-0063

Received CDF
REGION 1
AUG 21 1992
RESOURCE MANAGEMENT

1

Jamison Cr.

EXHIBIT E

7. Expected commencement date of timber operations: Five days after date of approval

8. Expected completion date of timber operations: Three years after decision date 10/6/95

9. Forest products to be harvested: Sawlogs and hardwoods

10. The timber operation is to be within: (check the appropriate boxes)

1.[x] Coast Forest District
2.[ ] Northern Forest District
3.[ ] Southern Forest District
4.[x] Southern Subdistrict of the Coast Forest District
5.[ ] High-Use Subdistrict of the

11. Location of the timber operation by legal description:

Base and Meridian: [x] Mount Diablo, [ ] Humboldt, [ ] San Bernardino

Section	Township	Range	Approximate Acreage	County	(Optional, Assessor's Parcel No.)
15	9S	3W	77	Santa Cruz	
TOTAL ACREAGE			77		

NOTE: Additional sheets may be necessary.

12.[ ] Yes [x] No Is a timberland conversion permit in effect? If yes, list permit number and date of expiration:

13.[ ] Yes [x] No Is there a THP on file with CDF for any portion of the plan area for which a report of satisfacstocking has not been issued by CDF?
If yes, identify the THP number:

14.[x] Yes [ ] No Is any part of the plan within a special treatment area, Tahoe Regional Planning Agency jurisdiction, or a county which has special rules?
If yes, identify the special area: Santa Cruz County

SILVICULTURE

15. Check the method or treatments which are to be applied, and provide any other information required by the rules in an addendum:

1[ ] Clearcutting 2[ ] Shelterwood, preparatory step 3[ ] Shelterwood, seed step
4[ ] Shelterwood, removal step 5[ ] Seed tree, seed tree step 6[ ] Seed tree, seed tree removal step

7[x] Selection - designate basal area stocking standards to be met: 75 sq.ft. as per 14 CCR 913.8(a) Site III timberland

8[ ] Commercial thinning - designate basal area stocking standards to be met:

9[ ] Sanitation salvage - when will stocking be met:
10[ ] Special treatment areas 11[ ] Rehabilitation of understocked areas
12[ ] Alternative prescription 13[ ] Transition method
NOTE: Where the level of stocking is based upon timberland site, timberland sites must be shown on the map.

EXHIBIT E

16. a.[ ] Yes [x] No Are any exceptions to the standard silvicultural methods or treatments permitted in the rules proposed for this plan? If yes, explain and justify the exception in an addendum.

b.[ ] Yes [x] No Will artificial regeneration be required to restock the logged area?

17. [ ] Yes [x] No Are broadleaf or optional species proposed for management? See item 18.

18. [x] Yes [ ] No Are broadleaf or optional species to be used to meet stocking standards?

If the answer to items 17 or 18 is yes, list the species and provide the information required by the rules:

Some areas within the harvest boundary are predominantly tanoak and coast live oak, with interspersed redwood and Douglas fir. Therefore hardwood stands will be stocked with hardwoods and conifer stands will be stocked with conifers based on the preharvest characteristics of the stand.

HARVESTING PRACTICES AND EROSION CONTROL

19. Indicate type of yarding systems to be used this plan:

1[x] Tractor, skidder, forwarder 2[ ] Balloon, helicopter 3[ ] Cable, ground-lead
4[ ] Cable, high-lead 5[ ] Cable, skyline 6[ ] Animal

7[ ] Other:

20. [ ] Yes [x] No Will tractor constructed layouts be used?

21. [x] Yes [ ] No Will tractors be used for directional tree pulling?

Check items 22 through 25 that apply to the use of tractors.

22. [ ] Yes [x] No Operations on unstable soils or slide areas?
23. [ ] Yes [x] No Operations on slopes over 65%?
24. [x] Yes [ ] No Operations on slopes over 50% with high or extreme EHR?
25. [ ] Yes [x] No Operations within cable yarding areas?

If any of items 22 through 25 are answered yes, explain and justify as required by the rules:

See Addendum

26. Indicate erosion hazard ratings present on this THP:
[ ] Low, [ ] Moderate, [x] High, [ ] Extreme

27. Describe soil stabilization measures to be implemented or any additional erosion control measures proposed in this THP where required by the rules:

Waterbars will be installed as per 14 CCR 914.6 on all skid trails and truck roads. See addendum for areas to be straw mulched and/or slashed. Straw mulch will be applied at the rate of one bale per 400 sq.ft., this is equivalent to a 6 inch depth of straw over 400 sq.ft.

EXHIBIT E

28. [ ] Yes [x] No Are any alternative practices or exceptions to the standard harvesting or erosion control practices permitted in the rules proposed for this plan? If yes, explain and justify:

29. [x] Yes [ ] No Are timber operations proposed for the winter period? If yes, provide a winter period plan in an addendum or specify compliance with 14 CAC 914.7(c),934.7(c) or 954.7(c). No winter period plan is needed for cable, helicopter, or balloon yarding.

ROADS AND LANDINGS

30. [x] Yes [ ] No Will any roads or landings be constructed or reconstructed? If yes, check items 31 through 37 that apply:

31. [ ] Yes [x] No Will new roads be wider than single lane with turnouts?

32. [ ] Yes [x] No Will any landings exceed the maximum size specified in the rules?

33. [ ] Yes [x] No Are logging roads or landings proposed in areas of unstable soils or known slide-prone areas?

34. [ ] Yes [x] No Will new roads exceed a grade of 15% or pitches of 20% for distance greater than 500 feet?

35. [ ] Yes [x] No Are roads to be constructed, other than crossings, within the watercourse and lake protection zone of a class I or II watercourse?

36. [ ] Yes [x] No Will roads or landings longer than 100 feet in length be located on slopes over 65%, or on slopes over 50% which are within 100 feet of the boundary of a watercourse or lake protection zone?

37. [ ] Yes [x] No Are exemptions proposed for flagging or otherwise identifying the location of roads to be constructed?

38. If any of items 31 through 37 are answered yes, explain, justify, and give site-specific measures to reduce adverse impacts or, if there is any additional or special information concerning the construction and/or maintenance of roads or landings, if required by the rules. Provide necessary information in an addendum.

WATERCOURSE AND LAKES

39. [x] Yes [ ] No Are there any watercourses or lakes which contain class I through IV waters on or adjacent to the plan area? If yes, complete items 40 through 50.

40. [ ] Yes [x] No Are any in-lieu practices and/or alternative practices proposed for watercourse or lake protection? If yes, explain and justify:

Are any exceptions proposed for the following watercourse and lake protection zone practices? Check items 41 through 48 that apply.

41. [ ] Yes [x] No Exclusion of the use of watercourses, marshes, wet meadows, and other wet areas, for landings, roads, or tractor roads?

42. [ ] Yes [x] No Retention of non-commercial vegetation bordering and covering meadows and wet areas?

4

43. [ ] Yes [x] No Directional felling of trees within the zone away from the watercourse or lake?

44. [ ] Yes [x] No Increase or decrease of width(s) of the zone(s)?

45. [ ] Yes [x] No Protection of watercourses which conduct class IV waters?

46. [x] Yes [ ] No Exclusion of heavy equipment from the zone?

47. [ ] Yes [x] No Retention of 50% of the overstory canopy in the zone?

48. [ ] Yes [x] No Retention of 50% of the understory in the zone?

If any of items 41 through 48 are answered yes, explain and justify if required by the rules and provide necessary information in an addendum.

49. [x] Yes [ ] No Are residual trees or harvest trees going to be marked within the watercourse or lake protection zone? If no, explain:

50. In an addendum describe the protective measures and zone widths for the watercourse and lake protection zones that are in the plan area.

WILDLIFE

51. [ ] Yes [x] No Are any known rare or endangered species or species of special concern, including key habitat, associated with the THP area? If yes, in an addendum identify the species and the provisions to be taken for protection of the species.

52. [ ] Yes [x] No Are there any snags which must be felled for fire protection or other reasons? If yes, describe which snags are going to be felled:

53. [ ] Yes [x] No Are any other provisions for wildlife protection required by the rules? If yes, describe provisions:

CULTURAL RESOURCES

54.a. [x] Yes [ ] No Has an archaeological survey been made of the areas to be harvested?

b. [x] Yes [ ] No Have the California Archaeological Inventory records been checked for any recorded archaeological or historical sites located in the area to be harvested?

55. [ ] Yes [x] No Are there any archaeological or historical sites located in the area to be harvested? If yes, describe in an addendum how the sites are to be protected.

SEE ARCHEOLOGICAL AND HISTORICAL RESOURCES SURVEY, ATTACHED.

EXHIBIT E

HAZARD REDUCTION

56. What type of slash treatment will be used in the fire protection zone?

1[ ] Pile and burn, 2[x] Lopping, 3[ ] Other:
4[ ] Not applicable. No fire protection zone present

57. [ ] Yes [ ] No If the clearcutting method is used, will broadcast burning be used for site preparation?
NOT APPLICABLE

58. If piling and burning is to be used for hazard reduction, who will be responsible for compliance?

1[ ] Timber owner, 2[ ] Timber operator, 3[ ]Timberland owner
NOT APPLICABLE

PUBLIC NOTICE

59. [x] Yes [ ] No Are there any ownerships within 300 feet of the plan boundary which are owned by persons other than the persons executing this plan? If yes, a list of the names and addresses of the adjacent property owners and a Notice of Intent to Harvest Timber must be included with the plan.

PESTS

60. [ ] Yes [x] No Are there any adverse insect, disease, or pest problems of significance in the plan area? If yes, describe the mitigation measures, if any, to improve the health and productivity of the stand in an addendum.

OTHER INFORMATION

61. Are there any other existing or planned land use activities including but not limited to other THPs in the area of the proposed THP which may combine with the effects of your timber harvesting operation to cause significant adverse cumulative environmental effects? [ ] Yes,[x] No If yes, please describe the other land use(s) and the likely effect as well as any mitigation which would reduce the negative effect in an addendum.

ATTACHMENTS

62. Check if the attachments listed are included with the plan:
1[ ] Notice of Stream Bed Alteration to Department of Fish and Game (A copy of this notice is attached to the instructions for your use.)
2[x] Estimated Surface Soil Erosion Hazard Calculations
3[x] Notice of Intent to Harvest Timber and a list of names and addresses of adjacent property owners
4[x] Maps
5[ ] Addendum for silviculture information
6[ ] Written notice of plan to the timber operator, timberland owner, or timber owner that did not sign the THP.

REGISTERED PROFESSIONAL FORESTER

63. I have the following authority, responsibilities, and limitation for preparation or administration of the THP and timber operation:

I will be responsible for all aspects of this timber harvest from plan preparation through completion of the woods operation. This includes tree marking and any necessary plan amendments. I am designating John Andersen as my designee for this timber harvest.

EXHIBIT E

64. I have notified the timber owner and the timberland owner, in writing, of their responsibilities for:
   1. [x] Yes [ ] No The stocking requirements of the rules
   2. [x] Yes [ ] No The maintenance of erosion control structures requirements of the rules
   3. [x] Yes [ ] No The marking requirements contained in the rules

65. [x] Yes [ ] No I will provide the timber operator with a copy of the approved THP.

66. After considering the rules of the Board of Forestry and the mitigation measures I have proposed I have determined that the timber operation:
   [ ] will have a significant adverse impact on the environment
   [x] will not have a significant adverse impact on the environment.
   If the operation will have a significant adverse impact on the environment, in an addendum explain why any alternatives or additional mitigation measures that would reduce the impact are not feasible.

67. Registered Professional Forester: I certify that I, or my designee, personally inspected the plan area, and the plan complies with the Forest Practice Act and the Forest practice rules.

Signature: Roy Webster Date: 8/19/92

---

68. CERTIFICATION

The above conforms to my/our plan and, upon filing, I/we agree to conduct harvesting in accordance therewith. Consent is hereby given to the Director of Forestry, his agents and employees, to enter the premises to inspect timber operations for compliance with the Forest Practice Act and forest practice rules.

Timber Owner: William Codiga

Signature: [signature] Date: 8/10/92

Printed Name:

Timberland Owner: William Codiga

Signature: [signature] Date: 8/10/92

Printed Name:

Timber Operator: G&H Tree Service

Signature: by Roy Webster, agent for G+H Date: 8/19/92

Printed Name: Roy Webster

DIRECTOR OF FORESTRY

This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and with the Forest Practice Act.

By: [signature] 10/7/92
(Signature) (Date)

Thomas P. Osipowich Resource Manager
(Printed Name) (Title)

PROFESSIONAL FORESTER THOMAS P. OSIPOWICH NO. 2767 STATE OF CALIFORNIA

Received CDF
REGION 1
AUG 21 1992
RESOURCE MANAGEMENT

EXHIBIT E

TIMBER HARVESTING PLAN OR AMENDMENT NUMBER 1-92-299 SCR

NOTICE OF INTENT TO HARVEST TIMBER

A Timber Harvesting Plan or an amendment to an existing plan that may be of interest to you has been submitted to the California Department of Forestry for a determination as to whether the timber operation described in the plan or amendment complies with state laws and rules. The following briefly describes the timber operation, where and how to obtain more details, and where and when to submit documents regarding the proposed timber operation. If you would like more information about the plan or amendment, or about the laws and regulations governing timber harvesting in California, please direct your questions to:

California Department of Forestry
P.O.Box 670
135 Ridgeway Avenue
Santa Rosa, California 95402
(707) 576-2275

A copy of the Timber Harvest Plan or amendment may be obtained from the Department of Forestry and Fire Protection - $2.50 for the first twenty (20) pages and $0.125 for each additional page. The following is a summary of the information contained in the plan or amendment:

1. Plan Submitter: William Codiga

2. Timberland Owner: William Codiga

3. Registered Professional Forester who prepared the Plan: Roy Webster

4. Location of the plan area (county, section, township and range, and approximate direction and distance to the plan area from the nearest community or well-known landmark):

   Santa Cruz County, Township 9 South, Range 3 West, at intersection of Jamison Creek Road and Empire Grade.

5. Name of and distance of nearest perennial stream and major watercourse flowing through or downstream from plan area: Adjacent to the south fork of Jamison Creek

6. Acres on plan: 77

7. Proposed harvesting method or treatment: Selective harvest

The end of the public comment period and the earliest date for the Director's determination on the plan is 45 days from the date of receipt of the plan by the Department. The estimated end of the public comment period and the earliest date for the Director's determination is October 5, 1992.

If you originally received this Notice of Intent to Harvest Timber by mail, you can expect the Department to mail, you can expect the Department to mail you the Timber Harvest Plan or amendment number, the date of receipt of the plan by the Department, the filing date of the plan, and the date of any public hearing. You should check with the Department for the dates of the Review Team meetings.

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RESOURCE MANAGEMENT

8

EXHIBIT E

CODIGA TIMBER HARVEST PLAN

N.O.I MAP 1-92-299 SCR

Timber Harvest Boundary

Scale 1"=500'

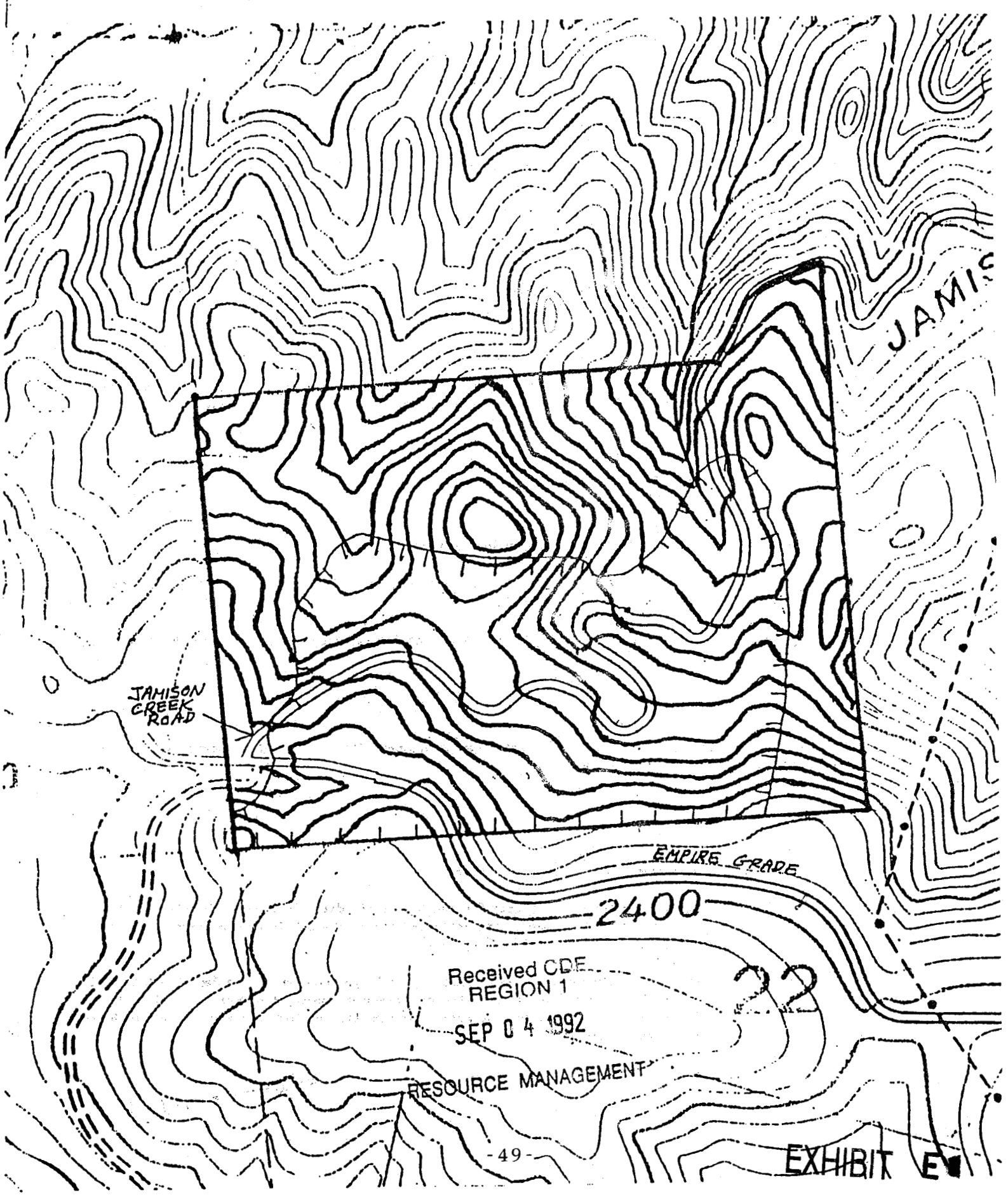

EXHIBIT E

CODIGA TIMBER HARVEST PLAN ADDENDUM

#21 Directional Tree Pulling

Some trees may need to be pulled to avoid falling across a watercourse or to avoid breakage. Many trees are located near Jamison Creek Road, a paved public road. Some trees may need to be pulled away from this road. I would like to leave this option open to the timber operator in case it is needed.

#24 Operations on slopes over 50% with a High Erosion Hazard Rating

Proposed skid trail "1" crosses slopes over 50% for approximately 75 feet. This skid trail is needed to access a large amount of the highest quality redwood and Douglas fir found on the property. The area was searched to find the gentlest ground for the location of a skid trail and also stay out of the spring area near this proposed skid trail. Therefore, a skid trail located on a different slope in the area would require a larger amount of construction on steeper slopes or would involve crossing the spring. The proposed skid trail will cross a swale which will be dipped out at completion of harvest operations. Further justification for this skid trail comes from the fact that this property is not suitable for skyline or high lead cable yarding. There are not suitable tailholds found on the property and there are no easements for adjacent properties. In addition, skyline cable yarding would have to span Jamison Creek Road, a public road. The economic infeasibility of using a skyline or highlead cable yarding operation on this property also makes this property more suitable for tractor logging.

This proposed skid trail will end before it meets an old unstable area. The area shows signs of past sliding, but the area appears to be stable now. There is no evidence of recent activity. A flat is located on the downhill side of this area that was probably formed by movement of soil downslope. The only operations in this area will consist of longlining of trees to the proposed skid trail.

#29 Winter Operations

This proposed harvest may extend past October 15. If this occurs, operations will only occur during dry, rainless periods when soils are not saturated. The objective of winter operations is not to log throughout the winter, but only to continue operations as long as dry weather permits. All winter activity will comply with 14 CCR 914.7 (c) 1 and 2. Prior to any startup of logging after October 15, the local Forest Practice Officer will be informed.

#30 Roads and landings constructed and reconstructed.

There is one new road proposed to be constructed to Landing B. The new road is needed to access redwood found in the proposed area of construction. The road will not exceed the maximum size set forth in the rules and is not proposed in known slide prone areas. This road will be waterbared at completion of harvest operations or at the start of the winter period if it is not being used, which ever comes first.

Many of the proposed landings will require very little construction. Flats and ridge tops will be used requiring minor construction to level the landing area. However, three landings will require some degree of cut and fill construction. A description of each landing is found below.

Proposed landing "E" is a small flat, too small to be a landing, which will require some cut and fill construction to make the landing area larger and level. The landing is needed to load a significant amount of redwood and Douglas fir coming from skid trail "1" and the adjoining existing skid trail. The existing road provides a stable key way for the cut material when constructing the landing. At completion of harvest operations or at the start of winter operations, if this landing is not being used, this landing will be waterbared or slightly sloped to allow sufficient drainage.

Proposed landing "F" will be located on approximately 20 to 30% slopes. This area was searched for the best ground when locating a landing site. These are the gentlest slopes found in the area and is also located at the end of an existing road. The landing area is partially located in a small swale. The landing will be crowned in the center and dipped in the area of the swale at completion of harvest operations. Normal cut and fill construction will be used with no soil entering the nearby Class III watercourse. Drainage for this landing will be constructed so as to divert water away from the watercourse. To skid logs to Landing F, dozers and/or skidders will remain on slopes less than 50% with no construction of skid trails involved. Any swales which contain soil deposited from skidding operations will be dipped out at completion of harvest operations.

Proposed landing "J " will be located on a flat, inside a WLPZ for a Class II watercourse. The Class II watercourse is a drain coming from two springs found next to Jamison Creek Road. The watercourse runs right next to Jamison Creek Road and is more or less an inside ditch for the road. The flow is approximately 1/2 inch deep and 4 inches across and seems to be a steady flow. To provide added protection of these springs and their flows, they will be designated as a Class II watercourse. The flat to be used for this proposed landing is approximately 20 feet wide, requiring the landing to be constructed slightly larger. The cut bank on the southeast side of the landing will be cut wider and the spoils wasted on the existing flat. Brow logs will be placed in between the landing and the Class II watercourse to prevent dirt from entering the watercourse. Small

EXHIBIT E

redwood trees existing between the watercourse and the landing will be retained to act as a visual barrier from Jamison Creek Road. The landing will be small enough to accommodate a self loader and will be slashed at completion of harvest operations or at the start of the winter period, if it is not being used, which ever comes first. For more information on this landing, see addendum #46.

#46 Exclusion of heavy equipment from the zone

Landing J as described above is located in a WLPZ for a Class II watercourse. Justification comes from the fact that the best ground for a landing is located in a WLPZ. There are no flats found in the area except inside the WLPZ. The landing is needed to access a significant amount of redwood and Douglas fir found in the area. Further justification comes from the fact that the Class II watercourse is not a typical Class II watercourse but a spring flow given added protection.

The proposed skid trail heading west out of Landing J is located in a WLPZ for the nearby Class II watercourse for approximately 50 feet. The skid trail is located on the gentlest slopes in area reducing the amount of construction involved. Further justification comes from the fact that the Class II watercourse is not a typical Class II watercourse but a spring flow given added protection. The portion of the skid trail located inside the WLPZ will be slashed to mitigate negative effects to the watercourse.

The existing skid trail located north of Landing G is located in the WLPZ for the adjacent Class II watercourse. Justification comes from the fact that this is an existing skid trail on gentle slopes located on a flat. Location in another area would require some degree of construction depending on where the skid trail was located. This skid trail will be slashed at completion of harvest operations or at the start of winter operations if the skid trail is not being used, whichever comes first. A portion of this skid trail is proposed skid trail. The existing skid trail will be extended southwest to reach redwood and Douglas fir found in the area. The proposed portion of the skid trail will also be slashed at completion of harvest operations.

#50 Protection measures and zone widths for the Watercourse and Lake Protection Zone.

There are two Watercourse and Lake Protection Zones on this proposed timber harvest plan. They are for Class II watercourses, the widths will be as follows:

Percent Slope	Width in feet
<30%	50
30-50	75
>50%	100

One Class II watercourse, located southwest of Landing J is a drain coming from two springs found next to Jamison Creek Road. The watercourse runs right next to Jamison Creek Road and is more or less an inside ditch for the road. To provide added protection of these springs and their flows, they will be designated as a Class II watercourse. The other watercourse is a bona fide Class II watercourse located west of Landing G.

No WLPZ is necessary to protect the beneficial uses of Class III watercourses. The entire timber stand will be marked and 50% of the overstory and understory will be left standing throughout the plan area. No skidding will be allowed in Class III watercourses, except at crossings designated in this plan.

There are four crossings of Class III watercourses in this plan and no crossings of the Class II watercourses. Crossing "a" will require a Humboldt crossing, consisting of logs in the channel, with straw on top, and soil on top of the straw to provide a running surface for the skidder. This crossing will be removed at completion of harvest operations or at the start of the winter period, if it is not being used, which ever comes first. Any accidental deposition of soil into the channel will be removed.

Crossings b, c, and d are easy approaches to Class III watercourses which will require little or no construction. The watercourse will be crossed and dipped out at completion of harvest operations or at the start of the winter period, if it is not being used, which ever comes first.

To protect the spring located north of skid trail "1", a brow log will be used to hold fill associated with construction of the skid trail. It will be located on the downhill side of the skid trail above the spring.

#51 Rare and Endangered Species

The Natural Diversity Database was checked for any possible rare and endangered species or species of special concern within the harvest area. It showed the harvest area being inside the habitat circle for the Santa Cruz Cypress, a rare and endangered plant. After doing field work for this THP no Santa Cruz Cypress trees have been found. The Biotic Resources Map showed the harvest area being near a location of Santa Cruz Cypress. The harvest area is also near Eagle Rock grassland and ridgetop community, a former golden eagle nesting area and unique habitat for many locally rare plants and animals. Although this area extends on to the property it is outside of the harvest area.

#56 Fire Protection Zone

As per 14 CCR 917.4 (a), areas within 50 feet of the edge of all public roads shall be kept free of slash greater than 1 inch in diameter. Slash between 50 feet and 100 feet from all

public roads will be lopped to within 12 inches above the ground no later than April 1 of the year following its creation. This will apply to Empire Grade and Jamison Creek Road.

#59 Public Notice

The following persons have been sent a Notice of Intent to Harvest Timber becauee they own property within 300 feet of the property boundary:

083-251-44 Shirley Katz, et.al. 210 Wilkes Circle, Santa Cruz, CA 95060
083-251-71 Big Basin Water Company, 140 Ingals Street, Santa Cruz, CA 95060
083-251-73 Ted and Dora Rose Maupin, 7424 Heidi Ct., Fair Oaks, CA 95628
083-251-72 Ted and Dora Rose Maupin, 7424 Heidi Ct., Fair Oaks, CA 95628
083-251-07 Albert Locatelli, 185 Mira Flores Road, Scotts Valley, CA 95006
086-281-17 Albert Locatelli, 185 Mira Flores Road, Scotts Valley, CA 95006
086-281-25 Albert Locatelli, 185 Mira Flores Road, Scotts Valley, CA 95006
086-281-24 Albert Locatelli, 185 Mira Flores Road, Scotts Valley, CA 95006
086-201-02 State of California, Dept. of Parks and Recreation, Attn: Sug Mizutani, 1416 9th Street, Sacramento, CA 95814

The following were also contacted and sent a Notice of Intent to Harvest Timber as per 14 CCR 926.3 (c):

San Lorenzo Valley Unified School District, 6134 Highway 9, Felton, CA 95018

San Lorenzo Valley County Water District, 13060 Central Ave., Boulder Creek, CA 95006

Fred Keeley, Board of Supervisors, 701 Ocean Street, Santa Cruz, CA 95060

Dave Hope, Planning Department, 701 Ocean Street, Santa Cruz, CA 95060

Additional Information

The LTO has requested an exception to Santa Cruz County rule 14 CCR 926.9, Hours of Work. The timber operator would like to have weekend operations included into the THP. There are no residences near the property boundary that would be disturbed by harvest operations, including chainsaws.

Russ Albrecht from the Public Works Department was consulted regarding any encroachment permits needed for the planned roads. He informed me that an encroachment permit is needed for any constructed roads that start at any public road..

EXHIBIT E

We will be applying for an encroachment permit for the one constructed road to proposed Landing B. A copy of the permit will be sent to CDF when we have it.

#61 Cumulative Impacts

The Codiga property is made up of 14 small parcels for a total of approximately 115 acres. This THP proposes to harvest 77 acres of commercial redwood and Douglas fir found on the property. Dense hardwood stands will also be thinned out in the area of skid trail "2". The property is located in the upper reaches of the south fork of the Jamison Creek watershed on north and northeast facing slopes. The commercial conifers are located mainly along Jamison Creek Road with hardwoods and brushlands found on the ride tops. The harvest area is Site III timberland, 95% of the commercial timber being redwood, the remaining 5% being Douglas fir.

Soils found on the property consist of the Sur-Catelli complex and the Ben Lomond-Catelli-Sur complex. Both of these soils have been calculated to have a high erosion hazard rating.

The majority of the watercourses found on the property are in good condition with no signs of bank cutting or sediment entering the watercourses. However there is one watercourse where the banks have been extremely eroded as a result of surface flow from the adjacent Jamison Creek Road. This watercourse is located north of Landing H where the Class III watercourse becomes a Class II watercourse. Large gullies have formed from the road to the watercourse with sediment deposits found downstream. Landing H and crossing "d" are located away from this erosion problem and will have no significant effect on it. The landing and the crossing will require little to no construction.

Slopes on the property range from 0 to 85%. Operations on slopes over 65% are limited to longlining of timber to proposed or existing skid trails on gentler slopes. The majority of the property is located on 25 to 60% slopes.

This stand was logged around the turn of the century of almost all of the old growth timber. Two old growth trees have been found while during field work for this THP. This timber harvest will remove approximately 55% of the redwood and Douglas fir over 18 inches in diameter at breast height. The approximate average diameter is between 28 and 32 inches D.B.H. Conifers will be marked to release redwoods, especially in clumps. Isolated conifers in open areas will be retained.

For this cumulative impact assessment, the following geographic assessment areas have been considered for each of the referenced sources. Justification for using these assessment areas follows.

EXHIBIT E

1. Watershed - The Boulder Creek watershed. This includes Jamison Creek, Hare Creek, Bracken Brae Creek, Peavine Creek, Silver Creek and Foreman Creek. The watershed is approximately 7500 acres. The focus will be on drainages that flow through the plan area because this is where the greatest impacts are expected to occur.

Justification: The proposed timber harvest is located in the upper reaches of the south fork of Jamison Creek. This timber harvest could combine with other timber harvests in the same watershed to cause a cumulative adverse effect. Therefore, the entire Boulder Creek watershed was chosen.

2. Soil Productivity - The property boundaries of the Codiga property.

Justification: Heavy equipment will only be operating within the property boundaries of the Codiga property. Soil outside of the property will be left untouched, therefore, only this assessment area will be considered.

3. Biological Resources - The focus is on the plan area, but consider the entire Jamison Creek watershed.

Justification: Terrestrial plants and animals will be less affected by the disturbance of a timber harvest the farther they are from the plan area. The timber harvest is in the Jamison Creek watershed, therefore the plan area and the Jamison Creek watershed are being used to study habitat continuity.

4. Recreational Resources - the harvest area plus 300 feet surrounding the harvest area.

Justification: According to the appendix for Technical Rule Addendum #2 Cumulative Impact Assessment, the assessment area for recreational resources shall be the harvest area plus 300 feet surrounding the harvest area.

5. Visual Resources - consider Jamison Creek Road and Empire Grade, the only roads from which this harvest will be visible.

Justification: Jamison Creek Road runs through the middle of the harvest area. Equipment will be operating close to this public road and will be visible. Stumps and other evidence of timber harvesting may also be visible from this road at completion of harvest operations. Empire Grade also runs through the harvest area, but will be less effected by the timber harvest. Equipment operations and harvesting will occur farther away from this public road.

EXHIBIT F

6. Vehicular Traffic - consider all roads which will be used by log trucks.

Justification: The only roads that can be effected by this timber harvest are those which will be used by log trucks. Therefore, they are the only ones considered. Public roads to be used by log trucks for this proposed timber harvest plan are Jamison Creek Road, Highway 236, Highway 9, Graham Hill Road, Mount Herman Road, Scotts Valley Road, Empire Grade, Bay Street, Highway 1, and Highway 17. All of these roads have been used in the past by log trucks. Not more than 10 loads per day will be hauled downed these roads in a single day. Ted Tsuda, Cal Trans, was consulted concerning these roads. He informed me of the number of vehicles using these roads in a single day. Based on ten log trucks per day, this amounts to less than 1% of the traffic found on these roads in a single day, based on two way traffic.

Information sources for this assessment include: CDF THP files, the Natural Diversity Database, lists of rare and endangered species in Santa Cruz county, Santa Cruz County Biotic Resources Map, Santa Cruz county assessment and survey maps, soil survey for Santa Cruz county, personal observations and experience, and discussions with the following persons:

~~Al Hayne, San Lorenzo~~ Valley Water District
Hugh Conley, G & H Tree Service
~~Mark Hannon, Forester~~, Redwood Empire, Inc.
~~Ted Tsuda~~, Cal Trans, Traffic Department
Leigh Jordan, Northwest Information Center
~~Laurel Ulrich, Dept~~. of Fish and Game
Patrick Orozco, local tribal group
Irene Zwierlein, local tribal group
~~Geoffrey Holmes~~, CDF Forester
~~Bill Codiga~~, landowner
~~Dave Hope~~, County of Santa Cruz
~~Russ Albrecht, Public~~ Works Dept.

EXHIBIT E

STATE OF CALIFORNIA
BOARD OF FORESTRY
CUMULATIVE IMPACT ASSESSMENT

1. Do the assessment area(s) of resources that may be affected by the proposed project contain any past, present, or reasonable foreseeable, probable, future projects?

Yes.

Past, present, and reasonably foreseeable probable future projects include timber harvesting, use of water resource by the neighboring Big Basin Water Company, residential development, and grazing. The followings a list of past and present timber harvest plans within the watershed assessment area:

THP#	Acres	Status
5-85-35SCR	153	Complete
5-83-32SCR	100	Complete
1-88-706SCR	53	Complete
1-89-869SCR	130	Complete
1-88-496SCR	100	Complete
1-89-109SCR	32	Complete
5-85-14SCR	55	Complete
1-89-65SCR	20	Complete
1-91-105SCR	45	Nonactive
1-91-230SCR	55	Nonactive
1-91-102SCR	50	Nonactive
1-90-613SCR	320	Active
5-82-3SC	10	Complete

The watershed assessment area is approximately 7500 acres of which approximately 1000 acres have been harvested over the last ten years. Residential development, timber harvesting, use of the water resource, and grazing are expected to occur at the same rate as in the past. Al Hayne, San Lorenzo Valley Water District, has informed me of water uptakes in the Foreman, Silver, and Peavine Creeks. In addition, Big Basin Water Company has five active water uptakes located in various drainages on their property. These water uptakes consist of a dam in the watercourse with a pipe running from the dam to storage. These are all active water uptakes within the watershed assessment area.

There are three future timber harvests located within the watershed assessment area that I am aware of. Mark Hannon, forester for Redwood Empire, Inc., has submitted a plan in the Malosky and Foreman Creek watersheds which are partially inside the

EXHIBIT E

watershed assessment area. A second THP has been withdrawn for Big Basin Water Company, but will most likely be submitted within a year. It is located south of Jamison Creek and encompasses 188 acres. A third THP has been submitted for land belonging to Fred Allred, et.al. located between Highway 236 and Big Basin Water Company lands. It encompasses 50 acres. No other future timber harvests are known within the watershed assessment area.

2. Are there any continuing significant adverse impacts from past land use activities that may add to the impacts of the proposed project?

Yes.

Big Basin Water Company has done extensive grading of roads and flats to access water uptakes on their property. Many of the roads have been improperly constructed. Dave Hope, Planning Department, has observed the grading in the field and has recommended correctional work, some of which will been incorporated into the THP for Big Basin Water Company when it is resubmitted. Construction has occurred in watercourses to access the water uptakes on the Big Basin Water Company property causing sediment to be deposited into the watercourses. The Department of Fish and Game has also observed the grading and construction in the watercourses and is planning on taking action to mitigate the problems.

Erosion control structures will be placed on all roads and skid trails used for this harvest as per 14 CCR 914.6. Other mitigations, such as strawing or slashing, have been incorporated into the plan (see addendum).

3. Will the proposed project, as presented, in combination with past, present, and reasonably foreseeable, probable, future projects identified in items 1 and 2 above, have a reasonable potential to cause or add to significant cumulative impacts in any of the following resource subjects?

1. Watershed - No after mitigations. These mitigations include straw mulching or strawing certain areas considered possible erosion problems. In addition, all skid trails and landing within the watercourse and lake protection zones will be slashed or straw mulched. Proposed skid trails have been kept to a minimum and located on as gentle ground as possible to reduce the possibility of sediment transport.

Watercourse crossings have been proposed in areas which will require little construction on gentle slopes with no anticipated adverse effects on the watercourses. Winter operations are limited to dry, rainless periods. If operations are shutdown because of the weather, operations will only start up again after CDF concurrence.

EXHIBIT F

2. Soil Productivity - No, after mitigations. These mitigations include using existing truck roads where ever possible, reducing the amount of truck road construction. Winter operations are proposed, but not during times when soils are moist and most susceptible to soil compaction.

3. Biological - No, after mitigations. These mitigations include retaining large logs and downed woody material in its place. No trees will be marked where nests are found.

This is a selective harvest which will not significantly alter stand characteristics and habitat for wildlife and plants. To protect water temperature, and fish and wildlife values, at least 50% of the overstory and 50% of the understory canopy covering the ground and adjacent waters shall be left in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers.

4. Recreation - No reasonably potential significant effects. The land to the north of the Codiga property is owned by the State of California, Dept. of Parks and Recreation. The harvest area is over 300 feet from the common property boundary. In addition, the State property has not been developed for recreation.

5. Visual - No reasonable potential significant effects. The selective nature of this harvest will limit the visual impacts to Jamison Creek Road and Empire Grade. By complying to 14 CCR 917.4, Treatment of Logging Slash in the Southern Subdistrict, the visual impacts created by logging slash will be reduced, as will the fire hazard.

6. Traffic - No reasonably potential effects.

(a) Yes, means that potential significant adverse impacts are left after application of the forest practice rules and mitigations or alternatives proposed by the plan submitter.

(b) No, after mitigation means that any potential for the proposed timber operation to cause significant adverse impacts has been substantially reduced or avoided by mitigation measures or alternatives proposed in the THP and application of the forest practice rules.

(c) No reasonable potential significant effects means that the operations proposed under the THP do not have a reasonable potential to join with the impacts of any other project to cause cumulative impacts.

EXHIBIT E

ROY W. WEBSTER
Professional Forester
136 Rancho Bal Mar
Aptos, CA 95003
(408) 688-8787

August 19, 1992

G&H Tree Service
240 8th Avenue
Santa Cruz, CA 95062

Dear Hugh Conley,

This is a letter reminding you of our agreement that I will sign as your agent for the Codiga Timber Harvest Plan. If you have any questions, please contact me.

Sincerely,

Roy Webster

Roy Webster
R.P.F. #1765

EXHIBIT E

STATE OF CALIFORNIA
BOARD OF FORESTRY

ESTIMATED SURFACE SOIL EROSION HAZARD

CODIGA THP

I. SOIL FACTORS A: #173-Sur-Catelli Complex B: #113 Ben Lomond-Catelli-Sur com

A. SOIL TEXTURE	FINE	MEDIUM	COARSE	FACTOR RATING A	FACTOR RATING B
1. DETACHABILITY	LOW	MODERATE	HIGH		
RATING	1–9	10–18	19–30	23	23
2. PERMEABILITY	SLOW	MODERATE	RAPID		
RATING	5–4	3–2	1	2	2

B. DEPTH TO RESTRICTIVE LAYER OR BEDROCK	SHALLOW	MODERATE	DEEP		
	1''–19''	20''–39''	40''–60'' (+)		
RATING	15–9	8–4	3–1	4	3

C. PERCENT SURFACE COARSE FRAGMENTS GREATER THAN 2 MM IN SIZE INCLUDING ROCKS OR STONES	LOW	MODERATE	HIGH			FACTOR RATING	
	(-) 10–39%	40–70%	71–100%				
RATING	10–6	5–3	2–1	4	4		
					SUB TOTAL ⇨	33	32

II. SLOPE FACTOR

SLOPE	5–15%	16–30%	31–40%	41–50%	51–70%	71–80% (+)		
RATING	1–3	4–6	7–10	11–15	16–25	26–35	20	14

III. PROTECTIVE VEGETATIVE COVER REMAINING AFTER DISTURBANCE

	LOW	MODERATE	HIGH		
	0–40%	41–80%	81–100%		
RATING	15–8	7–4	3–1	5	5

IV. TWO-YEAR, ONE HOUR RAINFALL INTENSITY (Hundredths Inch)

	LOW	MODERATE	HIGH	EXTREME		
	(-) 30–39	40–59	60–69	70–80		
RATING	1–3	4–7	8–11	12–15	15	15
				TOTAL SUM OF FACTORS ⇨	73	66

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EROSION HAZARD RATING

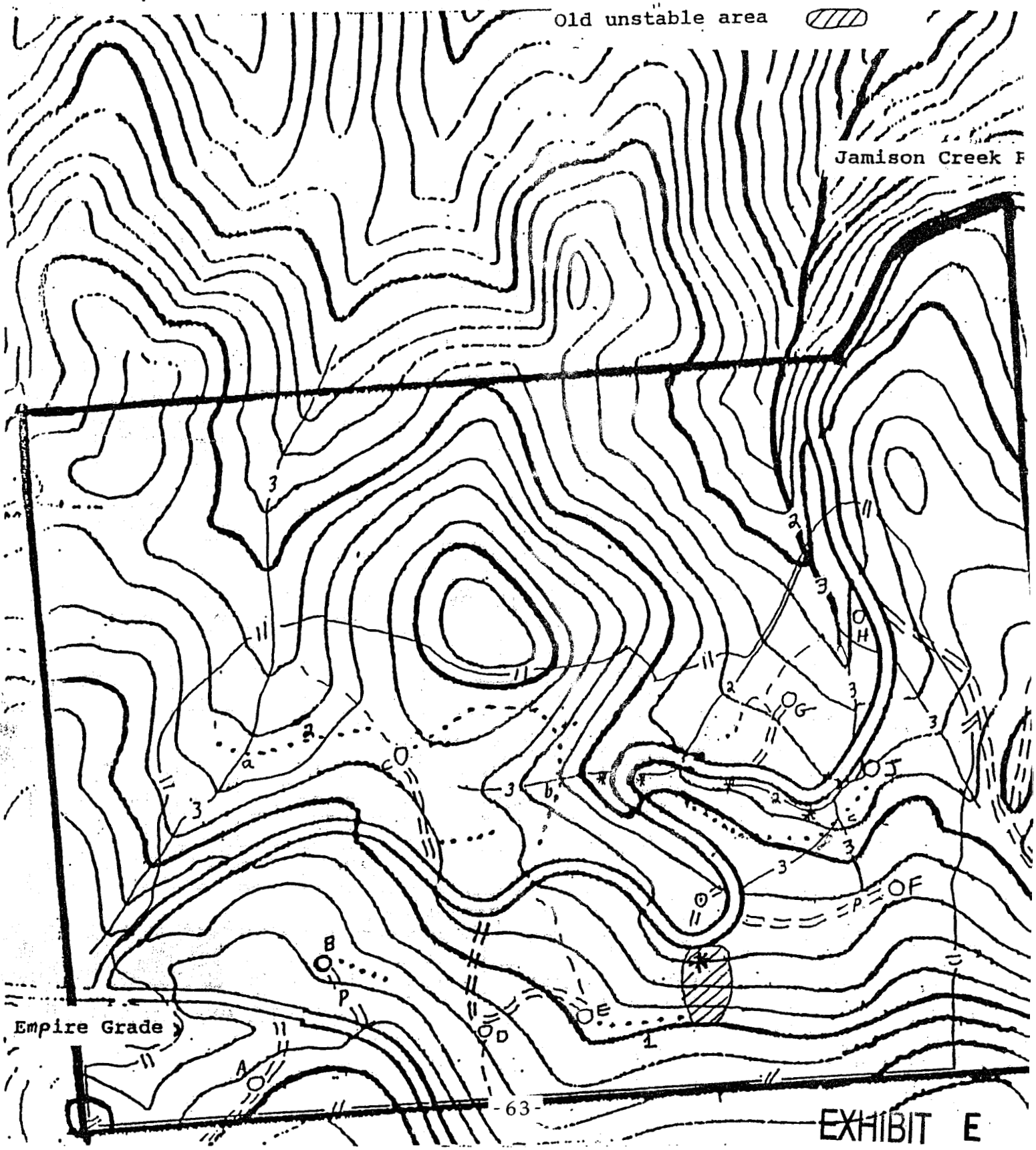
	<50	50–65	66–75	>75		
	LOW	MODERATE	HIGH	EXTREME		
				THE DETERMINATION IS ⇨	H	H

EXHIBIT E

CODIGA TIMBER HARVEST PLAN

T9S R3W M.D.B.M. Portion of Section 15 1"=375'

Property Boundary		Timber Harvest Boundary	
Paved Public Road		Existing, seasonal road	
Proposed, seasonal road	P	Existing skid trail	
Proposed skid trail		Existing landing	⊙
Proposed landing	○	Watercourse Class	3
Spring	*	Watercourse crossing	a – d
		Old unstable area	



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