



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: 103-022-14

Application: 07-0570

Item #: 8

Time: After 9 AM

Subject: A public hearing to consider a proposal to rezone a single lot of record from the Residential Agriculture (RA) zone district to the Timber Production (TP) zone district.

Members of the Commission:

On September 19, 2007, the County Planning Department accepted this application for a rezoning to Timber Production (TP). This is a proposal to rezone a 7.5-acre parcel from the Residential Agriculture (RA) zone district to the Timber Production (TP) designation. 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. 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.

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.

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 this parcel 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. 07-0570 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 26, 2007.

Maria Porcila Perez
Project Planner
Development Review

Reviewed By:


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.07-0570 involving property located on west and north sides of an unpaved unnamed private right-of-way extending north and then southwest from its intersection with Soquel-San Jose Road, approximately 500 feet southwest of its intersection with Olive Springs Road (no situs), 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 property from the Residential Agriculture (RA) district to the Timber Production 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

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 property located on the west and north sides of an unpaved unnamed right-of-way extending north and then southwest from its intersection with Soquel-San Jose Road, approximately 500 feet southwest of its intersedction with Olive Springs Road (no situs); 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).

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:

<u>Assessor's Parcel Number</u>	<u>Existing Zone District</u>	<u>New Zone District</u>
103-022-14	Residential Agriculture (RA)	TP

SECTION IV

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

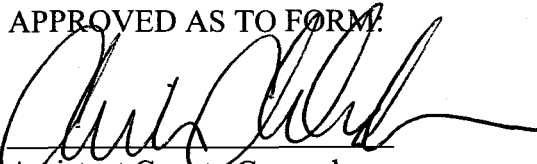
PASSED AND ADOPTED THIS _____ day of _____ 2008, by the Board of Supervisors of the County of Santa Cruz by the following vote:

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

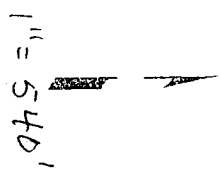
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
© COPYRIGHT SANTA CRUZ COUNTY ASSESSOR 1998

Tax Area Code
83-010

EXHIBIT

②

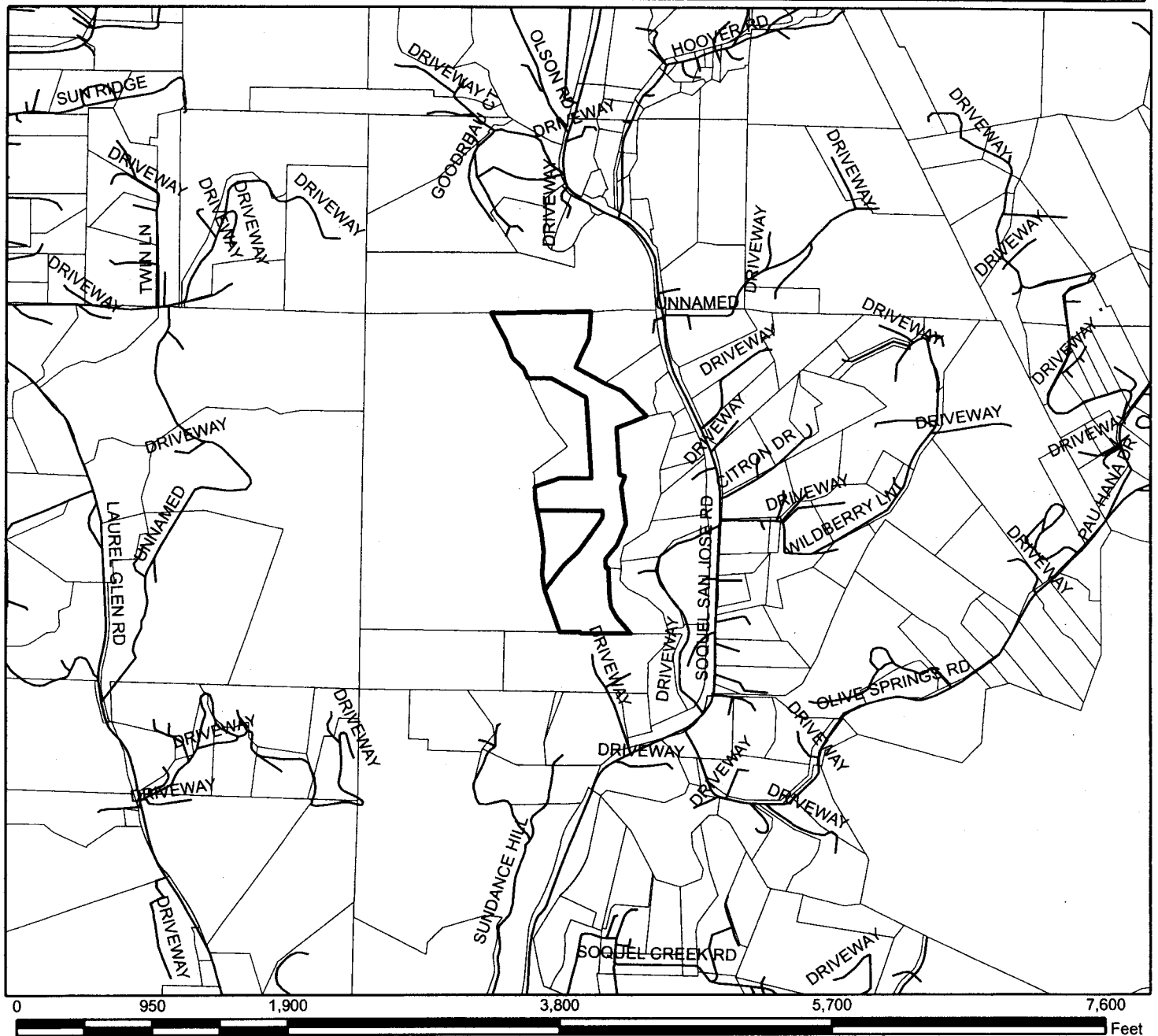
Note - Assessor's Parcel & Block Numbers Shown in Circles.







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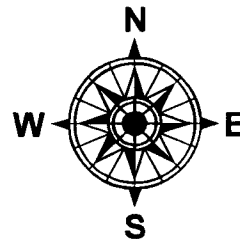


Location Map



LEGEND

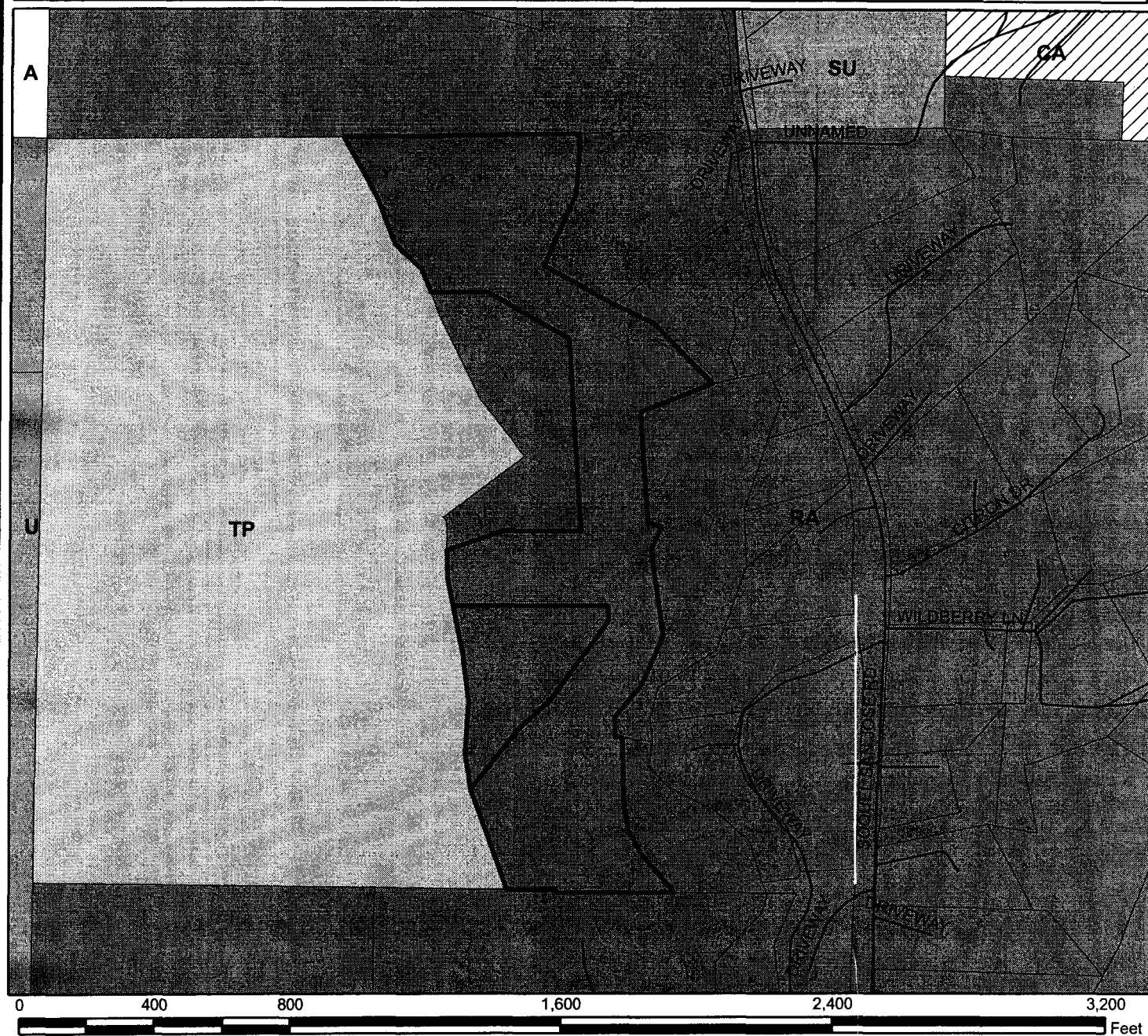
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-  APN: 103-022-14
-  Assessors Parcels
-  Streets







Map created by
County of Santa Cruz
Planning Department
August 2007






Zoning Map

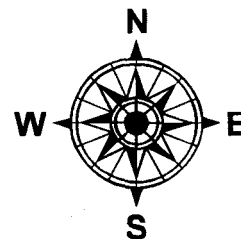


LEGEND

-  APN: 103-022-15
-  APN: 103-022-14
-  Assessors Parcels
-  Streets

AGRICULTURE

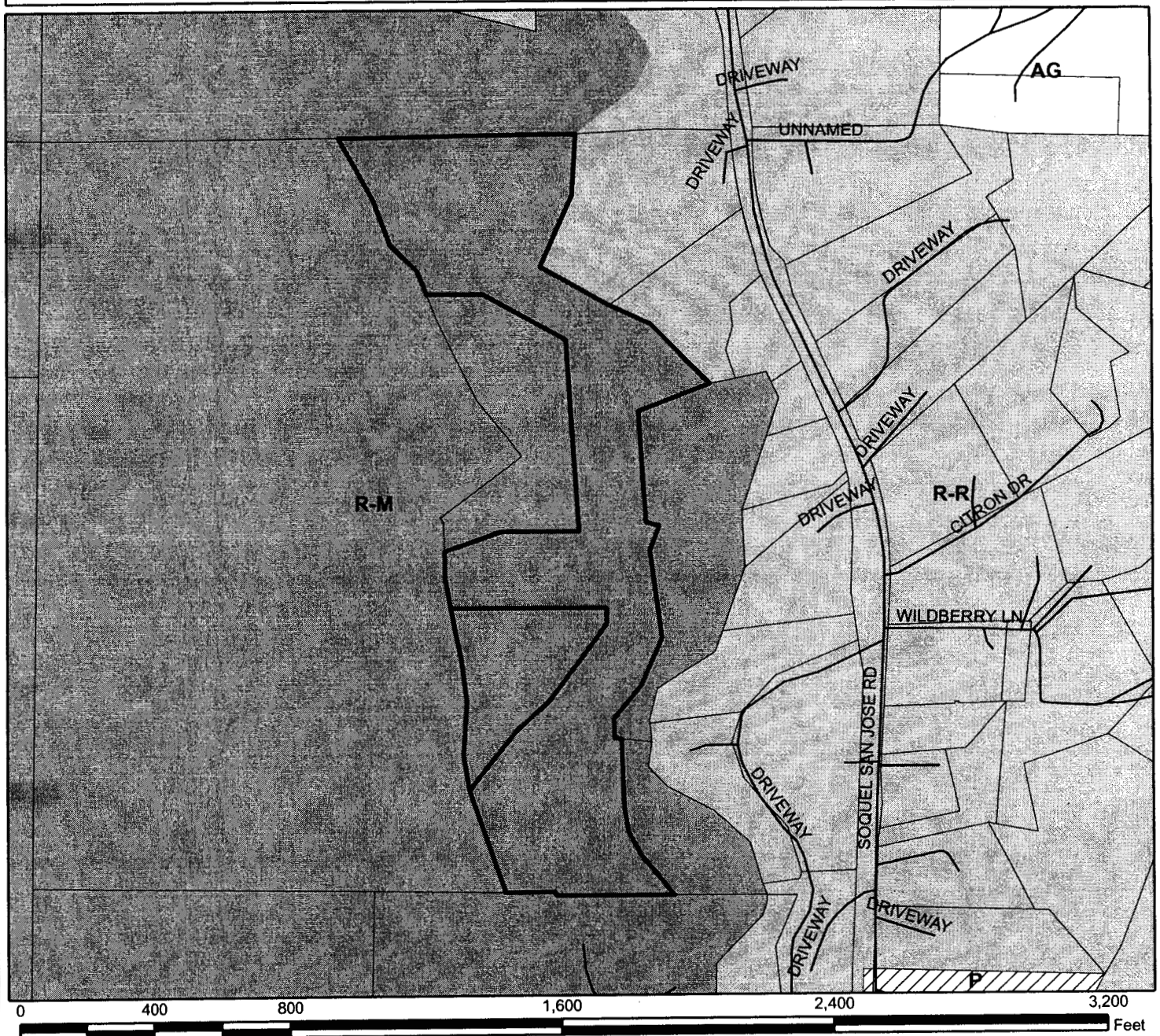
-  AGRICULTURE COMMERCIAL
-  AGRICULTURE RESIDENTIAL
-  SPECIAL USE



Map created by
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Planning Department
August 2007

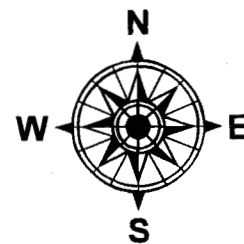


General Plan Designation Map



LEGEND

- APN: 103-022-15
- APN: 103-022-14
- Assessors Parcels
- Streets
- Agriculture
- Residential-Mountain
- Residential-Rural



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: 07-0570

Assessor Parcel Number: 103-022-14

Project Location: Property located on the west and north sides of an unpaved unnamed right-of-way extending north and then southwest from its intersection with Soquel-San Jose Road, approximately 500 feet southwest of its intersection with Olive Springs Road (no situs).

Project Description: Rezone a single parcel from the Residential Agriculture (RA) zone districts to the Timber Production (TP) zone district.

Person or Agency Proposing Project: Emily Hanson

Contact Phone Number: (831) 262-0473

- 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. ☒ **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.

Maria Porcila Perez, Project Planner

Date: _____

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

November 26, 2007

County of Santa Cruz Planning Department
Attn.: ~~Robin Bolster-Grant~~ *Maria Perez*
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

RE: TPZ Rezoning of Assessor's Parcel # 103-022-10⁴

Maria Perez
Dear Ms. ~~Bolster-Grant~~,

This letter requests rezoning Santa Cruz County Assessor's Parcel # 103-022-10⁴ (19.5 acres) from its current designation to the Timber Production Zone. The parcel is owned by Harry B. Hooper Jr., Trustees (Christine Hooper) and meets the following criteria:

1. The parcel currently meets 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 Subdistrict of the Coast Forest District (see Forest Management Plan).
2. The parcel meets the definition of "Timberland" per Section 51104(f) of the Government Code (see FMP).
3. The parcel meets the permitted use requirements per County Code Section 13.10.372.
4. The parcel has been harvested previously under an approved Timber Harvesting Plan in 1978, copy attached.
5. The parcel meets the minimum 5-acre size requirement (19.5 acres).

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

Sincerely,

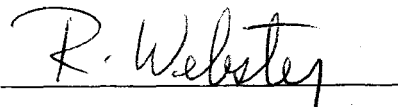
A handwritten signature in cursive script that reads "Roy Webster".

Roy Webster
RPF # 1765

LANDS OF HOOPER
Santa Cruz County, California

FOREST AND LAND MANAGEMENT PLAN

Webster and Associates
Forestry Consultants

A handwritten signature in cursive script, reading "R. Webster", is written over a horizontal line.

Roy Webster, RPF #1765

NOVEMBER 2007

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Landowner

Christine Hooper
4250 Opal Cliff Drive
Santa Cruz, CA 95062

Property Location

Portion of NW ¼ Section 23, Township 10 South, Range 1 West, MDBM.

APN 103-022-10.

General Description/Transportation system

The property contains a total of 19.5 acres and is located in the West Branch of Soquel Creek watershed. Access to the property is by turning North off Highway 1 at Porter/Bay Avenue exit and proceed north approximately 4.3 miles to a rocky road on the west side of Soquel-San Jose Road. It is the last road before Olive Springs Road. Turn left and go about 700 feet to a gate at the entrance to the property. The parcel encompasses a relatively steep side hill and ridge on the West side of the West Branch of Soquel Creek. Elevations range from 240 feet to almost 600 feet at the highest ridge.

Slopes are highly variable from 0 to 20% on the ridge to 50 to 100% on the steepest side slopes. The dominant vegetation on the timberland is a well-stocked commercial size second growth redwood forest (*Sequoia sempervirens*). There are occasional Douglas fir (*Pseudotsuga menziesii*). The mid story is composed primarily of Tanoak (*Lithocarpus densiflora*) and occasional Coast Live Oak (*Quercus agrifolia*), Big Leaf Maple (*Acer macrophyllum*) and California Bay Laurel (*Umbellularia californica*). Species noted in the under story were suppressed and shrub like Tanoak, Snowberry (*Symphoricarpos albus*), Swordfern (*Polystichum munitum*), Wood Fern (*Dryopteris arguta*), Poison Oak (*Toxicodendron diversiloba*), California Blackberry (*Rubus ursinus*), California Hazelnut (*Corylnus cornuta*), Redwood Sorrel (*Oxalis oregano*), and wild rose (*Rosa californica*).

An old logging road traverses the property and runs along the main ridge. It is the property line in some places (see maps). There are also a number of old skid trails present.

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. A well-stocked second growth redwood forest replaced the old growth clear-cut area.

This parcel was part of a larger ownership that was selectively logged in 1978 (see THP attached). That harvest removed about 40% of the trees over 18 inches DBH (diameter at breast height).

The general vicinity has been subdivided into five to forty acre parcels, many of which now have residences. The subject parcel 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 one single-family residence in a location that does not conflict with a timber harvest operation. 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 #156 and 157, both Nisene-Aptos complex. The Nisene soil is deep and well drained. It formed in residuum derived from sandstone or shale. Typically, a 2-inch mat of partially decomposed leaves, needles and twigs cover the surface. The surface layer is dark grayish brown, neutral loam about 10 inches thick. The subsoil is brown and yellowish brown, slightly acid clay loam and gravelly loam about 48 inches thick. Weathered, fine-grained sandstone is at a depth of about 58 inches. Permeability of the Nisene soil is moderate. Effective rooting depth is 40 to 60 inches. Available water capacity is 5.5 to 10.5 inches. Runoff is rapid, and the hazard of erosion is moderate to high.

The Aptos soil is moderately deep and well drained. It formed in residuum derived from sandstone, siltstone, or shale. Typically, a 1-inch mat of partially decomposed twigs and leaves covers the surface. The surface layer is dark grayish brown and grayish brown, slightly acid and medium acid fine sandy loam about 23 inches thick. The subsoil is brown, very strongly acid clay loam about 6 inches thick. Weathered, fine-grained sandstone is at a depth of about 29 inches. Permeability of the Aptos soil is moderate. Effective rooting depth is 20 to 40 inches. Available water capacity is 2.5 to 6.5 inches. Runoff is rapid, and the hazard of erosion is moderate.

This complex is used mainly for timber, recreation, wildlife habitat, and watershed. It is also used for home sites, firewood production, apple orchards, pasture, and vineyards.

Watershed

The West Branch of Soquel Creek, a class one watercourse, bounds the parcel on the Northeast. The parcel is bounded on the southwest by an unnamed class two watercourse. Both these watercourses drain into Soquel Creek, which drains directly to the Pacific Ocean at Capitola Beach.

The Soquel Creek watershed has historically supported coho salmon (*Oncorhynchus kisutch*) according to the Draft Strategic Plan for the Restoration of the Endangered Coho Salmon South of San Francisco Bay (California Department of Fish and Game 1998), although coho are now believed extirpated since 1992. Steelhead salmon

(*Oncorhynchus mykiss*) remain viable and self-sustaining. Other special status aquatic species include California red-legged frog (*Rana aurora draytoni*), foothill yellow-legged frog (*Rana boylei*), southwestern pond turtle (*Clemmys marmorata pallida*), and tidewater goby (*Eucyclogobius newberryi*).

Habitat degradation in the lower 7-8 miles of main stem Soquel Creek has been severe since the end of the drought in the early 1990's. Summer water temperature sometimes approaches the upper tolerance limit for steelhead and exceeds that of coho salmon.

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.

Cultural

No cultural or archaeological resources were discovered during the timber survey for this plan. 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.

Continuing maintenance of roads, trails, and all erosion control measures will protect the West Branch of Soquel Creek and any current or future use of it and associated watersheds as a fishery, insect habitat and a water source.

There were no conifer snags and only a few hardwood snags observed during the timber inventory. 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.

Ancient Trees

No remnant old growth trees left from the original clear cut logging were observed during the timber cruise of the parcel.

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

Coast Redwood dominates the existing timber stand on the property, with a few Douglas fir intermixed. Hardwoods were primarily Tanoak with some Coast Live Oak. As is typical for the area, a range of micro-site factors predicates the distribution of conifers and hardwoods.

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 most of the property. A crop of thirty-year-old sprouts was initiated by the selective harvest in 1978. Thus there are mostly two age classes present. Many of the young saplings are suppressed and growth would be augmented by another selective harvest. Some of the drier areas have regrown with a predominance of hardwoods.

There were a moderate number of dead and dying Tanoak observed. While no samples were sent to a lab, the visible symptoms as well as the presence of the host species Bay-Laurel suggest that the cause is sudden oak death, SOD, (*Phytophthora ramorum*).

In November 2007, a cruise consisting of ten, one-tenth acre (0.1) circular plots was conducted to better assess stand conditions and growth. This comprises a 5.1% 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 Site 3. 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 74,201 board feet per acre. This is broken down into 56,278 board feet per acre of Redwood and 17,922 board feet per acre of Douglas fir. Average DBH (diameter at breast height) for commercial conifers is 22 inches for redwood and 39 inches for Douglas fir. Total standing volume of conifers on the 19.5 acres of timberland is estimated at 1,446,912 board feet. Total basal area of conifers is 367 square feet per acre.

There are a total of 89 hardwoods per acre comprising 88 square feet of basal area per acre. This works out to almost 9.5 cords per acre of fuel wood.

By use of increment boring and a stand table projection, stand growth is estimated to be roughly 1.4% per year for redwood and .9% for Douglas fir. This equates to 15,364 board feet per year growth for redwood on the ownership and 3,145 board feet of Douglas fir. The stand is averaging 949 board feet per acre per year.

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 1978 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.

Future selective harvesting 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 277,635 board feet every 15 years on a sustainable basis.

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 88 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 tanoaks 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.

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 mycorrhizae). 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. 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 Soquel-San Jose Road or a residential escape to the wild land. There is also the possibility of ignitions due to trespass. The trespass issue can be handled by limiting access. 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.

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.

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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.

Final Draft Fisheries Report to SCRCD, D.W. Alley & Associates, 3/14/03.

EXHIBIT A

PLOT INFORMATION

Dataset Name: HANSON

11/12/2007

Tract: HANSON		Cruise: Plot Cruise		
Plot Size: 0.1		No.Points: 10		Acres: 19.5
Products :	LUMBER	LUMBER	HARDWOOD	HARDWOOD
Measure :	BOARD FEET	BOARD FEET	CORDS	CORDS
Species :	2	0	1	0

HANSON: LUMBER-REDWOOD

DBH: 2 - 40 by 2 **Height Measure:** LOGS/BOLTS 1 - 8 by 1 - 16 Logs
Vol Eq: M & G Form Class Bd.Ft.-V" top **Form Class:** 68 **Log Rule:** Scribner

HANSON: LUMBER-DOUGLAS fir

DBH: 2 - 58 by 2 **Height Measure:** LOGS/BOLTS 1 - 8 by 1 - 16 Logs
Vol Eq: M & G Form Class Bd.Ft.-V" top **Form Class:** 72 **Log Rule:** Scribner

HANSON: HARDWOOD-TANOAK

DBH: 2 - 28 by 2 **Height Measure:** TOTAL FEET 20 - 50 by 5
Vol Eq: Minor Form Class Cu.Ft.-3" top **Form Class:** 67 **Log Rule:** Cubic Feet

EXHIBIT A

HANSON

Plot Cruise Volume Summary

11/12/2007

Product	Per Acre			19.5 - Acres		Ave Tree		Cruise		
	Volume	Trees	BA	Volume	Trees	Volume	DBH	Plts	Size	%Cr
LUMBER	BOARD									
REDWOOD	56278.18	122.0	309.8	1097425	2379	461.30	21.6	10	0.10	5.1
DOUGLAS fir	17922.44	7.0	56.7	349488	137	2560.35	38.5	10	0.10	5.1
LUMBER	74200.63	129.0	366.5	1446912	2516	575.20	22.8	10	0.10	5.1
HARDWOOD	Cu.Ft.									
TANOAK	1219.04	89.0	88.4	23771	1736	13.70	13.5	10	0.10	5.1
HARDWOOD	1219.04	89.0	88.4	23771	1736	13.70	13.5	10	0.10	5.1
STAND		218.0	454.9		4252		19.6	10	0.10	5.1

EXHIBIT A

HANSON

Plot Cruise Volume Statistics-95%

11/12/2007

Product	Plots	Size	Cruise%	Samp Err%	CoeffVar%	StdError
LUMBER						
REDWOOD	10	0.10	5.1	64.8	90.6	16117.23
DOUGLAS fir	10	0.10	5.1	93.0	130.0	7366.99
LUMBER	10	0.10	5.1	39.0	54.4	12775.26
HARDWOOD						
TANOAK	10	0.10	5.1	70.7	98.8	380.68
HARDWOOD	10	0.10	5.1	70.7	98.8	380.68

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

STAND	10	0.10	5.1	37.3	52.2	2554.22
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EXHIBIT A

Product: LUMBER

Species: REDWOOD

11/12/2007

.1 Acre PLOT CRUISE

M & G Form Class Bd.Ft.-V" top

DBH	Per Acre			19.5 Acres	
	Trees	Basal Area	BOARD	Trees	BOARD FEET
4	7.0	0.6	0.00	136	0.00
6	7.0	1.4	6.93	136	135.22
8	5.0	1.7	42.49	98	828.65
10	6.0	3.3	113.58	117	2214.76
12	7.0	5.5	225.98	136	4406.58
14	11.0	11.8	534.14	214	10415.70
16	4.0	5.6	441.17	78	8602.89
18	9.0	15.9	1722.05	176	33580.07
20	8.0	17.5	2297.68	156	44804.76
22	7.0	18.5	2624.90	136	51185.45
24	13.0	40.8	6804.43	254	132686.40
26	10.0	36.9	6421.04	195	125210.40
28	11.0	47.0	9337.28	214	182077.00
30	4.0	19.6	4404.48	78	85887.44
32	4.0	22.3	5154.29	78	100508.70
34	5.0	31.5	8171.28	98	159340.00
36	2.0	14.1	3735.36	39	72839.48
38	2.0	15.8	4241.10	39	82701.53
	122.0	309.8	56278.18	2378	1097425.00

EXHIBIT A

Product: LUMBER

Species: DOUGLAS fir

11/12/2007

.1 Acre PLOT CRUISE

M & G Form Class Bd.Ft.-V" top

Per Acre				19.5 Acres	
DBH	Trees	Basal Area	BOARD	Trees	BOARD FEET
22	1.0	2.6	490.10	20	9556.94
26	1.0	3.7	823.05	20	16049.54
28	1.0	4.3	1082.41	20	21107.06
34	1.0	6.3	1889.53	20	36845.86
48	2.0	25.1	8508.88	39	165923.30
52	1.0	14.7	5128.47	20	100005.20
	7.0	56.7	17922.44	139	349487.90

EXHIBIT A

Product: **HARDWOOD**

Species: **TANOAK**

11/12/2007

.1 Acre PLOT CRUISE

Minor Form Class Cu.Ft. -3" top

DBH	Per Acre			19.5 Acres	
	Trees	Basal Area	Cu.Ft.	Trees	Cu.Ft.
4	5.0	0.4	2.18	98	42.53
6	11.0	2.2	20.73	214	404.25
8	11.0	3.8	42.91	214	836.68
10	9.0	4.9	59.66	176	1163.39
12	10.0	7.9	93.38	195	1820.87
14	14.0	15.0	205.82	273	4013.55
16	17.0	23.7	324.17	332	6321.37
18	3.0	5.3	83.86	58	1635.34
20	5.0	10.9	170.30	98	3320.95
22	1.0	2.6	40.72	20	793.95
26	2.0	7.4	111.34	39	2171.06
28	1.0	4.3	63.97	20	1247.35
	89.0	88.4	1219.04	1737	23771.29

EXHIBIT A

Dataset: HANSON

11/12/2007

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
1	LUMBER	REDWOOD	22.0	4.0	1
1	LUMBER	REDWOOD	28.0	6.0	1
1	LUMBER	REDWOOD	26.0	5.0	2
1	LUMBER	REDWOOD	18.0	3.0	1
1	LUMBER	REDWOOD	10.0	1.0	2
1	LUMBER	REDWOOD	8.0	1.0	1
1	LUMBER	REDWOOD	16.0	2.0	1
1	LUMBER	REDWOOD	6.0	1.0	1
1	LUMBER	REDWOOD	14.0	1.0	1
1	LUMBER	REDWOOD	32.0	7.0	1
1	HARDWOOD	TANOAK	16.0	40.0	2
1	HARDWOOD	TANOAK	12.0	30.0	4
1	HARDWOOD	TANOAK	14.0	35.0	2
1	HARDWOOD	TANOAK	6.0	20.0	4
1	HARDWOOD	TANOAK	4.0	20.0	1
1	HARDWOOD	TANOAK	10.0	30.0	3
1	HARDWOOD	TANOAK	20.0	50.0	1
2	LUMBER	REDWOOD	10.0	1.0	1
2	LUMBER	REDWOOD	24.0	5.0	1
2	LUMBER	REDWOOD	6.0	1.0	2
2	LUMBER	REDWOOD	14.0	1.0	2
2	LUMBER	REDWOOD	4.0	1.0	1
2	LUMBER	REDWOOD	32.0	7.0	1
2	LUMBER	REDWOOD	16.0	2.0	1
2	LUMBER	DOUGLAS fir	48.0	8.0	1
2	HARDWOOD	TANOAK	8.0	25.0	3
2	HARDWOOD	TANOAK	10.0	30.0	1
2	HARDWOOD	TANOAK	12.0	30.0	1
2	HARDWOOD	TANOAK	6.0	20.0	2
2	HARDWOOD	TANOAK	16.0	40.0	1
2	HARDWOOD	TANOAK	14.0	40.0	1
3	LUMBER	REDWOOD	6.0	1.0	1
3	LUMBER	REDWOOD	12.0	1.0	1
3	LUMBER	REDWOOD	18.0	3.0	2
3	LUMBER	REDWOOD	16.0	2.0	1
3	LUMBER	REDWOOD	24.0	5.0	1
3	LUMBER	REDWOOD	22.0	4.0	1
3	LUMBER	REDWOOD	20.0	3.0	1
3	LUMBER	REDWOOD	14.0	1.0	2
3	LUMBER	REDWOOD	4.0	1.0	1
3	LUMBER	DOUGLAS fir	22.0	5.0	1
3	LUMBER	DOUGLAS fir	28.0	7.0	1
3	LUMBER	DOUGLAS fir	34.0	8.0	1

EXHIBIT A

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
4	LUMBER	REDWOOD	6.0	1.0	1
4	LUMBER	REDWOOD	34.0	8.0	1
4	LUMBER	REDWOOD	38.0	8.0	1
4	LUMBER	REDWOOD	28.0	6.0	2
4	LUMBER	REDWOOD	18.0	3.0	1
4	LUMBER	REDWOOD	14.0	1.0	1
4	HARDWOOD	TANOAK	14.0	40.0	2
4	HARDWOOD	TANOAK	26.0	50.0	2
4	HARDWOOD	TANOAK	22.0	50.0	1
4	HARDWOOD	TANOAK	20.0	50.0	3
4	HARDWOOD	TANOAK	16.0	40.0	1
4	HARDWOOD	TANOAK	18.0	50.0	2
4	HARDWOOD	TANOAK	10.0	30.0	1
4	HARDWOOD	TANOAK	28.0	50.0	1
5	LUMBER	REDWOOD	32.0	7.0	1
5	LUMBER	REDWOOD	20.0	4.0	1
5	LUMBER	REDWOOD	30.0	7.0	1
5	LUMBER	REDWOOD	36.0	8.0	1
5	LUMBER	REDWOOD	12.0	1.0	1
5	HARDWOOD	TANOAK	20.0	50.0	1
5	HARDWOOD	TANOAK	16.0	40.0	4
6	LUMBER	REDWOOD	32.0	7.0	1
6	LUMBER	REDWOOD	38.0	8.0	1
6	LUMBER	DOUGLAS FIR	48.0	8.0	1
6	HARDWOOD	TANOAK	8.0	25.0	7
6	HARDWOOD	TANOAK	12.0	30.0	3
6	HARDWOOD	TANOAK	10.0	30.0	3
6	HARDWOOD	TANOAK	14.0	40.0	4
6	HARDWOOD	TANOAK	16.0	40.0	3
6	HARDWOOD	TANOAK	6.0	20.0	2
7	LUMBER	REDWOOD	24.0	5.0	3
7	LUMBER	REDWOOD	8.0	1.0	1
7	LUMBER	REDWOOD	18.0	3.0	2
7	LUMBER	REDWOOD	22.0	4.0	2
7	LUMBER	REDWOOD	14.0	1.0	1
7	LUMBER	REDWOOD	26.0	5.0	2
7	LUMBER	REDWOOD	20.0	4.0	2
7	LUMBER	REDWOOD	12.0	1.0	1
7	LUMBER	REDWOOD	28.0	6.0	2
7	LUMBER	REDWOOD	4.0	1.0	2
7	HARDWOOD	TANOAK	6.0	20.0	2
7	HARDWOOD	TANOAK	12.0	30.0	2
7	HARDWOOD	TANOAK	14.0	40.0	1
7	HARDWOOD	TANOAK	16.0	40.0	4

EXHIBIT A

PLOT	PRODUCT	SPECIES	DBH	HEIGHT	TREES
8	LUMBER	REDWOOD	12.0	1.0	2
8	LUMBER	REDWOOD	10.0	1.0	3
8	LUMBER	REDWOOD	34.0	8.0	1
8	LUMBER	REDWOOD	30.0	7.0	1
8	LUMBER	REDWOOD	28.0	6.0	2
8	LUMBER	REDWOOD	24.0	5.0	3
8	LUMBER	REDWOOD	14.0	1.0	2
8	LUMBER	REDWOOD	18.0	3.0	2
8	LUMBER	REDWOOD	6.0	1.0	2
8	LUMBER	REDWOOD	26.0	5.0	3
8	LUMBER	REDWOOD	8.0	1.0	2
8	LUMBER	REDWOOD	22.0	4.0	3
8	LUMBER	REDWOOD	20.0	4.0	1
8	HARDWOOD	TANOAK	10.0	30.0	1
8	HARDWOOD	TANOAK	4.0	20.0	3
8	HARDWOOD	TANOAK	14.0	40.0	2
8	HARDWOOD	TANOAK	16.0	40.0	1
9	LUMBER	REDWOOD	28.0	6.0	4
9	LUMBER	REDWOOD	12.0	1.0	2
9	LUMBER	REDWOOD	30.0	7.0	2
9	LUMBER	REDWOOD	18.0	3.0	1
9	LUMBER	REDWOOD	34.0	8.0	3
9	LUMBER	REDWOOD	4.0	1.0	3
9	LUMBER	REDWOOD	26.0	5.0	3
9	LUMBER	REDWOOD	24.0	5.0	5
9	LUMBER	REDWOOD	16.0	2.0	1
9	LUMBER	REDWOOD	20.0	4.0	3
9	LUMBER	REDWOOD	36.0	8.0	1
9	LUMBER	REDWOOD	14.0	1.0	2
9	LUMBER	REDWOOD	8.0	1.0	1
9	HARDWOOD	TANOAK	14.0	40.0	1
9	HARDWOOD	TANOAK	16.0	40.0	1
10	LUMBER	DOUGLAS fir	52.0	8.0	1
10	LUMBER	DOUGLAS fir	26.0	6.0	1
10	HARDWOOD	TANOAK	18.0	50.0	1
10	HARDWOOD	TANOAK	14.0	40.0	1
10	HARDWOOD	TANOAK	6.0	20.0	1
10	HARDWOOD	TANOAK	4.0	20.0	1
10	HARDWOOD	TANOAK	8.0	25.0	1
10	HARDWOOD	TANOAK	2.0	0.0	0

EXHIBIT B

Typical Inverse J Curve

Ch. 17 STAND STRUCTURE, SITE QUALITY, AND YIELD 337

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 more 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

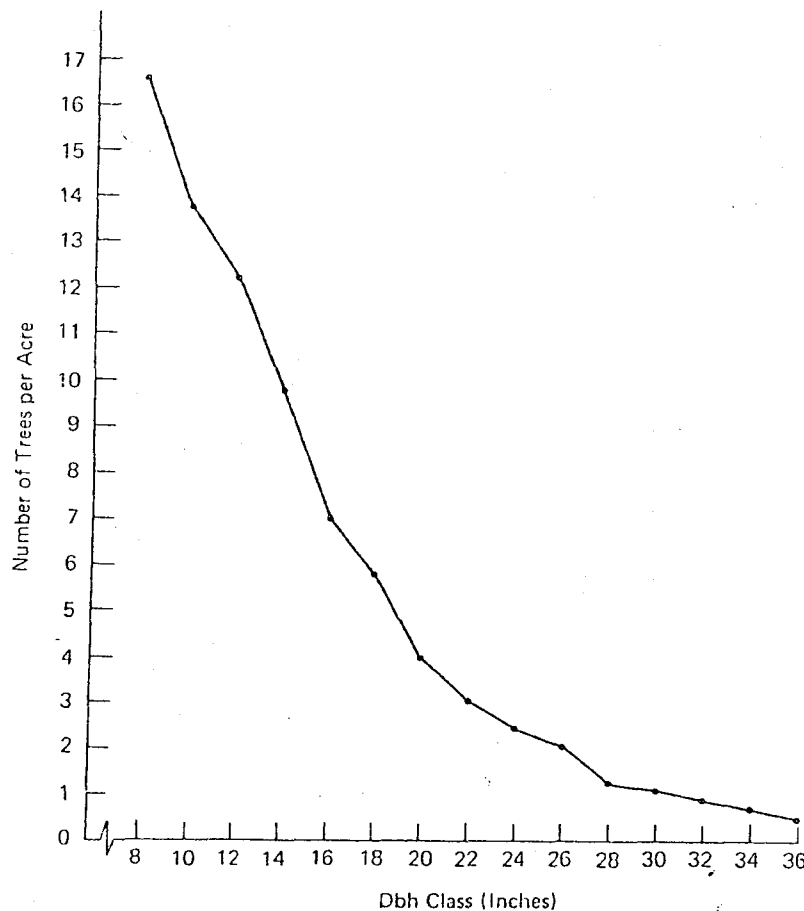


Fig. 17-2. Diameter distribution per acre for an uneven-aged virgin stand of beech-birch-maple-hemlock (adapted from Meyer and Stevenson, 1943).

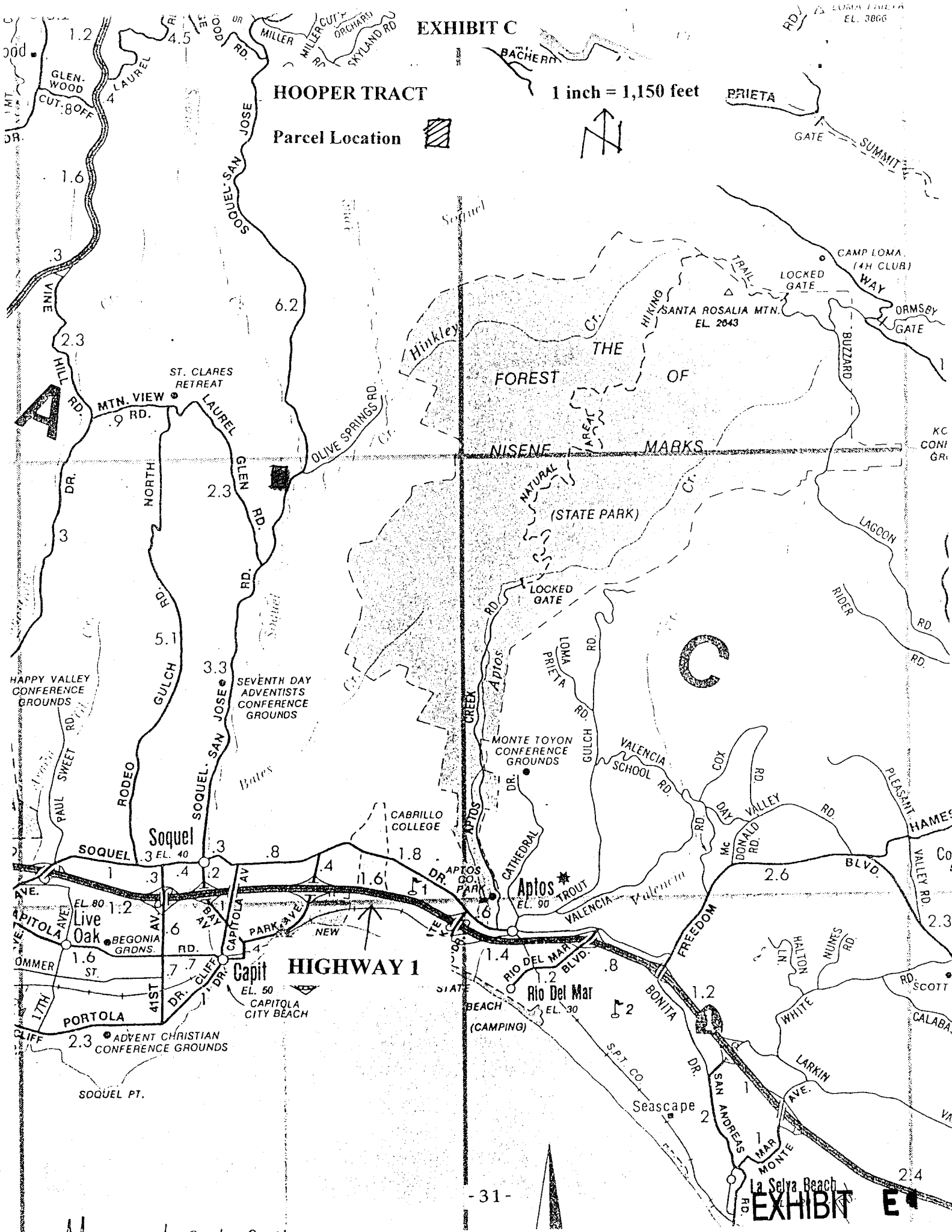


EXHIBIT C

HOOPER TRACT

1 inch = 1,150 feet

Parcel Location



C

HIGHWAY 1

EXHIBIT E

EXHIBIT C

266

400

← Old San Jose Road

23

BM

B2

← Olive Springs Road

1 inch = 500 feet

HOOPER TRACT

Parcel Location



APN# 103-022-10
Parcel Size: 19.5 acres

600

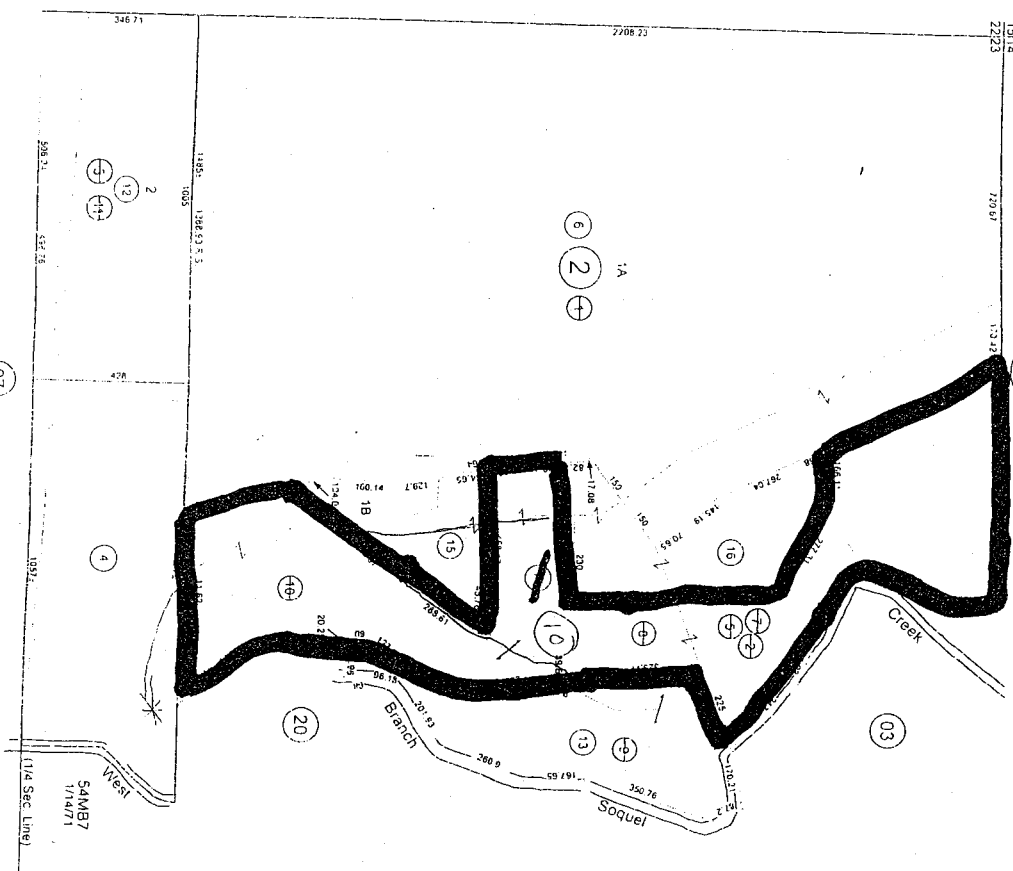
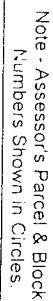
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POR. N.W. 1/4 SEC. 23,
T.10S., R.1W., M.D.B. & M.

Tax Area Code
83-010

103-02

LANDS CONVEYED TO
RICHARD FOURNIER
ET AL
42MB41 11/18/64



1/4 Sec. Cor

$$1'' = 540'$$

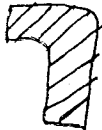
*1947 CITIES
 Assessor's Map No. 103-02
 County of Santa Cruz, Calif.
 Aug. 1998

EXHIBIT C

SOIL SURVEY OF SANTA CRUZ COUNTY

LAUREL QUAD

HOOPER PARCEL



SCALE 1" = 2000'



EXHIBIT D

STOCKING ANALYSIS HOOPER PROPERTY

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: Field review of the property suggests that the average dominant redwood trees on the property exhibit Site III characteristics. Site III characteristics are defined under CCR 1060 as lands capable of growing redwood trees of 135-154 feet in 100 years. The parcel has been selectively harvested in the past and has demonstrated the ability to sustain periodic harvests while maintaining the minimum basal area requirements cited above. Current stocking is 366.5 square feet of basal area per acre, almost five times above the required standards. There will be no problem meeting these standards after each periodic 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 51104(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. Soil productivity analysis confirms this observation. The soil type is Nisene - Aptos complex which is well suited to the production of redwood and Douglas-fir timber. Based on increment corings the stand is currently producing 1,030 board feet per acre per year which converts to 85 cubic feet per acre per year. This is almost six times the state mandated requirement.

COMPATIBLE USE ANALYSIS

The parcel is undeveloped and the primary land uses have been timber, watershed, and recreation. It will be possible for the parcel to accommodate limited residential development in the future provided that suitable landing sites are retained and road use for log hauling continues to be permitted.

EXHIBIT E

SANTA CRUZ COUNTY

TIMBER HARVESTING PERMIT APPLICATION

Application No. _____ Date Received _____

Application is hereby made for a Timber Harvesting Permit, as provided in Title 14, Chapter 14.04, Section 14.04.050 of the Santa Cruz County Code. All information contained in the Timber Harvesting Permit Application and not in conflict with Chapter 14.04 shall become part of the Permit.

The Timber Harvesting Permit Application shall be prepared by a Registered Professional Forester and filed jointly by the timberland owner, timber owner and, if known, timber operator.

At the discretion of the Planning Director, application for smaller timber harvesting operations described in Section 14.04.070 (a) need not be prepared by a Registered Professional Forester. Is application being made under this Section? Yes _____ No X

1. Timberland Owner(s)

Name Harry B. & Christine Hooper Jr.

Address 4250 Opal Cliff Drive, Santa Cruz, CA Zip 95060

Phone (408) 475-8110

2. Timber Owner(s)

Name Same

Address _____ Zip _____

Phone _____

3. Registered Professional Forester

Name Dale F. Holderman License No. 69

Address 3564 Highway 1, Davenport, CA Zip 95017

Phone (408) 423-4156

4. Timber Operator

Name Big Creek Lumber Company

Address 3564 Highway 1, Davenport, CA Zip 95017

Phone (408) 423-4156

5. Legal description of Proposed Timber Operation.

Sub. Sec.	Section	Township	Range	Acreage
Ptn. NW $\frac{1}{4}$	23	10S	1W	35
Total Acreage				

6. Tax Assessor's parcel numbers upon which timber operations will take place.

103-022-07 08 09 and 10

7. Type(s) of Forest Products to be harvested. sawlogs and fuelwood

8. Acreage in Harvest Area by Type.

Old Growth		Acres
Prior Cut	35	Acres
Hardwood		Acres
Total	35	Acres

9. Volume of Forest Products to be harvested by type.

Old Growth		M.b.f.
Prior Cut	500	M.b.f.
Hardwood		cords or tons

10. Silvicultural Method(s) to be used. selction

11. Anticipated Period of Operation

Starting Date April 1, 1978

Completion Date April 1, 1979

12. Proposed Haul Route(s) Old San Jose Road, Highway 1 to Davenport sawmill
13. Statement by Timberland Owner describing the future use of the property.
Continued timber production and recreation while reserving the right to sell or use the land as currently zoned
- Owner's Initials _____
14. Has Timber Harvesting occurred on any portion of the proposed operation within the last 10 years? If yes, explain No
15. Will tree marking be done? Yes X No _____
16. Are there any understocked areas within the proposed Harvest area?
Yes _____ No X
17. Soil(s) type. Hugo loam - steep phase
18. Are there any active or potential slide areas within the Harvest areas?
Yes X No _____. If yes, explain and show on map. Small slide in steep rocky area not likely to slip more.
19. Will the proposed operation be conducted between November 15 and April 1st?
Yes X No _____. If yes, explain additional measures to be taken and adequacy of plan for winter operations. Operation subject to approval of County Forester, County Ordinance adequate regulation
20. Will there be any special treatment areas or streamside zones?
Yes _____ No X If yes, explain and locate on map. _____

21. Is there any variance needed or requested to any Provision of this Chapter? Yes _____ No X _____. If yes, complete the attached "Variance Request Form."
22. Are there any special protection areas as defined in Section 14.04.180 (a)? Yes _____ No X _____. If yes, explain special measure to be taken.

23. Additional provisions required by the Timber Harvest Ordinance not covered elsewhere. None

24. Additional Information None

WATERCOURSE CROSSING STRUCTURE AND INSTALLATION DATA

Indicate the following information for all proposed watercourse crossings:

1. Structure Number.
2. Type of crossing structure.
3. If culvert state diameter in inches.
4. If culvert state length in feet.
5. Is structure temporary or permanent.
6. If permanent submit data used to determine size of structure and predicted storm frequency.

No.	Type	Diameter	Length	Temp. or Permanent
None				

CERTIFICATION

I (we) declare that the foregoing is true and correct and that I (we) hereby agree to comply with the provisions of the Timber Harvesting Ordinance, all special permit conditions and all other applicable laws and regulations.

Timberland Owner: I hereby certify that, in addition to the above, I have reviewed this application with the Registered Professional Forester and find it in conformance with my ownership objectives.

Signature *James B. Cooper* Date 2-10-78

Timber Operator: I hereby certify that, in addition to the above, I have reviewed this application with the Registered Professional Forester, and find it to be a reasonable and workable proposal.

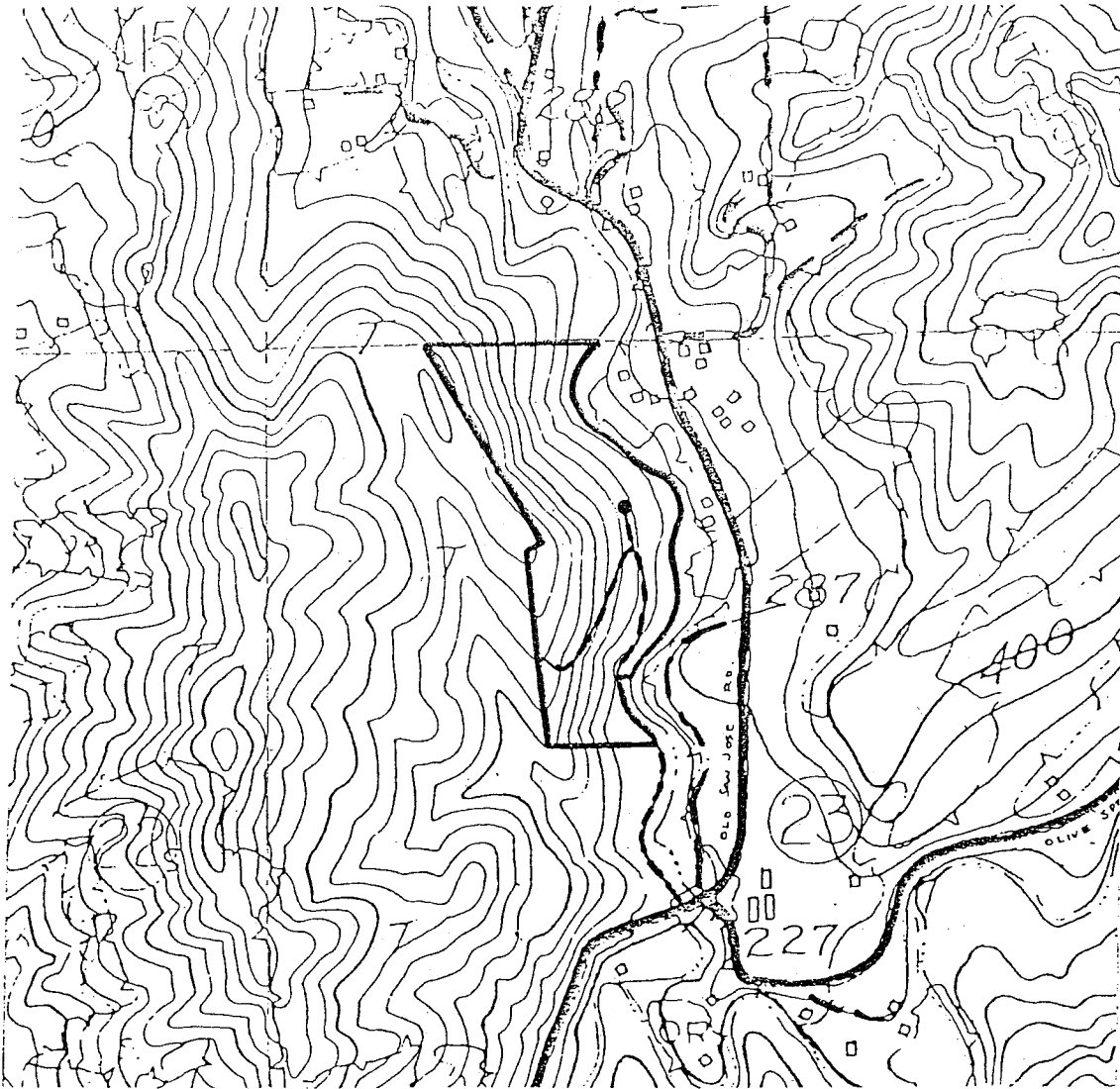
Big Creek Lumber Co., by
Signature *Dale F. Holderness* Date 2/9/78

Registered Professional Forester: I hereby certify that, in addition to the above, I have prepared the plan and that it is in conformance with both the provisions of the Timber Harvesting Ordinance and sound forest management principles.

Signature *Dale F. Holderness* Date 2/9/78

HOOPER UNIT

Sec. 23, T10S, R3W



- Existing Road
- Landing Site
- - - Stream
- Property Line

Date first submitted: _____

Plan No. _____

Date first filed: _____

TIMBER HARVESTING PLAN

(Sec. 4581, 4582, P.R.C., Sec. 1032-1045 Title 14, Calif. Adm. Code)

*The Timber Harvesting Plan will be in accordance with the Forest Practice Act and rules for each Forest District in which plan is filed.*See instructions on reverse side for completing and filing form.
This form must be printed in ink or typewritten.

1. Who is the person submitting this Timber Harvesting Plan?

Big Creek Lumber Company, 3564 Highway 1, Davenport, CA 95017

(NAME)

(ADDRESS)

2. Timber Owner(s) Harry B. & Christine Hooper Jr., 4250 Opal Cliff Drive

(NAME)

(ADDRESS)

Santa Cruz, California 95060

(CITY)

(STATE)

(ZIP)

(408) 475-8110

(PHONE)

3. Timberland Owner(s) Same

(NAME)

(ADDRESS)

(CITY)

(STATE)

(ZIP)

(PHONE)

4. Timber Operator(s) Big Creek Lumber Company 3564 Highway 1 A 300

(NAME)

(ADDRESS)

(LICENSE NO.)

Davenport, California 95017

(CITY)

(STATE)

(ZIP)

(408) 423-4156

(PHONE)

Responsible person to be contacted on the operation (if different than above).

Dale F. Holderman, 3564 Highway 1

(NAME)

(ADDRESS)

(408) 423-4156

(PHONE)

Davenport, California 95017

(CITY)

(STATE)

(ZIP)

NOTE: if more space is needed for the above items, attach an additional sheet with names, addresses and license numbers.

5. Show the location of proposed timber operation by legal subdivision description or such description as will enable the Director of Forestry to locate the operations on the ground. Use a separate sheet if necessary. If more than one parcel, list by order of harvesting, if known.

SUB. SEC.	SECTION	TOWNSHIP	RANGE	COUNTY	APPROX. ACREAGE
(1) Ptn NW $\frac{1}{4}$	23	10S	1W	Santa Cruz	35
(2)					
(3)					
(4)					

NOTE: These locations are to be shown on attached U.S.G.S. Quadrangle map or its equivalent.) TOTAL ACREAGE 35

On a USGS quadrangle or topographic map with a scale of not less than 2 inches to the mile, clearly provide the following information relative to your proposed operations. If only a 15 minute (1:62,500) quadrangle is available, a planimetric map with a scale of at least 2 inches to the mile must be attached as well. Items 1, 4, 5, and 7 below must be on the topographic map. Attach as many copies of the map as necessary to show the required information.

- (1) Boundaries of operation.
- (2) Location of all proposed and existing logging truck roads, public roads and private roads appurtenant to the operation in the Timber Harvesting Plan area.
- (3) Approximate locations of landings, roads and skid trails within the stream or lake protection zone.
- (4) Streams - include permanent and intermittent.
- (5) Logging road crossings over streams - include permanent and temporary bridges and culverts.
- (6) Locate areas of low, medium, high, and extremely high erosion hazard rating or erosion potential, if more than one.
- (7) Locate known potential or active slide areas, potential abnormal soil movement, or slope instability.
- (8) Locate boundaries of Site 1 timberland.
- (9) Locate boundaries of understocked areas prior to logging and other areas not normally bearing timber.
- (10) Locate permanently located structures currently maintained for human habitation.
- (11) Locate main ridge tops, in the logging area, suitable for fire snags - 43 - on efforts that will require the felling of snags.
- (12) Locate boundaries of logging systems (i.e. tractor and cable yarding), if more than one system is to be used.

EXHIBIT

E

7. Cutting is to be within the Coast Forest District, and in the Southern subdistrict" (if any).
8. Is a Timberland Conversion Permit in effect? Yes _____ No X If yes, permit number and date of expiration _____
9. Has a Timber Harvesting Plan been filed previously for any part of this area for which a Report of Satisfactory Stocking has not been issued by the Director of Forestry? Yes _____ No X If yes, enter Timber Harvesting Plan number and date filed. _____
10. Timber operations are expected to begin (date) April 1 1978
Expected completion date of operations April 1, 1979
11. The type of forest product(s) to be harvested sawlogs and fuelwood
12. List and explain those broadleaf or optional species approved by the District Forest Practice Rules or other species herein applied for special approval of the Board to be cut and managed as commercial species:
Tanoak and madrone
13. Silvicultural method(s) to be used: ☐ Thinning; ☒ Selection; ☐ Shelterwood; ☐ Seed Tree; ☐ Clear-cutting; ☐ Other. If other is checked complete item 14. To provide additional information use item 38.
Delineate on map the location of where silvicultural methods are to be applied, if more than one is to be applied.
14. If silvicultural method(s) other than those listed in the District Rules are planned describe the method(s) in sufficient detail to distinguish them from the methods listed in the District Rules. None
15. Will artificial regeneration be necessary to meet the stocking standards of the Forest Practice Act or the District Rules? Yes _____ No X What is the anticipated date of meeting stocking standards? Immediately upon completion of operations
16. Will the timber harvesting be primarily for the purposes of control of insects or disease, or for the salvage of dead or dying timber or for stand improvement operations where the net volume to be removed will be 25 percent or less? Yes _____ No X
If yes, which of the above? _____
17. Will any part of the timber operation be in an area that is understocked prior to harvesting? Yes _____ No X Acreage in understocked portion (show location on map) _____

18. Specify type of logging (yarding) systems and equipment to be used. crawler tractor
- Will tractor layouts be constructed? Yes _____ No X Will tractors be used for directional tree pulling? Yes X No _____
19. Will any part of the timber operation be within a unique or Special Treatment Area? Yes _____ No X
If yes, what type of area (show location of area on map) and special provisions to be taken: _____
20. If the area, or any part of it is within the jurisdiction of a regional coastal zone conservation commission, Tahoe Regional Planning Agency, or within a county which has adopted rules or regulations stricter than those of the Forest Practice Act or the Board of Forestry, identify the county or agency.
Santa Cruz County
21. Erosion Hazard Rating or Erosion Potential: check rating(s) and show on map if more than one rating:
Low ☒ Moderate (Medium) ☐ High ☐ Extremely high ☐
22. Explain the basis for the Erosion Hazard Rating or Erosion Potential in item 21 (slopes, rainfall, soils, vegetation after logging, etc.) and any other factors to be considered so that the rating can be determined.
A maximum potential erosion hazard rating of 8 with a climatic stress factor of 0.33 yields a rating of 2.6 or low
23. Will broadcast burning be utilized for hazard reduction? Yes _____ No _____
24. Outline methods to be used within the stream or lake protection zone(s) to avoid excessive accelerated erosion from timber operations (label streams for reference).
A protective strip having sufficient filter capacity to remove waterborne sediment and prevent significant degradation of water quality shall be maintained between construction and the stream
What width stream or lake protection zone(s) will be utilized? Designate zone width for each stream or lake. Variable per the above standards
- Are the U.S.G.S. topographic map stream designations representative of the conditions as they actually exist on the ground? Yes X No _____
If no, please describe needed changes. _____
25. Are there any stream crossings for which a notification to the Department of Fish and Game has to be made? Yes _____ No X If yes, describe type of installation and indicate whether permanent or temporary (show crossing(s) on map). _____
- Is a notification attached to this Timber Harvesting Plan for forwarding to the Department of Fish and Game? Yes _____ No X

26. Will any existing or proposed roads, skid trails, firebreaks, landings, or tractor trails be within 50 feet of a stream or lake transition line except for designated stream crossings? Yes X No _____. If yes, describe and explain (show locations on map). Adjacent to Soquel Creek along the northern 1000 feet of harvest area the terrain is generally flat and and tractor trails may be within fifty feet of the stream to take advantage of the more favorable terrain.
27. Explain reasons for new roads wider than single lane with turnouts and with gradients over 15 percent, or pitches over 20 percent exceeding 500 feet in length. No such roads
28. Are timber operations to be conducted during the winter period? Yes X No _____. If yes, what activities are to be conducted, and what additional provisions will be taken to minimize erosion. No harvesting when the ground is excessively wet. Erosion control facilities installed concurrently with timber operations.
29. Specify appropriate erosion control measures for tractor logging on steep slopes. Tractors to be operated with the slope whenever possible. Waterbars to be deep and erosion control measures to be maintained effective.
30. Will tractor yarding equipment be operated on known or potential active slide areas? Yes X No _____. If yes, what protective measures are to be undertaken? Steep slopes all have the potential to slide. Limit the depth of cuts and fills. Avoid unstable areas unless such use can be stabilized.
31. Will road construction or reconstruction involve slides or areas of active soil movement? Yes X No _____. If yes, what special measures are to be undertaken? Road reconstruction involves removal of some cut banks which have sluffed into the roadway.
32. How are those areas of bare mineral soil, exposed during timber operations, within the stream or lake protection zones, as specified in the District Rules to be treated? Seeding with rye grass as required or necessary.
33. If there is in the area any known key habitat of any endangered bird, mammal, fish, amphibian, or reptile listed by the Department of Fish and Game in the inventory prepared pursuant to the Fish and Game Code, list the species and the special provisions to be taken, if any: No such species
34. Are there any live trees with visible evidence of use as nesting sites by eagles, osprey, or endangered bird species? Yes _____ No X. Species and location. _____

35. Are there any snags with visible evidence of use as nesting sites by eagles, owls, hawks, waterfowl, or any rare or endangered species? Yes _____ No X Species and location _____
36. Are there any snags which must be felled for fire protection or other reasons? Yes X No _____
If yes, cite the rule basis for snags to be felled. Any over 20 feet tall and 16 inches d.b.h. within 300 feet of main ridge tops suitable for fire suppression as approved by the State Forester
37. Additional provisions required by District rules to be included in the Timber Harvesting Plan not covered elsewhere: To minimize soil excavation and erosion, skid trails will be covered with slash and debris following completion of use wherever possible.
38. Additional information, if any (use this section if more space is needed on other items):
To permit safe hauling of logs and prevent damage to trucks, waterbreaks will be installed per Section 915.5 rather than concurrently with construction of permanent roads. Waterbreaks on tractor trails will be installed following completion of slash crushing in accordance with Section 915.5.

REGISTERED PROFESSIONAL FORESTER

39. I am the agent for the Timber Harvesting Plan submitter(s) in regards to any concerns, and questions, etc., the Director of Forestry or his representative may have in finding this plan in conformance or non-conformance. Yes X No _____
40. My responsibilities beyond preparation of the Timber Harvesting Plan are:
Supervise execution of the plan.
41. In addition to preparing this plan, I have notified the timber owner and timberland owner, in writing, of their responsibilities for compliance with the stocking requirements. Yes _____ No X
Timber Operator assumes responsibility for compliance with stocking.

42. I have supplied or will supply the timber operator with a copy of this Timber Har-

Yes X No _____

Registered Professional Forester

Dale F. Holderman
(Signature)

Dale F. Holderman

(Print Name)

Registration No. 69

3564 Highway 1, Davenport, California 95017 (408) 423-4156 2/9/78
(Address) (City) (Zip) (Telephone No.) (Date)

CERTIFICATION

43. The above conforms to my (our) plan and upon filing it is agreed that harvesting will be in accordance therewith. Consent is hereby given to the Director of Forestry, his agents and employees, to enter the premises to inspect timber operations and to determine compliance with the Forest Practice Rules.

Timber Owner Harry B. Hooper Harry B. Hooper Owner
(Print Name) (Signature) (Title) (Date)

Timberland Owner Same Harry B. Hooper
(Print Name) (Signature) (Title) (Date)

Timber Operator Big Creek Lumber Co. by Dale F. Holderman 457-5325
(Print Name) (Signature) (Title) (Date) Forester 2/9/78

If all parties have not signed the Timber Harvesting Plan, a copy of a letter of notification to those parties must be submitted with the plan.

DIRECTOR OF FORESTRY

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

By _____ Date _____
(Print) (Signature)

Title _____

457-5325