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CALIFORNIA COASTAL COMMISSION

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Commission Action:
Commission Vote:

STAFF REPORT: REGULAR CALENDAR

Application No. 4-95-173
Applicant: MHAB Trust
Agent: Land Design Consultants, Inc.
Project Location: Northwesterly of the intersection of Palm Canyon and Serra Roads in the unincorporated Malibu area of Los Angeles County (Exhibits 1 - 9).

Project Description: Subdivision of 35.8-acre parcel (APN 4457-002-037) into 4 single-family residential parcels ranging in size from 7.3 to 13.1 acres, private roadway improvements, dedication of 30 acres of permanent open space, existing water storage tank and access road, building pads and utilities, drainage management devices (culverts, energy dissipaters), 8,460 cubic yards of grading (3,850 cu. yds. of cut and 4,230 cu. yds. of fill), and an "Arizona"-style creek crossing at the Palm Canyon Road entrance to one of the four parcels. Applicant also proposes to remove four fire-damaged coastal live oak trees and approximately 150 avocado trees. (See Exhibits 1 - 10)

Local Approvals: County of Los Angeles approval of tentative minor land division No. 23897; County of Los Angeles approval in concept for lot line adjustment; Los Angeles County Fire Department approval in concept, City of Malibu approval in concept for lot line adjustment, California Department of Fish and Game Streambed Alteration Agreement No. 5-010-96

Substantive File Documents: See Appendix A

SUMMARY OF STAFF RECOMMENDATION: The proposed site is located in the Malibu Creek Watershed and within a Significant Ecological Area. The site contains a number of locally rare and sensitive habitats, as well as a designated blue line stream.

Through a combination of measures to avoid impacts to the most sensitive portions of the parcel and the applicant's proposed riparian restoration program, staff believes the applicant's proposal to subdivide the parcel into four residential lots can be approved as requested. Staff recommends that the Commission approve the project provided special conditions are imposed to address revegetation, recordation of permit, cumulative impacts, geology, archaeology, erosion control, and revised plans (to require bridging or placement of an arched culvert instead of the proposed "Arizona" style driveway crossing to serve Lot 4).

STAFF RECOMMENDATION

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions.

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions

1. Landscaping and Erosion Control Plans

Prior to issuance of permit, the applicant shall submit landscaping and erosion control plans prepared by a licensed architect and engineer for review and approval by the Executive Director. The plans shall incorporate the following criteria:

- (a) All graded areas on the subject site shall be planted and maintained for erosion control and visual enhancement purposes. To minimize the need for irrigation and to screen or soften the visual impact of development all landscaping shall consist primarily of native, drought resistant plants as listed by the California Native Plant Society, Santa Monica Mountains Chapter, in their document entitled Recommended Native Plant Species for Landscaping Wildland Corridors in the Santa Monica Mountains, dated January 20, 1992. Invasive, non-indigenous plant species which tend to supplant native species shall not be used.
- (b) Grading shall not take place during the rainy season (November 1 - March 31). The development shall minimize sediment from runoff waters during construction through the use of sediment basins (including debris basins, desilting basins, or silt traps) on the project site prior to or concurrent with the initial grading operations and maintained through the development process. All sediment shall be retained on-site unless removed to a dumping location subject to the prior review and approval of the Executive Director.
- (c) All grading activities shall be carried out as expeditiously as feasible and all building pads shall be hydroseeded with native grasses or native annuals and access roads paved within 30 days of grading completion. In the event that grading activities are interrupted for a period of more than 30 days, all exposed areas shall be hydroseeded with native seed, all access roads shall be paved, and sediment retention methods shall be implemented during the period of interruption.

2. Recordation of Permit

Prior to project commencement, the applicant shall record Permit 4-95-173 and the associated Commission findings. The document shall run with the land, binding all successors and assigns.

3. Installation of Fencing

(a) Applicant agrees that all fencing utilized on the subject site shall be of a type that neither injures nor restricts the movement of wildlife. No fencing shall be placed closer than 25 feet from the nearest edge of streambed scour. No barbed wire, mesh or chainlink fencing shall be allowed.

4. Cumulative Impact Mitigation

Prior to the issuance of the Coastal Development Permit, the applicant shall submit evidence, subject to the review and approval of the Executive Director, that the cumulative impacts of the subject development with respect to build-out in the Santa Monica Mountains are adequately mitigated. Prior to issuance of this permit, the applicants shall provide evidence to the Executive Director that development rights for residential use have been extinguished on three (3) building sites in the Santa Monica Mountains Coastal Zone. The method used to extinguish the development rights shall be either:

- (a) one of the five lot retirement or lot purchase programs referred to in the Malibu/Santa Monica Mountains Land Use Plan (Policy 272, 2-6);
- (b) a TDC-type transaction, consistent with past Commission actions;
- (c) participation along with a public agency or private nonprofit corporation to retire habitat or watershed land in amounts that the Executive Director determines will retire the equivalent number of potential building sites. Retirement of a site that is unable to meet the County's health and safety standards, and is therefore unbuildable under the Land Use Plan, shall not satisfy this condition.

5. Plans Conforming to Geologic Recommendations

All recommendations contained in the Geologic Report dated February 7, 1994, and addendum Geologic Reports dated August 29, 1994, January 24, 1995, and March 28, 1995, prepared (all) by R.L. Sousa & Associates, as well as the Soils Engineering Investigation dated February 17, 1994 and addendums to the Soils Engineering Investigation dated September 6, 1994 and January 23, 1995, prepared (all) by G.C. Masterman & Associates, Inc., shall be incorporated into all final design and construction

including grading, septic systems, and drainage. All plans must be reviewed by the consultants prior to commencement of development. Prior to issuance of the coastal development permit, the applicant shall submit evidence for the review and approval of the Executive Director of the consultants' review and approval of all final design and construction plans.

The final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission relative to construction, grading, fault setback, and drainage. Any substantial changes in the proposed development approved by the commission which may be required by the applicant's consultants shall require an amendment to the permit or a new coastal development permit.

6. Archaeological Resources

By acceptance of this permit the applicant agrees to have a qualified archaeologist(s) and appropriate Native American consultant(s) present on-site during all grading, excavation and site preparation that involve earth moving operations. The number of monitors shall be adequate to observe the activities of each piece of active earth moving equipment. Specifically, the earth moving operations on the project site shall be controlled and monitored by the archaeologist(s) for the purpose of locating, recording and collecting any archaeological materials. In the event that an area of intact buried cultural deposits are discovered during operations, grading work in this area shall be halted and an appropriate data recovery strategy be developed by the applicant's archaeologist and the Native American consultant consistent with Special Condition 14 of Tentative Parcel Map No. 23897 and CEQA guidelines implemented, subject to the review and approval of the Executive Director.

7. Drainage and Erosion Control Plans

Prior to the issuance of the Coastal Development Permit, the applicant shall submit for the review and approval of the Executive Director, a drainage and erosion control plan, designed by a licensed engineer and approved by the Los Angeles County Department of Public Works. The drainage and erosion control plan will not result in increases in either peak run-off volume or velocity for a 25 year / 24 hour rainfall event. Specifically, runoff volumes and velocities for a 25-year and 24-hour event must be calculated for existing and post-project conditions to demonstrate that no increase in runoff volume or velocity will occur. The drainage and erosion control plan shall include, but not be limited to, a system which collects run-off from the roads, driveways, and other impervious surfaces, and discharges it in a non-erosive manner including, if appropriate, on-site detention/desilting basins, dry wells, etc.

If any on-site detention system is planned either on or upslope from an engineered fill or an identified landslide, the drainage and erosion control plans shall be reviewed and signed by a licensed civil engineer or engineering geologist, indicating that the drainage

and erosion control plan will not negatively impact or destabilize the identified fill or landslide. Any substantial changes in the proposed development approved by the Commission which may be required by the drainage consultant shall require an amendment to the permit or a new coastal development permit.

8. Revised Plans

(a) Prior to issuance of the Coastal Development Permit, the applicant shall submit, for the Executive Director's review and approval, revised plans limiting grading setbacks to not less than a minimum of twenty-five (25) feet from the outer extent of scour lines of the mapped blue line stream traversing the applicant's property.

(b) Prior to issuance of the Coastal Development Permit, the applicant shall submit, for the review and approval of the Executive Director, revised plans for the proposed driveway crossing of the riparian corridor. No solid fill shall be placed within the blue line stream riparian area identified on Exhibit 5. The proposed crossing shall be either in the form of a bridge that spans the riparian area and avoids the placement of fill, or an arched culvert type of design.

Note: the following two special conditions have proposed by the applicant:

9. Open Space Deed Restriction

In accordance with the applicant's proposal, prior to issuance of the Coastal Development Permit, the applicant shall execute and record a deed restriction, subject to the review and approval of the Executive Director, stating that an open space area shall be created on the subject parcel that includes the area shown on Exhibit 4. Within the open space area, all development activity, except the continued existence and maintenance of the agricultural water tank and access roadway depicted on Exhibit 4, and the installation of fencing necessary to exclude livestock from the open space area consistent with the requirements of Special Condition 3, is prohibited, including the alteration of landforms, removal of vegetation, use of heavy machinery or equipment, use of the area for livestock grazing, or the erection of structures of any type.

10. Fencing of Open Space Area

In accordance with the applicant's proposal, within 30 days of completion of final grading, applicant agrees to install wildlife-compatible fencing in accordance with the requirements of special conditions set forth herein to restrict livestock from those areas of the dedicated open spaces that would otherwise be accessible. Where terrain is too steep to allow livestock to pass or where fencing would require removal of significant vegetation, no fencing shall be required. Applicant agrees that such fencing shall be permanently maintained by himself or his successors-in-interest, so as to permanently restrict access to the open space area by livestock.

11. Revegetation Implementation and Monitoring

In accordance with the applicant's proposal:

a) Within thirty (30) days of completion of final grading, applicant shall implement the Habitat Management and Fuel Modification Plan attached as Exhibit 10, and herein incorporated by reference. At the end of the third year after Plan implementation, the applicant shall submit a final revegetation monitoring report prepared by a qualified botanist or resource specialist, for the review and approval of the Executive Director, which indicates the success or failure of revegetation activities. If the report finds that revegetation activities are in part, or in whole, unsuccessful, then the applicant shall be required to extend revegetation activities for an additional two (2) years to insure that the site is adequately revegetated. The applicant agrees to submit an additional revegetation monitoring report to the Executive Director at the end of the additional two year period, should such an extension be required. Commission staff shall verify the results of reports required herein.

(b) All oak resource protection measures outlined in the Habitat Management and Fuel Modification Plan (Exhibit 10) shall be implemented prior to, and during, all grading and construction activities. All tree replacement measures shall be implemented within 30 days of final grading completion and new tree seedlings shall be planted out during the first spring following such grading completion. Any future removal of trees other than those specified shall require a new coastal development permit or an amendment to Permit No. 4-95-173.

(c) Applicant also agrees to remove any existing fencing within 25 feet of the centerline of the creekbed within 30 days of the completion of final grading and that no future fencing within 25 feet of the top-of-bank of the blue line stream shall be constructed..

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. Project Description, Environmental Setting, and Background

The subject property is located in Los Angeles County, just north of the City of Malibu at the southernmost foothills of the Santa Monica Mountains. Malibu Lagoon is approximately 1.1 miles southwest of the site. Malibu Creek lies approximately .6 miles to the west. The proposed project site is located immediately northwest of the Serra Retreat area, in the Malibu Creek Watershed. The site does not contain, nor is it visible from, any public trails. The proposed building sites are not located within a designated Environmentally Sensitive Habitat Area (ESHA) or Significant Watershed, which would otherwise be afforded more restrictive development standards. The upper reaches of the

parcel are located within the Malibu Canyon Significant Watershed and the Malibu Canyon SEA (No. 5). These portions of the parcel are proposed for permanent open space preservation. The site is traversed by a blue line stream, however, and two other smaller drainages. Almost all of the site was burned during the November 2, 1993 arson fire that charred 18,500 acres of the Santa Monica Mountains.

Much of the site is characterized by steep (greater than 50 percent), generally south-facing slopes that finger from two ridgelines which originate just south of Piuma Road. A relatively level area is situated in the southern section of the site. Elevations overall range from 90 to 600 feet above sea level. A perennial spring is located near the center of the site. Water surfaces from a deep tunnel carved into the bedrock, and is collected in a tank several yards to the south. One geologic hazard, resulting from an ancient slide zone, was found during the geologic investigation of the site (Sousa & Associates, 1994). A structural setback for the toe of the slide is encompassed within the area proposed for preservation as open space.

The applicant proposes to subdivide the approximately 35.8-acre parcel located north of the intersections of Serra Road and Palm Canyon Lane into four lots for eventual construction of single family residences. The proposed lots range in size from 7.3 to 13.1 acres (see Exhibits 1 - 9). The certified Malibu/Santa Monica Mountains Land Use Plan designates 4.45 acres of the parcel "Residential" (one dwelling unit per acre on slopes less than 50 percent) (the building sites are located in this portion), 28.08 acres "Mountain Land" (one dwelling unit per 20 acres) and 3.27 acres "Parks" (no dwelling units credited). The land use designations are sufficient to yield the proposed four parcels. Because the proposed new parcels were not counted on the Malibu Build Out Study Maps, cumulative mitigation will be required. The site presently supports approximately 5 acres of avocado orchards.

The applicant proposes to serve Lots 1, 2 & 3 by a 24-foot wide paved private driveway and fire lane from Serra Road and to access Lot 4 with a 25-foot wide off-site access easement from Palm Canyon Lane with a 32-foot diameter fire department turnaround. As proposed, the driveway to Lot 4 would require paving a driveway crossing within the creekbed of a designated blue line stream. The construction of the private driveways and grading of pads for the four lots will require a total of 8,460 cubic yards of grading (380 cu. yds. of cut for driveways, 3,850 cu. yds. of cut for grading pads, and 4,230 cu. yds. of fill). Sewage disposal will be provided by on-site private septic disposal systems. Though adequate septic and leachfield disposal locations and percolation capacity have been demonstrated by the applicant, permits for individual septic systems are not before the Commission in this application but would be subject to review at the time construction of individual residences is proposed.

The proposed project includes minor pavement widening along Serra Road and a portion of Palm Canyon Lane. The project will provide additional pavement widening along Serra Road from 0 - 4 feet wide from the Pacific Coast Highway to the project access for

Lots 1 - 3 and additional pavement widening from 0 - 8 feet along Palm Canyon Lane from approximately 600 feet westerly of Serra Road in compliance with the requirements imposed upon the project by the Los Angeles County Fire Department. Pavement widening along Serra Road in a few locations may require minor amounts of grading (approximately 10 cubic yards or less) along areas previously graded (see Exhibit 8).

The applicant also proposes a lot line adjustment to exclude from the subject parcel two existing structures (a pre-1960s 900 sq. ft. single story single family residence with a 750 sq. ft. detached garage) that presently straddle the southerly property line (which also divides Los Angeles County and the City of Malibu). The lot line adjustment would add .07 acres to the southerly parcel (APN 4452-014-065) and similarly decrease the size of the northerly parcel proposed for subdivision (APN 4457-002-037). The southerly parcel is presently 7.60 acres and after the lot line adjustment would total 7.67 acres. The latter parcel also contains four other small "ranchito" style structures dating from the 1930s - 1950s, presently occupied as single family residences.

To fulfill a condition imposed previously by Los Angeles County, the applicant proposes to deed restrict approximately 30 acres of open space. Most of the portion of the parcel proposed as open space is unbuildable due to steep slopes and geologic hazard (landslide) setbacks. The applicant has volunteered, however, to fence those portions of the open space area presently accessible to grazing livestock. Exclusion of livestock would limit disturbance of the creek drainages in this small portion of the watershed and thereby benefit environmentally sensitive habitat areas adversely affected by livestock trampling and grazing. A sycamore woodland, still in the early stages of recovery from the fire, is present within the open space area. An existing agricultural water tank and a maintenance road (shown on Exhibit 4) traversing the lower portion of the proposed open space area would be retained. A small freshwater marsh adjacent to the tank may be supplemented by the overspillage of the irrigation pipeline system associated with the tank. The marsh would be retained within the proposed open space area.

The applicant proposes to remove four mature coastal live oak trees that suffered substantial damage in the 1993 fire and approximately 150 avocado trees to construct the proposed building pads.

As noted previously, the applicant proposes to construct an "Arizona"-style crossing by installing a 25-foot wide concrete culvert from the bottom of the unnamed watercourse at the southerly property entrance to Lot 4. The intermittent stream is mapped as a blue line stream on the U.S. Department of the Interior Geologic Survey Quadrangle Maps. The crossing would be adjacent to an existing paved driveway serving three lots to the west of the site. Toward the southwest of the driveway, the drainage crosses Palm Canyon Lane and enters a horse pasture and eventually a system of culverts on the Serra Retreat property. The creek drains to Malibu Creek and ultimately to the Malibu Lagoon.

B. Sensitive Resources

Sections 30230 and 30231 of the Coastal Act are designed to protect and enhance, or restore where feasible, marine resources and the biological productivity and quality of coastal waters, including streams:

Section 30230:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30236 limits approvable alteration of rivers and streams to that necessary for specific categories of development:

Section 30236:

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas must be protected against disruption of habitat values:

Section 30240:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

In addition, the certified Malibu/Santa Monica Mountains Land Use Plan contains relevant policies protective of sensitive riparian and other habitat areas. The Commission has relied upon these policies for guidance in past permitting decisions.

LUP policy P78 states in pertinent part:

Stream road crossings shall be undertaken by the least environmentally damaging feasible method. Road crossings of streams should be accomplished by bridging, unless other methods are determined by the ERB to be less damaging. Bridge columns shall be located outside stream courses, if feasible. ... Wherever possible, shared bridges or other crossings shall be used for providing access to groups of lots covered by this policy.

LUP policy P76

In accordance with Section 30236 of the Coastal Act, channelizations, dams or other substantial alterations of stream courses shown as blue line streams on the latest available USGS map should incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing properties is feasible

LUP policy P79

To maintain natural vegetation buffer areas that protect all sensitive riparian habitats as required by Section 30231 of the Coastal Act, all development other than driveways and walkways should be set back at least 50 feet from the outer limit of designated environmentally sensitive riparian vegetation.

LUP policy P82:

Grading shall be minimized for all new development to ensure the potential negative effects of runoff and erosion on these resources are minimized.

LUP policy P91

All new development shall be designed to minimize impacts and alterations of physical features, such as ravines and hillsides, and processes of the site (i.e., geological, soils, hydrological, water percolation and runoff) to the maximum extent feasible.

As discussed previously, a portion of the proposed project is located within the Malibu Canyon Significant Watershed and the Malibu Canyon Significant Ecological Area (SEA No. 5). The applicant's proposal would restrict development to the lower reaches of the subject parcel, southward of the boundaries of the Significant Watershed and Significant Ecological Area (see Exhibits 2 and 4). The applicant proposes to restrict as permanent open space the 30-acre portion of the parcel inside the watershed and ecological area designated boundaries. The developable areas have the potential, nevertheless, to adversely affect the riparian drainages traversing the site and discharging ultimately into Malibu Creek and Malibu Lagoon. The environmental setting of the site and the surrounding area is described more fully below.

The Malibu Canyon Significant Watershed supports oak and riparian woodlands with an unusually large variety of riparian plant species. Black cottonwood, California bay, leatherleaf ash, white alder, arroyo willow, sycamore, coast live oak, wild grape, and giant chain fern are all abundant. Much of the watershed is remote and undisturbed, particularly the northwest and central portions. Development is concentrated in the upper watershed (Monte Nido area) and the lower watershed (vicinity of the Civic Center). The majority of the watershed is dominated by a diverse mosaic of chaparral, coastal sage scrub, grassland and native woodlands. The mouth of Malibu Creek supports the only lagoon in Los Angeles County (Malibu Lagoon).

Malibu Canyon SEA contains a perennial stream with sharp relief between the interior valleys and the coast that is unique to the Santa Monicas, and is habitat for the most unique and diverse biota in the region. The stream in Malibu Canyon supports outstanding oak and riparian woodlands with an unusual variety of tree species. Black cotton wood and Leatherleaf ash are found here. Neither species is common in this region. There is also an abundance of woodland shrubs, native wildflowers, and other herbaceous growth.

Malibu Canyon bisects the Santa Monica Mountain range. As a result, species normally restricted to the drier interior valleys extend their range down the canyon and grow in association with coastal forms. This has created a very unique flora in the canyon. Despite declining wildlife populations over much of the Santa Monica Mountain region, Malibu Canyon continues to support many unique and uncommon wildlife species including mountain lions and golden eagles. The rich riparian vegetation offers excellent resting and feeding areas for birds migrating along the coast. In addition, Malibu Creek is the only watercourse in southern California where steelhead continue to run and spawn.

Three riparian drainages are present within the subject site and all ultimately drain into the lower reaches of Malibu Creek. Immediately south of the site are scattered single family developments and improved Palm Canyon Lane that conveys drainage from the project site and adjacent properties to Malibu Creek, which lies 0.6 miles to the south. As mentioned above, the major drainage course is designated as a blue line stream. Flows originating from the smaller westerly and easterly drainages merge with the central blue line stream and exit the site southerly, where they discharge into a small, natural section of the stream traversing the corner of the neighboring lot on Palm Canyon Lane. Commission staff visiting the Palm Canyon Lane parcel adjacent to this site in 1994 and 1995 noted that the blue line stream channel at the point of discharge onto the neighboring property on Palm Canyon Lane shows evidence of substantially increased streambed erosion.

The applicant's plans call for the placement of fill for building pads within ten feet of the centerline of the blue line streambed (Lot 3) (Exhibit 5). While the stream channel is deeper in this location on the site, grading (in this case, placement of 2,160 cubic yards of fill) in such close proximity to the stream channel will potentially subject the readily-erodible fill to contact with peak flow storm waters. The resultant erosion would adversely affect riparian resources by discharging sediment pollution into coastal waters. Surface soil erosion is cited as a principal cause of downstream sedimentation adversely affecting the riparian and marine resources of the Malibu Creek Watershed, as documented in the Malibu Creek Watershed Natural Resources Plan (USDA, Natural Resources Conservation Service, July 1995). As the Plan points out, urbanization and stream channelization have increased the sediment load, inorganic constituents, heavy metals, organic materials, and bacteriological contaminants in the watershed's surface waters. Suspended sediment is noted in the Plan as an important component of polluted urban runoff.

Polluted runoff has serious implications for coastal water quality. Research conducted during the past four years has identified single family residences as the top ranking contributor of pollutants discharged into the Santa Monica Bay. A study performed by the National Park Service in conjunction with the U.S. Geologic Survey demonstrated the impacts of urbanization on surface waters. The study showed there was a definite shift in the chemical composition in downstream surface waters. Suspended sediment can absorb nutrients and metals and transport them from their source throughout the watershed creating concerns in other water bodies. Sediment with a high organic or clay content is also an efficient carrier of trace metals and toxicants. Sediment which has settled out in the Malibu Lagoon may act as a sink and a source for nutrients. Malibu Creek is listed with intermediate impairments in the 1994 California State Water Quality Assessment. An intermediate impairment means that the beneficial uses are impaired at least part of the time. The impairments are fish population decline, spawning impairment, and sedimentation (emphasis added).

Because the stream channel traversing the applicant's parcel shows evidence of eroding toward the fill placement lines proposed particularly for Lot 3, and similarly toward Lot 2, the Commission finds that as proposed, the erosional potential of the project poses a serious risk of excessive sediment load discharge into the blue line stream drainage, and thus ultimately into Malibu Creek and Malibu Lagoon. Because sedimentation is a significant component of polluted urban runoff, as discussed above, the Commission finds it necessary to impose Special Conditions 1, 7 and 8 to ensure maximum control of potential erosion on site, both pre- and post- construction, and thus to protect sensitive coastal waterways from degradation. Special Condition 1 (Landscape Plan) ensures that grading shall not take place during the rainy season, that sediment control measures are adequately employed during construction, and that graded areas are promptly reseeded, thus limiting erosion that may result from building pad construction. Special Condition 7 (Drainage and Erosion Control Plans) ensures that the applicant's plans contain adequate measures to collect and discharge runoff from impervious surfaces in a non-erosive manner. This condition also ensures the project will not increase peak run-off volume or velocity over the natural condition, which will minimize the potential for increased erosion of the stream channel.

Special Condition 8 (Revised Plans) requires the applicant to revise the proposed access to Lot 4 to replace the proposed streambottom "Arizona"-style crossing with either a bridged crossing or the installation of an arched culvert, which is a large-diameter culvert that is cut in half lengthwise and placed like an arch across the watercourse and then covered with earthen material to form a road crossing. Installation of an arched culvert is a less expensive alternative than some bridging designs and avoids placement of solid fill directly within the watercourse. Coastal Act Section 30236 cited above and Land Use Plan Policy P76 restrict the kinds of projects that may warrant the approval of stream alteration. Subdivision of a parcel and the construction of a driveway within a streambed to service a proposed parcel do not meet the tests set forth in Coastal Act Section 30236, therefore, the Commission finds that construction of the "Arizona" style crossing is not the preferable alternative and that there are other feasible measures (bridging or a placement of a culvert) that would not adversely affect the stream.

Special Condition 8 also requires the applicant to revise project plans to limit grading encroachment upon the blue line stream corridor to a minimum of 25 feet from the nearest edge of the streambed scour lines. This measure addresses the trend of the blue line stream to erode in the direction of the buildable area proposed for Lot 3. Generally, the Commission has required such setbacks to be a minimum of 50 feet from the edge of riparian areas when such areas are designated as ESHAs. In this case, the Commission recognizes that the affected section of the blue line stream crossing the applicant's parcel is substantially degraded, is not located within the designated Significant Watershed or Significant Ecological Area boundaries, and that because the purpose of the setback is to reduce the potential for erosion of fill material, a 25-foot setback is acceptable.

In addition to other mitigation measures to reduce impacts to sensitive resources, the applicant has offered to implement the riparian restoration measures set forth in Special Condition 11 within 30 days of final grading completion. The applicant's Habitat Management and Fuel Modification Plan is attached as Exhibit 10. The habitat plan contains a survey of the existing sensitive habitats, outlines measures to protect oak trees during construction and to replant seedlings to mitigate the removal of four oak trees proposed by the applicant. The removed trees (and one dead tree snag left standing for aesthetic and habitat value) will be replaced by 25 new seedlings (a 5:1 ratio). The Commission generally requires a 10:1 restoration ratio, but acknowledges that 5:1 will be sufficient in this case because the trees proposed for removal were severely damaged in the 1993 Malibu wildfire and are either dead or in extremely poor condition. The applicant's plan includes protective measures for the sycamore woodland and freshwater marsh areas, sets forth invasive exotic plant removal procedures, and sets forth a detailed riparian planting plan. The plan outlines the applicant's monitoring program, including performance criteria and contingency actions. The plan also contains specific fuel modification measures designed to minimize disturbance of sensitive habitats while complying with the requirements of the Los Angeles County Fire Department. The habitat enhancement measures the applicant has voluntarily agreed to implement upon completion of final grading might not otherwise have been implemented for many years, until specific development proposals for individual parcels were undertaken. The benefits that will accrue as the result of accelerated restoration measures will further ensure the stability and habitat value of the riparian area and other sensitive habitats on site.

Because the proposed site contains complex assemblages of highly sensitive resources, the Commission has required in Special Condition 2 that the applicant record Coastal Development Permit 4-95-173 to ensure that future parcel owners are aware of the special conditions applicable to this site and thus continue to implement the protective measures set forth in the permit.

Further, the applicant has proposed to deed restrict the open space areas of the subject parcel located within the Malibu Creek Watershed and Significant Ecological Area No. 5. The applicant has also agreed to install wildlife-compatible fencing as necessary to restrict livestock from the proposed open space area. These measures will further protect and enhance the natural restoration of riparian, sycamore woodland, and freshwater marsh areas located within the open space boundary and thus benefit these locally rare environmentally sensitive habitat areas as required by the Coastal Act and the Malibu/Santa Monica Mountains Land Use Plan (Special Conditions 9 and 10).

For all of the reasons stated above, the Commission finds that only as conditioned would the proposed project be consistent with the Coastal Act policies protective of sensitive resources set forth above.

C. Cumulative Impacts of New Development.

Section 30250(a) of the Coastal Act states:

New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of the surrounding parcels.

Section 30105.5 of the Coastal Act defines the term "cumulatively," as it is used in Section 30250(a), to mean that:

the incremental effects of an individual project shall be reviewed in conjunction with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

In addition, the certified LUP contains the following policy regarding land divisions which is applicable to the proposed development. The LUP policy cited below have been found to be consistent with the Coastal Act and therefore, may be looked to as guidance by the Commission in determining consistency of the proposed project with the Coastal Act.

273d In all other instances, land divisions shall be permitted consistent with the density designated by the Land Use Plan Map only if all parcels to be created contain sufficient area to site a dwelling or other principal structure consistent with the LUP. All land divisions shall be considered to be a conditional use.

The Coastal Act requires that new development, including subdivisions and multi-family projects, be permitted only where public services are adequate and only where public access and coastal resources will not be cumulatively affected by such development. The subject site is located in an existing developed area of the coastal terrace, therefore the 50% criteria and average lot size criteria of Section 30250(a) are not applicable. However, the Commission has repeatedly emphasized the need to address the cumulative impacts of new development in the Malibu/Santa Monica Mountains area in past permit actions. The cumulative impact problem stems from the existence of thousands of undeveloped and poorly sited parcels in the mountains along with the potential for creating additional parcels and/or residential units through subdivisions and multi-unit projects. Because of the large number of existing undeveloped lots and potential future development, the demands on road capacity, services, recreational facilities, and beaches, could be expected to grow tremendously. In addition, future build-out of many lots located in environmentally sensitive habitat areas would create adverse cumulative impacts on coastal resources.

The certified LUP recognizes the cumulative impact problem in the Malibu/Santa Monica Mountains Coastal Zone:

If all existing nonconforming lots in the Malibu Coastal Zone were built out a significant portion of the proposed development capacity proposed in this Local Coastal Program would have to be reserved from utilization in otherwise more appropriate locations. Their development would demand the allocation of urban services not now available at these locations and could adversely affect the resources which remain in such locations.

While the above statement refers to nonconforming lots, it also points out a "development capacity" contained in the LUP and the demand on road capacity, services and recreation which would be exceeded by buildout of existing undeveloped lots. Therefore, any proposal to increase permitted density on a lot has the potential of adding to the cumulative impact burden on roads and services etc. even if the site is located in an existing developed area.

As a means of addressing the cumulative impact problem, the Commission has, in past permit actions, required consistency with the LUP land use designations for maximum density, as well as required participation in the Transfer of Development Credit (TDC) program as mitigation for new lot creation.

With regard to the LUP designations, the proposed project site has designations of Mountains II which allows a dwelling unit per 20-acres and Rural Land II which allows one dwelling unit per 5 acres. Based on the total acres of the project site in each of these density categories, the maximum allowable density would be five dwelling units. The applicant proposes four parcels which is consistent with the LUP designation of the proposed project site.

As proposed the subdivision of the 35.8 acre parcel (net acreage) into four parcels would be as follows: Lot 1 - 8.0 acres, Lot 2 - 13.1 acres, Lot 3 - 7.3 acres, and Lot 4 - 7.4 acres. In addition, the project involves a lot line adjustment, which would result in decrease of the total area of the site by .07 acres to the subject 35.8 area described above. The .07-acre area, as proposed, will be attached to the site adjacent to the south of subject property. As represented by the applicant's agent, the lot line adjustment will correct the siting of the 900 sq. ft. guest unit and 750 sq. ft. garage which were constructed in the 1960s across the lot line. The applicant's agent has stated that the reason the structure was incorrectly located on two parcels is based on inaccurate parcel maps available during the structure's construction. The revision of the lot line will therefore, correct the this error and allow the structure to continue to serve as a second unit for the contiguous site.

The subject site is located in the Serra Retreat area with the project's southern boundary line serving as the boundary between the City of Malibu and the County of Los Angeles. The site itself is located within the County of Los Angeles and access to the four proposed parcels will be achieved from two separate driveways off of Serra Roads. The project is north of Pacific Coast Highway, and northwesterly of the intersection of Palm Canyon and Serra Roads. The applicant is

proposing to widen Serra Road pursuant to the Fire Department standards concerning adequate vehicle access. The improvements to Serra Road are located within the City of Malibu and will be subject to building permits from the City of Malibu prior to their construction. Given that the project involves the creation of three additional parcels in an area that is presently developed, it appears that individually the subdivision would not result in significant or measurable traffic impacts.

The Coastal Act requires that new development, including subdivisions and multi-family projects, be permitted only where public services are adequate and only where public access and coastal resources will not be cumulatively affected by such development. The Commission has repeatedly emphasized the need to address the cumulative impacts of new development in the Malibu/Santa Monica Mountains area in past permit actions. The cumulative impact problem stems from the existence of thousands of undeveloped and poorly sited parcels in the mountains along with the potential for creating additional parcels and/or residential units through subdivisions and multi-unit projects. Because of the large number of existing undeveloped lots and potential future development, the demands on road capacity, services, recreational facilities, and beaches could be expected to grow tremendously. In addition, future build-out of many lots located in environmentally sensitive areas would create adverse cumulative impacts on coastal resources.

As a means of addressing the cumulative impact problem in past actions, the Commission has consistently required, as a special condition to development permits for land divisions and multi-unit projects, participation in the Transfer of Development Credit (TDC) program as mitigation (155-78, Zal; 158-78, Eide; 182-81, Malibu Deville; 196-86, Malibu Pacifica; 5-83-43, Heathercliff; 5-83-591, Sunset-Regan; and 5-85-748, Ehrman & Coombs). The TDC program resulted in the retirement from development of existing, poorly-sited, and non-conforming parcels at the same time new parcels or units were created. The intent was to insure that no net increase in residential units resulted from the approval of land divisions or multi-family projects while allowing development to proceed consistent with the requirements of Section 30250(a).

In reviewing recent Commission action pertaining to mitigating cumulative impacts, the Commission notes that the Malibu/Santa Monica Mountains Land Use Plan (LUP) does not contain the TDC Program as a means of mitigating the cumulative impacts of the potential build-out of existing non-conforming lots. Instead the LUP contains in Policy 272, six alternative mitigation techniques, which are administered by Los Angeles County, to prevent both the build-out of existing small lots and the development of lots of less than 20 acres in designated Significant Watersheds in order to insure that land divisions and multiple-unit projects are consistent with the requirements of Section 30250(a). The six basic components of Policy 272 are as follows:

1. Application of a residential building cap of 6582 new units, of which no more than 1200 units shall be in designated small lot subdivisions;

2. Acquisition, by outright public purchase, non-conforming lots and lots in designated Significant Watersheds through the continuing acquisition programs of several agencies;
3. Offering tax delinquent lots to adjoining lot owners, under attractive terms which would provide incentives for acquisition and consolidation into larger conforming parcels;
4. Offering incentives to owners of contiguous legally divided lots to voluntarily consolidate the lots into larger single holdings;
5. Empowering the County Community Redevelopment Agency to redevelop areas in order to achieve more appropriate lot and subdivision configurations and development sites;
6. Providing opportunities to owners of non-conforming lots to exchange their property for surplus governmental properties in more suitable development areas inside and outside the Coastal Zone.

The County currently does not have the mechanisms in place to implement any of these six programs. In several permit actions subsequent to certification of the LUP (5-86-592, Central Diagnostic Labs; 5-86-951, Ehrman and Coombs; 5-85-459A2, Ohanian; and 5-86-299A2 and A3, Young and Golling), the Commission found that until the County has the means to implement these programs, it is appropriate for the Commission to continue to require purchase of TDC's as a way to mitigate the cumulative impacts of new subdivisions and multi-residential development. In approving these permit requests, the Commission found that none of the County's six mitigation programs were "self-implementing" and that mitigation was still required to offset the cumulative impacts created by land divisions and multi-unit projects. The Commission found that the TDC program, or a similar technique to retire development rights on selected lots, remained a valid means of mitigating cumulative impacts in the interim period during which the County prepares its implementation program. Without some means of mitigation, the Commission would have no alternative but denial of such projects based on the provisions of Section 30250(a) of the Coastal Act.

More recently (May 1996), the Commission held a public workshop on the history and future operation of the TDC program. The Commission reviewed the intent, criteria and operation of the TDC program, took public testimony on the Efficacy of the program and acknowledged its continued implementation.

As discussed above, the LUP contains six potential techniques to mitigate cumulative impacts, and none of which are easily implemented at the present time. The reason that these techniques may be considered as options is that these programs may be available at some future date. In the interim, the Commission has approved new subdivisions, but has continued to require purchase of TDC's as one of the alternative mitigation strategies. Staff review indicates that the incremental contribution to cumulative impacts would be the creation of four additional lots. Impacts such as traffic, sewage disposal, recreational uses, visual scenic quality and resource degradation would be associated with the development of three additional lots in this area. Therefore, the Commission

determines that it is necessary to impose a requirement on the applicant, in order to insure that the cumulative impacts of the creation of four additional legal buildable lots are adequately mitigated. This permit has therefore been conditioned to require the applicant to mitigate the cumulative impacts of the subdivision of this property, either through purchase of three (3) TDCs or by participation in one of the County's alternative programs. The Commission finds that as conditioned, the proposed project is consistent with Section 30250(a) of the Coastal Act.

D. Geologic Stability

Section 30253 of the Coastal Act states in part that new development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

In addition, the Malibu LUP contains the following policies regarding geologic instability:

LUP policy P147: Continue to evaluate all new development for impact on, and from, geologic hazard.

LUP policy P149: Continue to require a geologic report, prepared by a registered geologist, to be submitted at the applicant's expense to the County Engineer for review prior to approval of any proposed development within potentially geologically unstable areas including landslide or rock fall areas and the potentially active Malibu Coast - Santa Monica Fault Zone. The report shall include mitigation measures proposed to be used in the development.

The proposed development is located in the Santa Monica Mountains, an area which is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property. The applicant has submitted approval from the County of Los Angeles Fire Department for the building sites and accessways that would be created as the result of the proposed subdivision. The Fire Department has required the applicant to perform some offsite roadway improvements as shown in Exhibit 8. The applicant's geologic and soils engineering reports state that:

It is the finding of this firm, based upon the subsurface data, that the subject building sites will not be effected adversely by settlement, landsliding, or slippage. Further, based upon the proposed location, development will not have an adverse effect on offsite property.

A mapped structural setback avoids a known landslide as shown by the "restricted use area" on the applicant's tentative parcel map (see Exhibit 2). The applicant proposes to dedicate the entire restricted use area as permanent open space, therefore construction in the area subject to potential landslide hazard will be prohibited.

Based on the recommendations of the consulting geologist and soils engineer, the Commission finds that the development is consistent with Section 30253 of the Coastal Act so long as the consultant's recommendations are incorporated into project plans. Therefore, the Commission finds it necessary to require the applicant to submit project plans that have been certified in writing by the consultants as conforming to their recommendations. The Commission finds that the proposed development, as conditioned, is consistent with Section 30253 of the Coastal Act.

E. Archaeological Resources

The project raises archaeological resource impact concerns because of the possibility that the proposed project may disturb archaeological resources. In response to this concern, Special Condition 6 requires a qualified archaeologist and appropriate Native American monitor to be on-site during all grading activity.

Section 30244 of the Coastal Act states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Policy 169 of the Malibu/Santa Monica Mountains Land Use Plan, which has provided guidance for the Commission in past permit decisions, states that

Site surveys performed by qualified technical personnel should be required for projects located in areas identified as archaeologically/paleontologically sensitive. Data derived from such surveys shall be used to formulate mitigating measures for the project.

If not properly located and designed, development can significantly impact archaeological resources. Excavation or grading for site preparation can disturb and/or obliterate archaeological materials to such an extent that the information that could have been derived would be lost. As so many archaeological sites have been destroyed or damaged as a result of development activity or natural processes, the remaining sites,

even though they may be less rich in materials, have become increasingly valuable. Additionally, because archaeological sites if studied collectively may provide information on subsistence and settlement patterns, the loss of individual sites can reduce the scientific value of the sites which remain intact. The greater province of the Santa Monica Mountains is the focus of one of the most important concentrations of archaeological sites in Southern California. Although most of the area has not been systematically surveyed to compile an inventory, the sites already recorded are sufficient in both numbers and diversity to predict the ultimate significance of these unique resources.

An archaeological resource survey and impact assessment was performed for the subject site and results published on September 27, 1994 by Brian D. Dillon, PhD, consulting archaeologist. Though at least one large, previously-recorded, archaeological site exists adjacent to the subject parcel, the consultant's field inspection confirmed that the known site did not extend onto the parcel. Nevertheless, a previously-unrecorded archaeological site was discovered on the parcel, and consisted of a small, surface shell scatter, probably of Late Prehistoric age, with only a few associated artifacts. Because of many years of agricultural site modification, the site is highly disturbed. The newly-discovered site was formally recorded and has been designated CA-LAN-TS1. The applicant's proposed development will directly impact this site. Special Condition 6 requires the applicant to have grading and cultural monitors onsite during all earth moving activity. If intact buried cultural deposits are discovered during construction operations, Special Condition 6 requires the grading work to stop and an appropriate data recovery strategy to be developed by the applicant's archaeologist and the Native American consultant, subject to the review and approval of the Executive Director. The Commission finds that as conditioned, any adverse impacts on archaeological resources will be mitigated and the proposed project would be consistent with the requirements of Section 30244 of the Coastal Act.

F. Septic System

The Commission recognizes that the potential build-out of lots in Malibu, and the resultant installation of septic systems, may contribute to adverse health effects and geologic hazards in the local area. Section 30231 of the Coastal Act states that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

In addition, the certified Malibu/Santa Monica Mountains Land Use Plan contains the following policies which the Commission has relied upon for guidance in past permit decisions:

Land Use Plan policy P80: The following setback requirements shall be applied to new septic systems: (a) at least 50 feet from the outer edge of the existing riparian or oak canopy for leach fields and (b) at least 100 feet from the outer edge of the existing riparian or oak canopy for seepage pits. A larger setback shall be required if necessary to prevent lateral seepage from the disposal beds into stream waters.

Land Use Plan policy P217: Wastewater management operations within the Malibu Coastal Zone shall not degrade streams or adjacent coastal waters or cause or aggravate public health problems.

Land Use Plan policy P218: The construction of individual septic tank systems shall be permitted only in full compliance with building and plumbing codes...

Land Use Plan policy P226: The County shall not issue a coastal permit for a development unless it can be determined that sewage disposal adequate to function without creating hazards to public health or coastal resources will be available for the life of the project beginning when occupancy commences.

The applicant has demonstrated that septic systems, including leachfields, can be situated for each proposed parcel in accordance with applicable setbacks. Favorable percolation tests were performed on the subject property which indicates that the percolation rate is sufficient to serve the future single family residences. Individual septic systems would be reviewed by the Commission when proposed in conjunction with specific residential development proposals. Therefore, the Commission finds that the proposed project is consistent with Section 30231 of the Coastal Act.

G. Local Coastal Program

Section 30604(a) of the Coastal Act states that:

(a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act.

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The preceding sections provide findings that if the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicant. As conditioned, the proposed development will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development will not prejudice the County's ability to prepare a Local Coastal Program for Malibu and the Santa Monica Mountains which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

H. CEQA

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment.

The proposed project, as conditioned, will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with the policies of the Coastal Act.

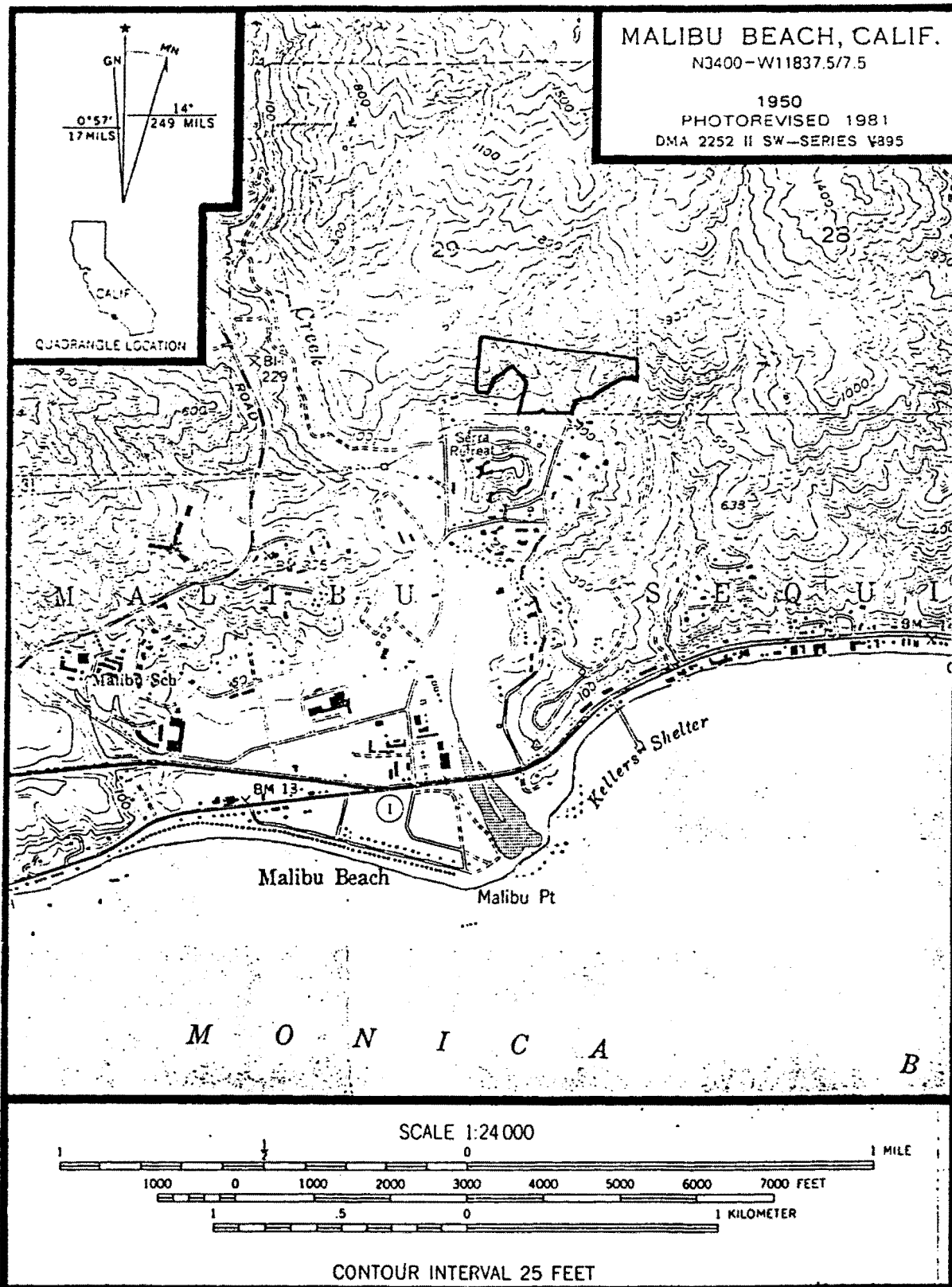


Figure 2: The Tentative Minor Land Division 23897 survey area (outline lines). Reproduced from the USGS Malibu Beach 7.5 minute topogr

EXHIBIT NO. 1A
 APPLICATION NO.
 4-95-173
 MHAB TRUST

G. C. MASTERMAN & ASSOC. INC.

SOILS ENGINEERS

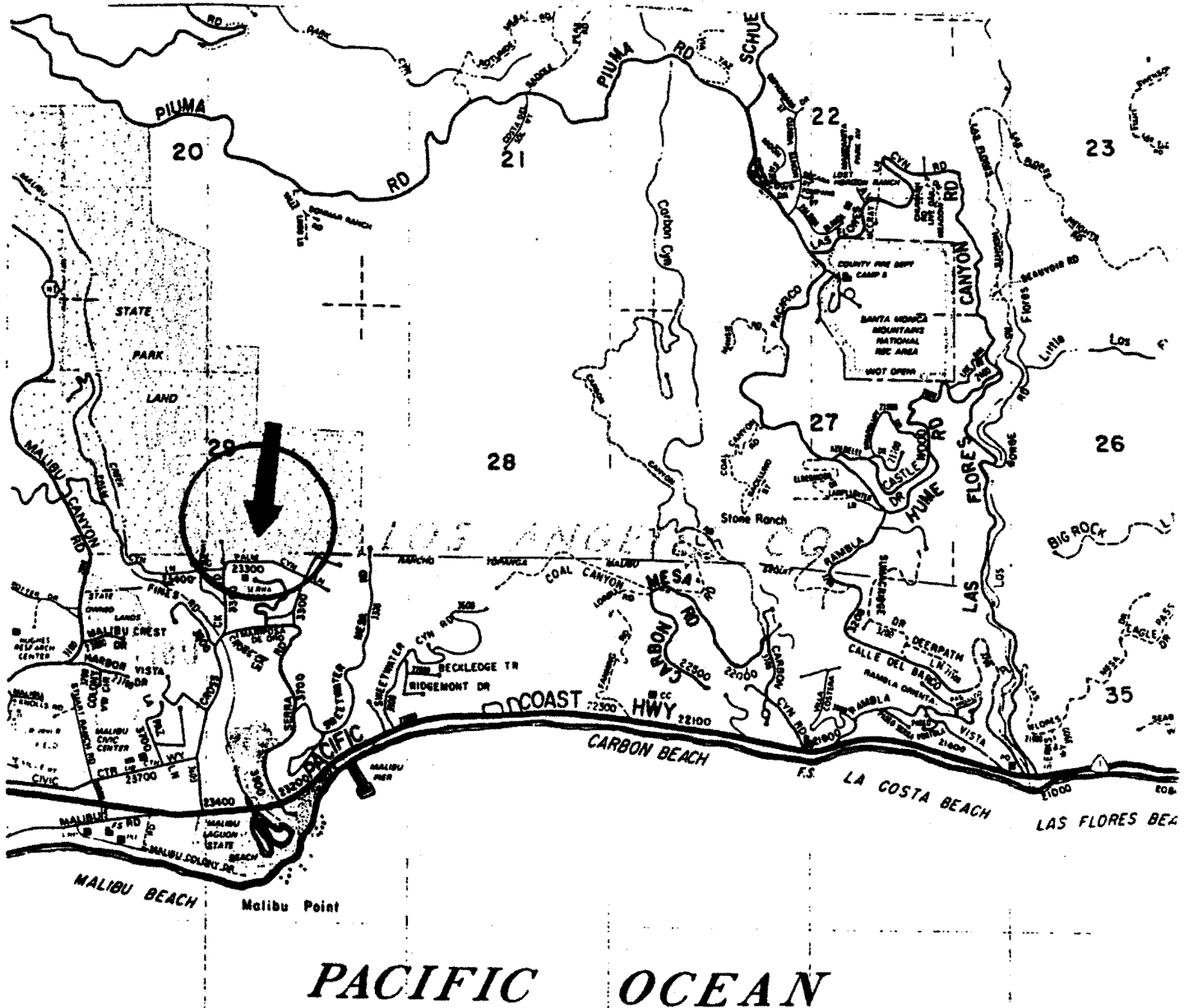
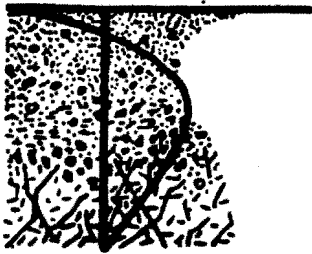
BY: SW

SHEET NO. _____ OF _____

DATE: 2/20/94

JOB NO. M2489

SUBJECT: Vicinity Map




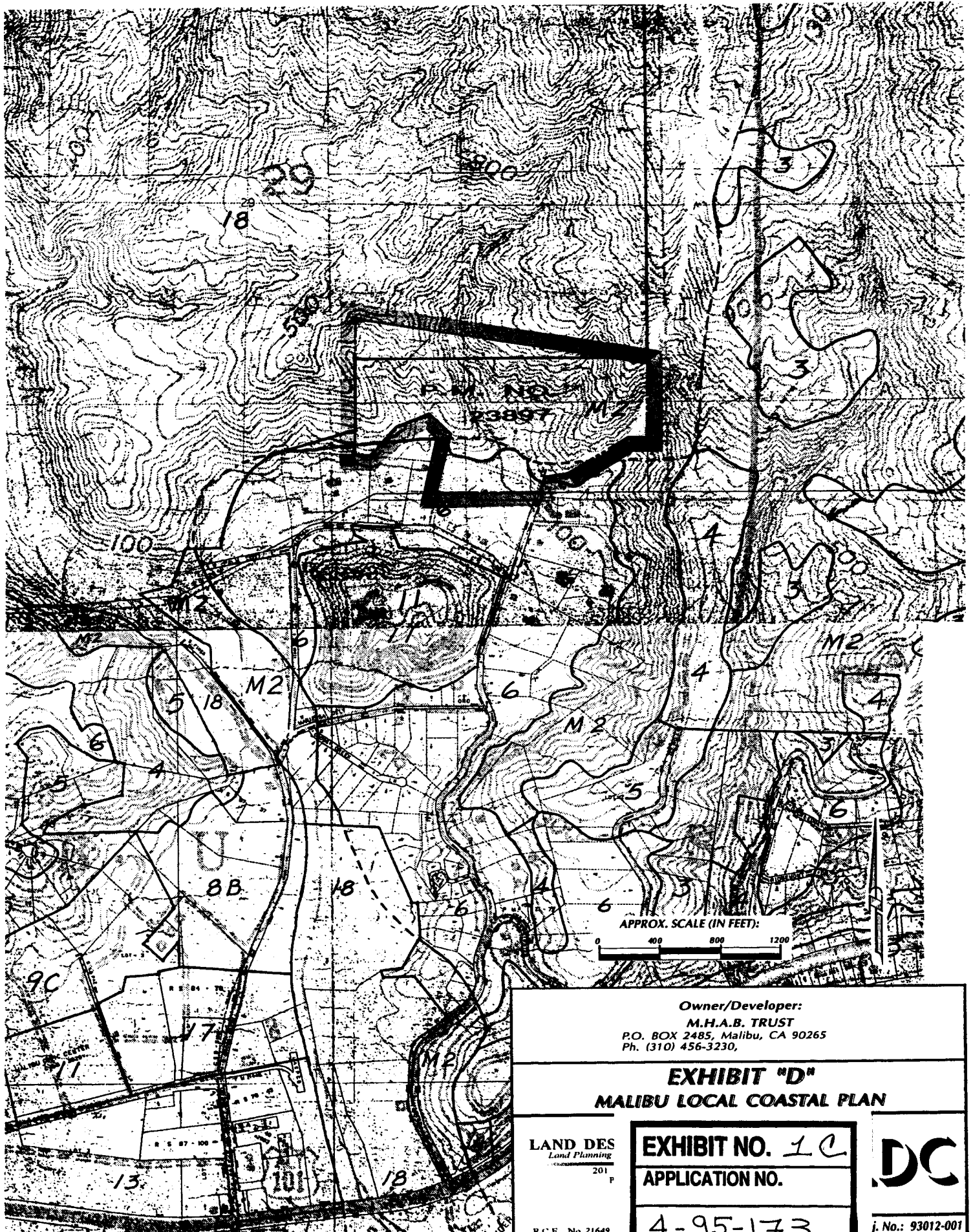
Ref: Thomas Bros. Map Book, Los Angeles County, Page 114
Site 

EXHIBIT NO. 1B
APPLICATION NO.
4-95-173
MH AB TRUST



Owner/Developer:

M.H.A.B. TRUST
 P.O. BOX 2485, Malibu, CA 90265
 Ph. (310) 456-3230,

EXHIBIT "D"
MALIBU LOCAL COASTAL PLAN

LAND DES
 Land Planning
 201 P

R.C.E. No. 21649

EXHIBIT NO. 1C
APPLICATION NO.

4-95-173

MHAB TRUST

DC

i. No.: 93012-001

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

AUG 21 1995

PRECEDENT

4-95-173

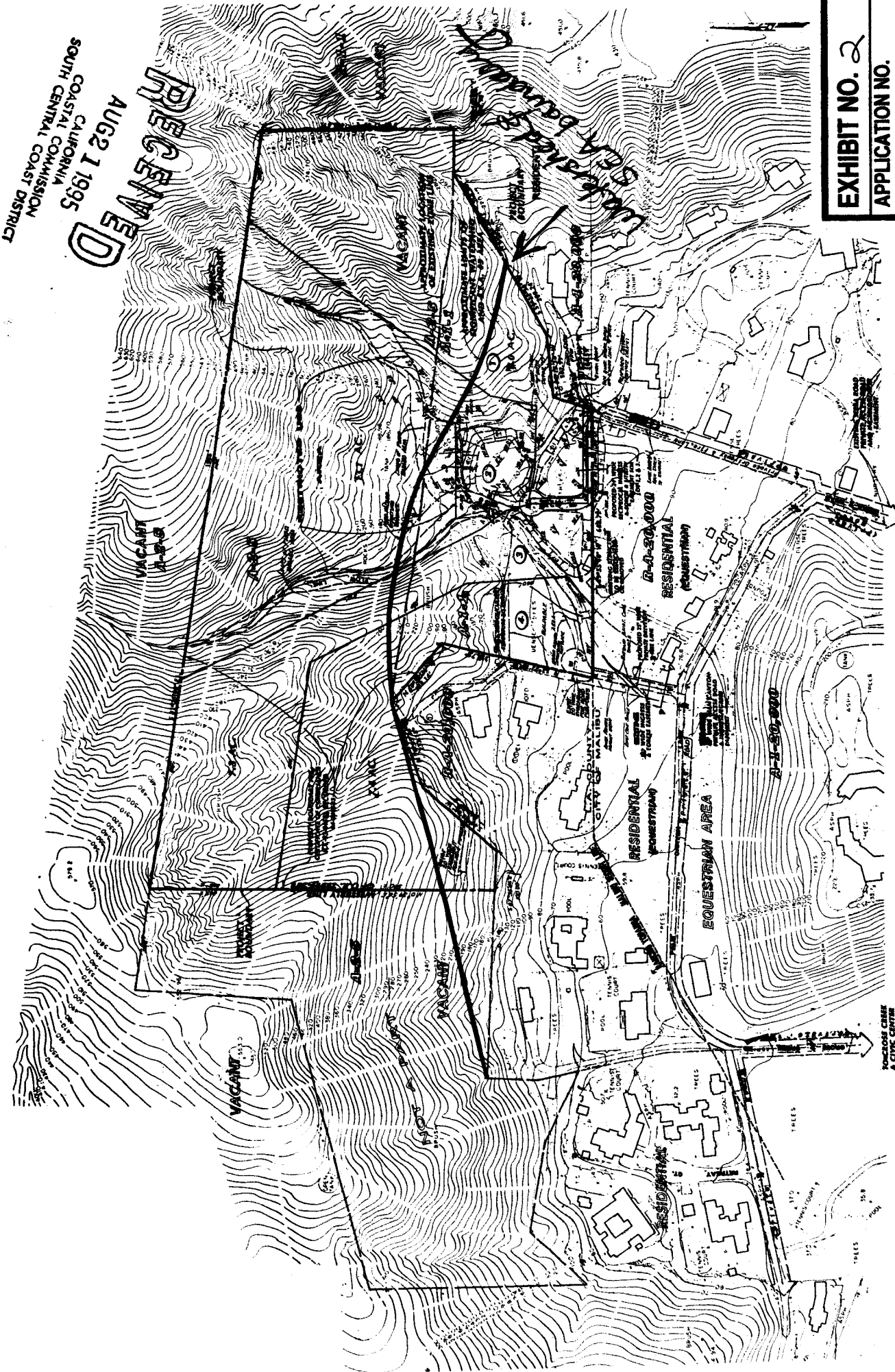


EXHIBIT NO. 2
APPLICATION NO.
4-95-173
MHAB TRUST

TO FCH

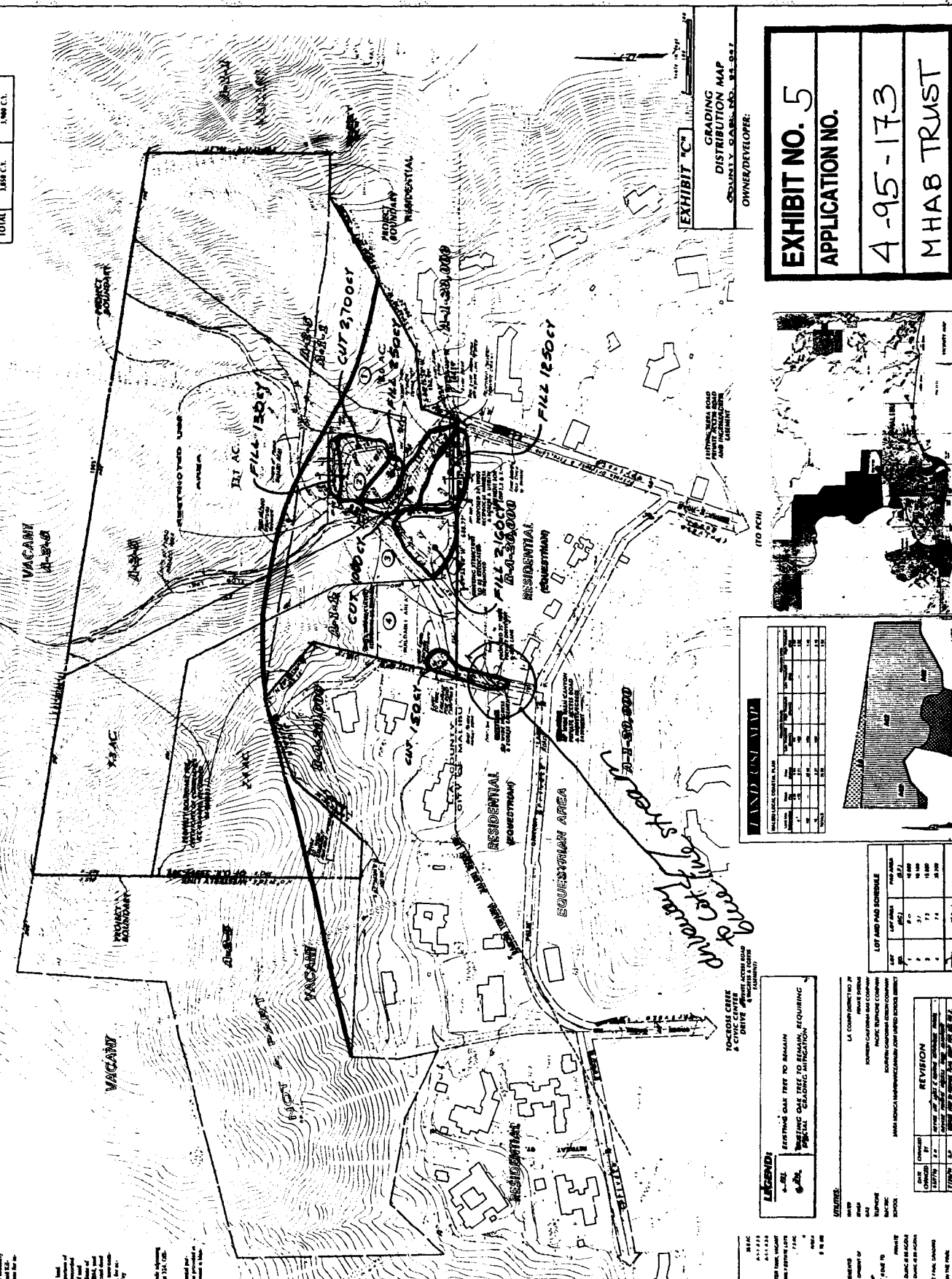
KNOX CROSS CREEK & CIVIC CENTER DRIVE

EARTHWORK

LOT #	CUT	FILL	TOTAL
LOT 1	100.00	100.00	200.00
LOT 2	200.00	200.00	400.00
LOT 3	300.00	300.00	600.00
LOT 4	400.00	400.00	800.00
TOTAL	1000.00	1000.00	2000.00

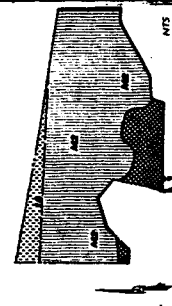
EXHIBIT 'C'
 GRADING
 DISTRIBUTION MAP
 COUNTRY CLUB, LOS ANGELES, CALIF.
 OWNER/DEVELOPER:

EXHIBIT NO. 5
APPLICATION NO.
 4-95-173
 MHAB TRUST



LAND USE MAP

LAND USE	AREA (AC)	PERCENT
RESIDENTIAL	10.00	10.00
EQUESTRIAN	10.00	10.00
VACANT	10.00	10.00
TOTAL	100.00	100.00



LOT AND PAD SCHEDULE

LOT #	LOT AREA (SQ FT)	PAD AREA (SQ FT)	TOTAL AREA (SQ FT)
1	10,000	1,000	11,000
2	10,000	1,000	11,000
3	10,000	1,000	11,000
4	10,000	1,000	11,000
TOTAL	40,000	4,000	44,000

LEGEND:
 - - - - - EXISTING DRAINAGE
 - - - - - PROPOSED DRAINAGE
 - - - - - EXISTING GRADE
 - - - - - PROPOSED GRADE
 - - - - - EXISTING UTILITIES
 - - - - - PROPOSED UTILITIES

REVISION

NO.	DATE	DESCRIPTION
1	10/20/00	INITIAL DESIGN
2	11/15/00	REVISED DESIGN
3	12/10/00	FINAL DESIGN

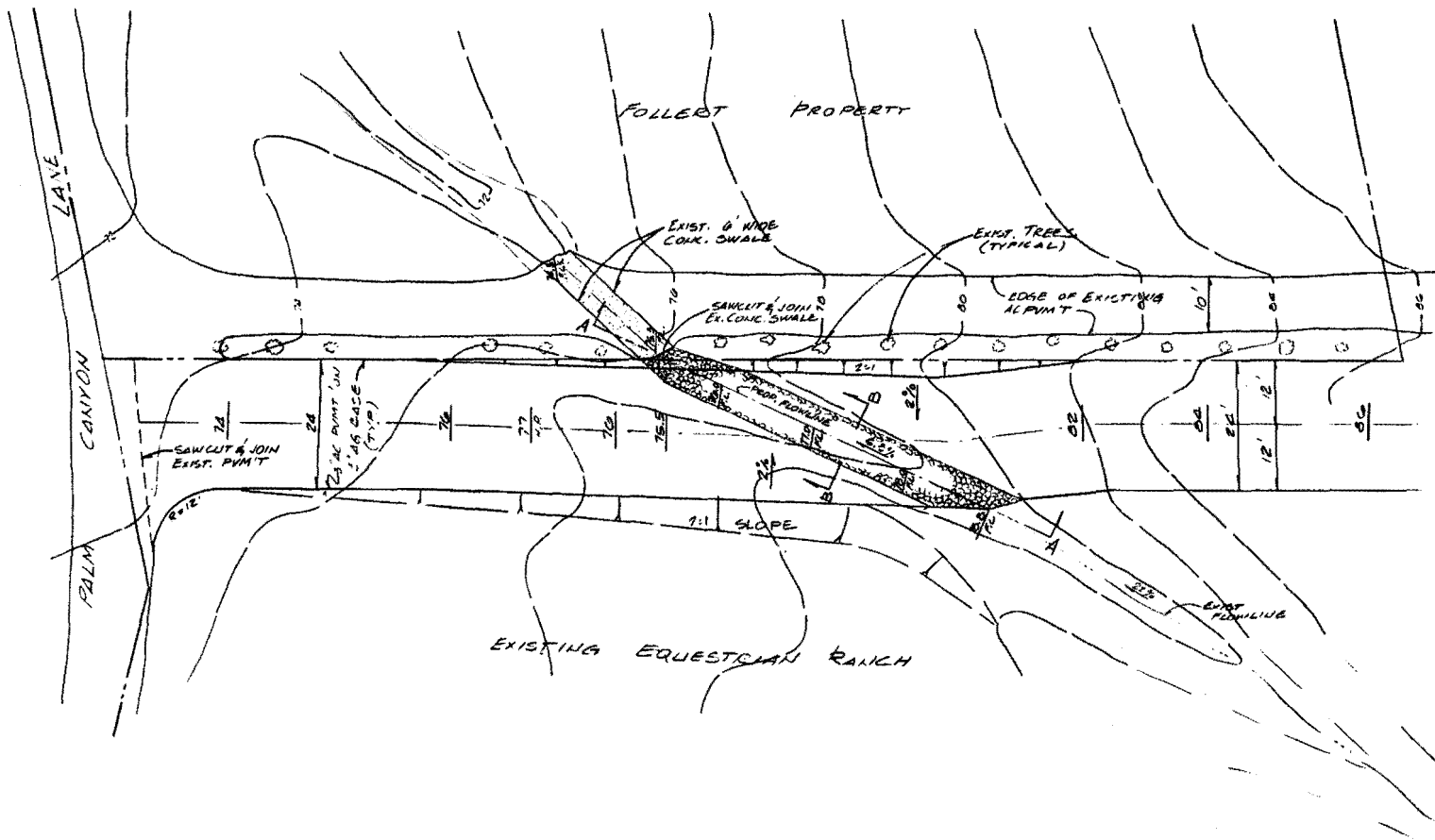
GENERAL NOTES:
 1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
 2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
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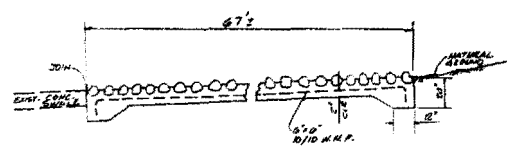
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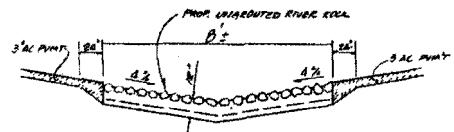


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 1/2" = 1' = 10'

SECTION A-A



SECTION B-B



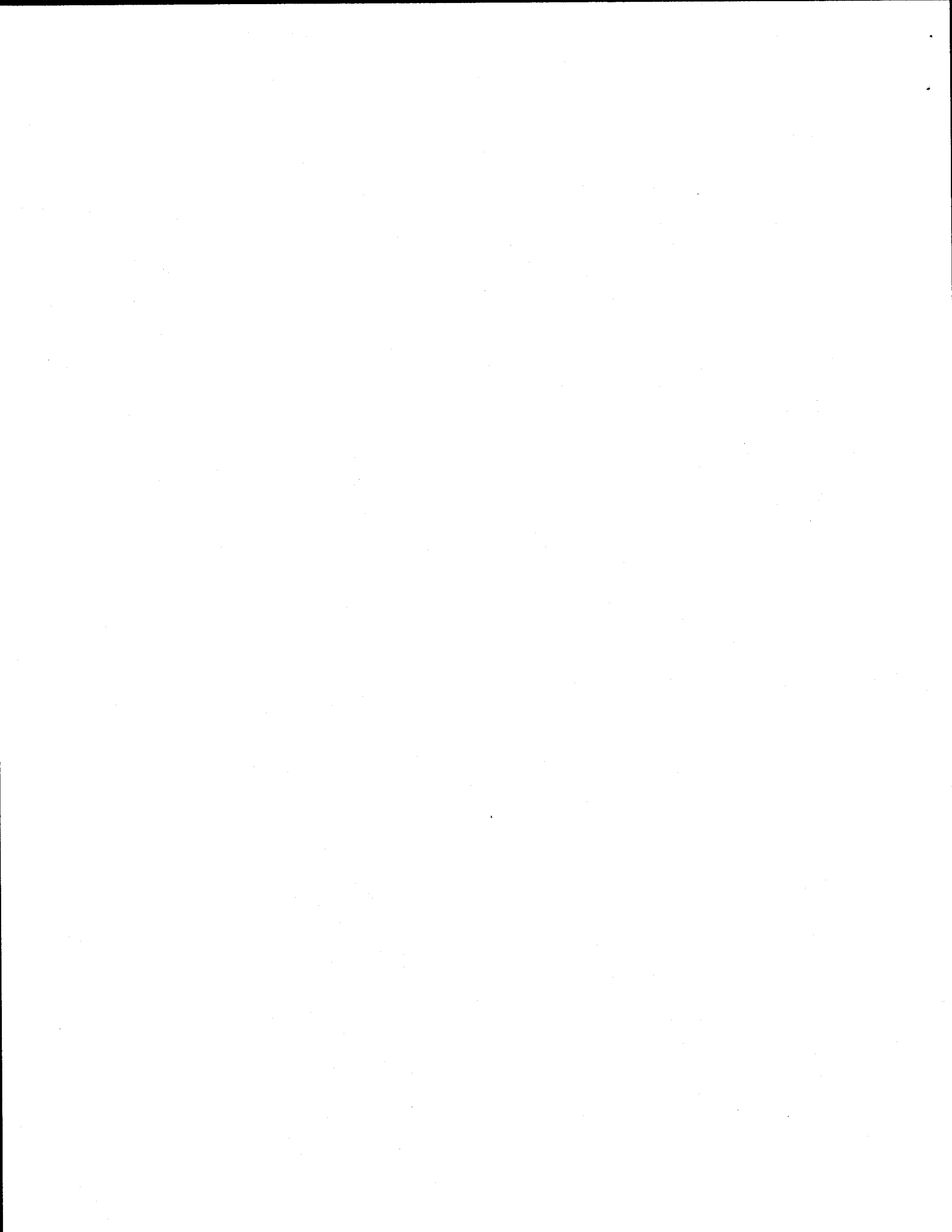
- NOTES:
1. ROCKS FOR RIP-RAP SHALL BE GOOD QUALITY RIVER RUN ROCK.
 2. MAX. SPACING BETWEEN ROCKS SHALL BE 2 FEET.
 3. SURFACE ROCKS SHALL BE IMBEDDED FROM 1/2 TO 2/3 THEIR MAXIMUM DIMENSION.
 4. THE SMALLEST ROCK DIMENSION SHALL BE 2 INCHES AND THE LARGEST SHALL NOT EXCEED 12 INCHES.

RIP-RAP SWALE DETAIL

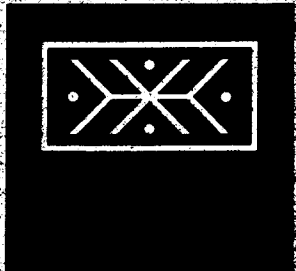
LOT 4
 PRIVATE STREAM CROSSING EXHIBIT 19"

EXHIBIT NO. 9
APPLICATION NO.
4-95-173
MHAB TRUST

L
 KF



RACHEL
TIERNEY



CONSULTING

**HABITAT MANAGEMENT AND
FUEL MODIFICATION PLAN
for the MHAB TRUST**

Los Angeles County, CA

November 9, 1995

Revised November 25, 1995

Revised March 14, 1996

Revised April 8, 1996

Post Office Box 1113
Santa Barbara,
California
93102

805.687.2209

EXHIBIT NO. 10

APPLICATION NO.

*Includes pocket map
on file in District office*

4-95-173

MHAB TRUST

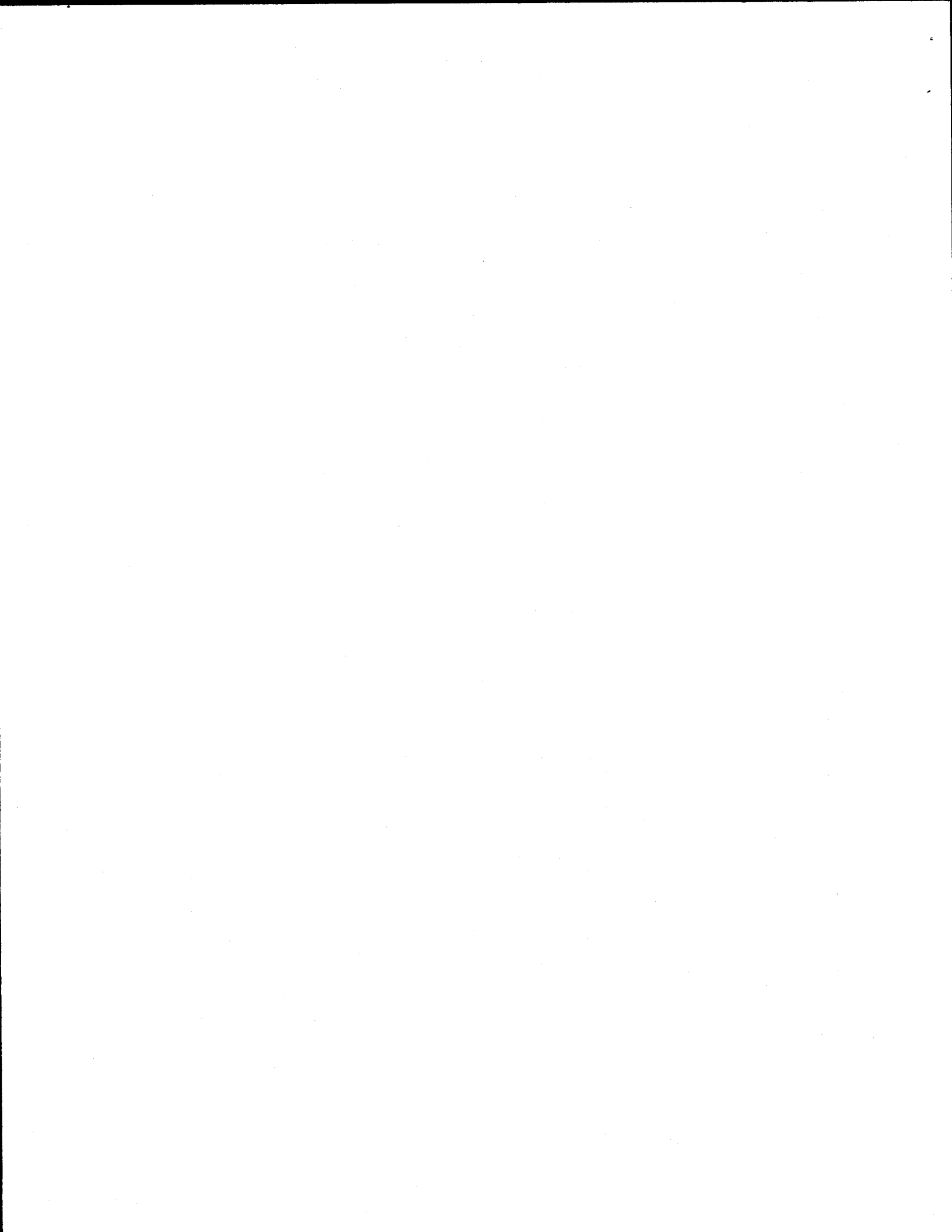
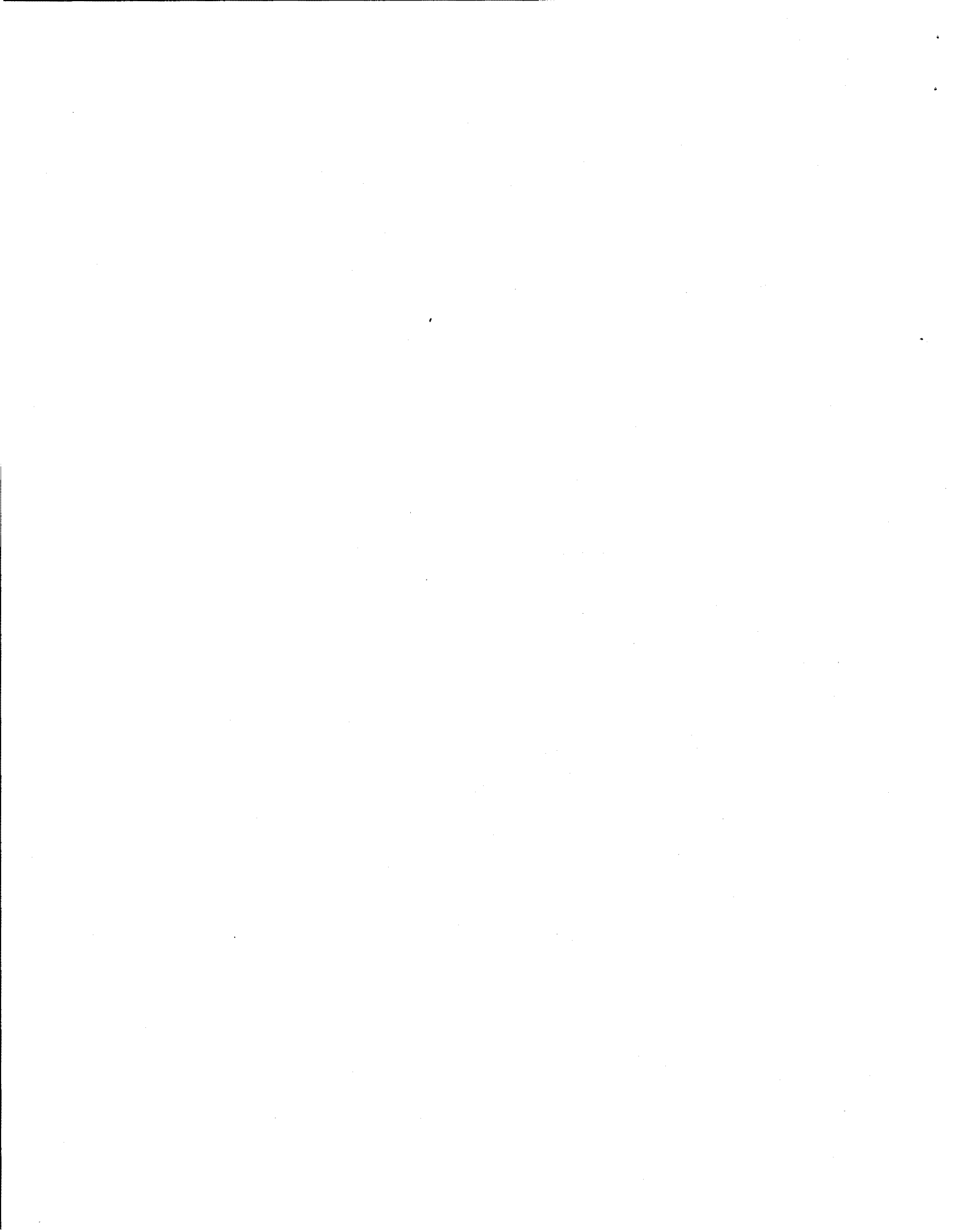


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1.0 BACKGROUND AND PURPOSE

The MHAB Trust proposes four residential lots on 35.8 acres located north of Palm Canyon Lane in the Malibu area of unincorporated Los Angeles County. A Tentative Minor Land Division (#23897) has been approved by the Los Angeles Regional Planning Commission on July 11, 1995. The northern portion of the property is depicted within the Significant Ecological Area #5 (significant watershed) and the Non-urban (hillside management) categories of the County's General Plan. The land also falls within the jurisdiction of the California Coastal Commission.

The project has been granted a Conditional Use Permit (CUP) (No. 94-047) following recommendations stemming from the Mitigated Negative Declaration (ND) (County of Los Angeles, 1994). Project conditions recommended by Staff (Condition # 2 in the ND; Condition # 14 b in the CUP) include the development of a Management Plan "to protect all riparian resources. This Plan should include removal of invasive plants, fence protection of natural areas during building construction, building restriction of natural areas, minimal disturbance for water tank access." The CUP also requires, in Condition 14c, that "the pad site for the house on the north lot (Lot 2) should be located 50 feet from the sycamore woodland with no ornamental landscaping planted within the woodland."

In addition to requirements by the County Regional Planning Department, the California Coastal Commission has requested "a Fuel Modification Plan to show how sensitive vegetation will be impacted and any plans for vegetation restoration to the impacted area."

The purpose of this report is to provide these agencies with the required Plans. Additionally, a revegetation program for a portion of a highly degraded blue-line stream are outlined. This planting scheme has been developed in expectation of conditions that would result from an anticipated California Fish and Game Agreement (Section 1603 of the State Fish and Game Code).

2.0 EXISTING CONDITIONS

2.1 Existing Habitats

The project site is located in Los Angeles County, just north of the City of Malibu at the southernmost foothills of the Santa Monica Mountains. Malibu Lagoon is approximately

1.1 miles southwest of the site. Malibu Creek lies approximately .6 miles to the west. Almost all of the site was burned during the November 2, 1993 arson fire that charred 18,500 acres of the Santa Monica Mountains.

The majority of the land is vacant and undeveloped. Approximately 5.5 acres of the southern portion of the property is a productive avocado tree farm. A portion of an existing residential structure encroaches on the property.

Four natural communities are present on-site: Northern Mixed Chaparral; Sycamore Riparian Forest; Freshwater Marsh; and Non-Native Grassland. Scattered coast live oak trees are also present around the periphery of the grassland and along a blue-line drainage. Plant community nomenclature follows the classification system developed by the California Department of Fish and Game (Holland, 1986). Vegetation is mapped in Figure 1, located in the back pocket.

Northern Mixed Chaparral

Mixed chaparral is the predominant community within the parcel, covering approximately four-fifths of the site. The habitat is characterized by dry, steep, rocky slopes. Although it was completely burned in the fall of 1993, stump or root sprouting of dominant shrubs and understory species has occurred. These species include: laurel sumac (*Malosma laurina*); ceanothus (*Ceanothus* sp.); holly leaf cherry (*Prunus ilicifolia*); and chaparral mallow (*Malacothamnus fasciculatus*). Less abundant, but common throughout the chaparral is black sage (*Salvia mellifera*); California sagebrush (*Artemisia californica*); giant ryegrass (*Leymus condensatus*) and four o'clock (*Mirabilis californica* var. *californica*). Occasionally, on drier areas in the western portion of the site and at higher elevations throughout the site, our Lord's candle (*Yucca whipplei*) and giant needlegrass (*Stipa coronata*) are found.

Sycamore Riparian Forest

Charred remains of a Sycamore Riparian Forest are present just south of the spring. The small trees are clustered in a dense copse at the base of the steeper chaparral-covered slopes. Scattered Western sycamore (*Platanus racemosa*) and coast live oak (*Quercus agrifolia*) are also present along the easternmost drainage. An occasional stump-sprouted willow (*Salix* sp.) was noted. Almost all of the understory had been destroyed during the fire, however, a colony of bracken fern (*Pteridium aquilinum*) and mugwort (*Artemisia douglasiana*) has

reestablished. The present (post-fire) riparian canopy is mapped in Figure 1.

Blue-Line Drainage

The vegetation flanking the blue-line, intermittent stream contains occasional sycamore, arroyo willow and oak. Small areas of ponded surface water are present. Plant species that could be identified along the lower reaches of the blue-line drainage, in addition to the chaparral shrubs found elsewhere on the site, were toyon (*Heteromeles arbutifolia*); California blackberry (*Rubus ursinus*); hummingbird sage (*Salvia spathacea*); lemonadeberry (*Rhus integrifolia*); and poison oak (*Toxicodendron diversilobum*).

The drainage and the cluster of sycamores forming the woodland have been inundated with castor bean and tobacco tree since the 1993 fire.

Coastal/Valley Freshwater Marsh

A small marsh is situated at the edge of the riparian forest, at the mouth of the easternmost drainage. Water supporting the marsh may also be artificially supplied by a small pipeline leading from the underground source as well as runoff from the spring-fed tank. These features are part of an existing, gravity-fed, irrigation system for the avocado orchard and horse ranch located downstream. Cattails (*Typha sp.*) were identifiable within the community during the initial survey.

Scattered Oaks

Oaks are also present singly, or in clusters of two or three on the periphery of the grassland, along the lower reaches of the two eastern drainages. An Oak Tree Report was prepared for the site (Biological Assessment Services, 1994).

Non-Native Ruderal Grassland/Agricultural Land

The centrally-located non-native grassland supports common European annual grasses and ruderal broadleaf exotics such as castor bean (*Ricinus communis*); black mustard (*Brassica nigra*); and tobacco tree (*Nicotiana glauca*). Coast live oaks occur on the periphery of the community. This community is combined with the avocado operations on Figure 1.

2.2 Sensitive Species and Habitats

A rare species survey was conducted in conjunction with a Biological Constraints Analysis and Impact Report prepared for the project (Tierney, 1994). No sensitive plant or animal species were located during the surveys.

Three habitats that occur at the project site are important on a regional basis and are particularly sensitive to disturbance: the Sycamore Riparian Forest; the Freshwater Marsh association; and the scattered coast live oaks. This section describes the regulatory setting that protects these habitats and restricts use in and around them.

Riparian and Wetland Habitats

Riparian corridors provide shelter, food and safe movement passageways. With the addition of intermittent or year-round water, this is perhaps the most useful habitat for the greatest number of species.

Wetlands, delineated by the presence of 1) hydrophytic vegetation, 2) hydric soils and 3) wetland hydrology, for at least two weeks out of the growing season, are protected from filling without permitting from the U.S. Army Corps of Engineers under Section 404 of the Federal Clean Water Act. The CDFG also requires permitting for any project which will "change the natural flow or substantially change the bed, channel or bank of any river, stream, or lake designated by the Department [of Fish and Game], or use any material from the streambeds, without first notifying the Department of such activities" (California Department of Fish and Game, 1974). Unlike the federal characterization of wetlands, the CDFG requires only one of the three wetland parameters to be met at any site. Typically, this agency assumes that all blue-line riparian habitats identified on USGS maps meet the requirements of "wetlands." However, the CDFG considers the actual habitat present at a site over the blue-line notation by the USGS map when determining the need for permits and mitigation under Sections 1601 or 1603 of the CDFG Code (K. Wilson, 1993 personal communication).

The **Malibu Local Coastal Plan** (Los Angeles County, 1986) also contains policies that protect riparian and wetland areas within the planning area and establishes minimum setbacks for development. The restrictions outlined in the Plan differentiate between projects located within ESHAs and projects outside of significant areas. Most of the subject property is situated within the Sensitive Environmental Area (SEA) #5 boundary. However,

all proposed development is located outside of the SEA, within the most southerly portion of the site.

Coast Live Oaks and Oak Habitats

Similar to riparian habitats in wildlife benefits, oak woodland habitats provide food, nesting sites and cover. The **Malibu Local Coastal Plan** (Los Angeles County, 1986) considers oak woodlands, savannahs or individual oak trees significant resources. The **County of Los Angeles Oak Tree Ordinance** outlines protection policies to preserve all mature trees (diameter at breast height > 8 inches).

3.0 HABITAT MANAGEMENT PLAN

3.1 Overview of Plan

The objectives of the Habitat Management Plan are to:

- Protect sensitive biological resources (riparian and oak) during and after construction of the proposed residences.
- Restore degraded riparian habitat by removing invasive, exotic plant species from the site and revegetating the drainage corridor with native, fire resistant species.
- Replace five oak trees, located adjacent to proposed construction that are either dead or in declining condition with locally-collected stock.

To ensure compliance, all planting will be monitored until standard performance criteria have been met.

3.2 Protection and Restoration of Oak Trees

Present development plans identify 5 oak trees located close to the buildable area in Lot 2. Development plans had called for protective measures for these oaks (tree wells and or special grading mitigations). However, the Oak Tree Report prepared for this project classified these oaks as either dead (tree #14) or in very poor condition (tree #'s 15/16 -19) (Biological Assessment Services, 1994). The Oak Tree Report recommends that they be

removed if they pose a safety threat. Tree number 15/16 (a double-trunk tree originally described as two individuals) has some leaf regrowth and appears structurally sound at this time. This tree shall remain for aesthetic purposes and habitat value. The other 4 trees shall be removed. The locations of existing trees and snags (dead trees) are shown on Figure 1 (back pocket).

The following measures will protect oak resources during and after construction:

- All remaining oak trees located within 50 feet of construction shall be fenced 15 feet outside of their driplines before any earth moving activities commence. Fencing shall remain until all earthwork and construction is completed.
- No grading or excavation shall be allowed within driplines of oak trees. Necessary, minor ground disturbance within oak driplines (including trenching for utilities) shall be conducted with hand tools or light equipment (e.g. small rubber tired tractors, trenchers, etc.) weighing no more than one ton. Any cut roots greater than 2 inches in diameter shall be sealed the day of cutting.

(Trees located more than 50 feet from construction [including access to site] shall not be fenced, however, these trees shall also be protected from any grading or soil compaction within 15 feet of their driplines.)

- The area within 6 feet of the trunks of oak trees shall remain uncovered, natural and dry. No placement of impervious surfaces, landscaping, irrigation (after the initial establishment period), or use of herbicides shall occur within the driplines of oak trees.
- Drainage plans shall be designed so that oak tree trunk areas are properly drained to avoid any ponding.
- Replacement oaks shall be planted on-site for all 5 trees, including tree number 15/16. Although this tree is to remain on-site, future decline may cause its removal.

The 5 trees shall be replaced with 25 (a 5:1 replacement ratio) healthy one-gallon plants started from locally-collected acorns of Coast Live Oak. Although 15-gallon trees were recommended in the Oak Tree Report, smaller containers are advised. Trees started from 15-gallon containers often do not develop a healthy, far reaching root system and therefore

do not achieve their full biomass potential. This condition is often not noticed for a least 10 years.

Acorns shall be collected within the project area. Coast live oaks are typically ready for collection in September - October and can be planted immediately. If planting is delayed, acorns shall be stored in a cool, dry location. Since roots may begin to emerge from these seeds even under refrigeration, acorns shall be planted no more than three months from collection time. Just before planting, acorns shall be immersed in a bucket of water to determine viability. Any seed that rises to the surface shall be discarded.

Acorns shall be planted in 1-gallon (or smaller) long, tube containers. Oaks will be grown for approximately three months and out-planted in early spring.

Trees shall be watered (drip irrigation) for at least three years or until established. The locations of these trees shall be shown on the final landscape plan. Trees may be positioned within the blue-line drainage, landscape scheme, or within undeveloped portions of the site.

3.3 Protection and Restoration of Riparian Resources

3.3.1 Protection During and After Construction

The following measures will protect riparian resources during the construction period:

- The Sycamore Woodland and Marsh area shall be fenced 40 feet from the driplines of the Sycamores to the south. Fencing shall remain until all earthwork and construction is completed. Grading and storage of materials or vehicles shall not be permitted within the fenced areas.
- The Sycamore Woodland is located over 100 feet from any proposed structures and over 50 feet from proposed graded areas. This buffer will help preserve the habitat value of the woodland. No landscaping or permanent structures shall be allowed within the Sycamore Woodland.
- The blue-line drainage shall be fenced 15 feet from the top-of-bank to prevent construction-derived degradation. Fencing may be placed closer to the top-of-bank in areas of access road construction. Vehicles, stockpiled soil or other building

material shall not be stored within the fenced area.

- Debris of any kind shall not be placed in the drainage.
- Erosion control devices shall be installed along the blue-line drainage to prevent sediment from entering this system if grading is scheduled between November 1 and April 30. Erosion control (hay bales are recommended) shall be installed before any earthwork occurs. Devices shall be installed along the length of the drainage at the start of, and downstream of grading.

3.3.2 Invasive Exotic Removal

The lower reaches of the blue-line drainage are highly degraded. Most vegetation consists of invasive weeds, especially castor bean and tobacco tree. Little native vegetation has returned since the 1993 fire. To mitigate the loss of habitat associated with development of the project, a 50-foot buffer zone (measured from either side of the drainage) and the Sycamore Woodland, shall be periodically cleared of these two weeds. *Date Palm shall also be removed where it occurs within the drainage. Weed removal within the drainage shall be initiated during construction of any access road or other lot improvements.*

A dense regrowth of even native vegetation is ill-advised within areas of the drainage neighboring the proposed residences due to increased fuel loading. Additionally, the area now in agriculture will remain in avocado production until a future date. Native restoration is not proposed along the drainage within the orchard at this time. However, a limited number of carefully chosen species will enhance the habitat value within the northern stretch of the drainage, while also providing fuel reduction. The drainage restoration program includes both weed removal and a limited planting plan, described below.

Exotic Weed Invasion - The Problem Defined

The nonnative weed invasion in the western United States is often referred to as an "explosion in slow motion," as exotic weeds increase rapidly on both disturbed and relatively undisturbed lands. As early as 1956, the Oxford ecologist Charles Elton warned about the ecologically-devastating effects of invading species when he stated that "we are living in a period of the world's history when the mingling of thousands of kinds of organisms from different parts of the world is setting up a terrific dislocation in nature. We are seeing huge changes in the natural population balance of the world."

Weeds, primarily from Eurasia, began arriving in earnest to the western states in the 19th century. In their native lands, these plants were generally noninvasive because they evolved with a natural complement of insect predators, pathogens, fungi and competition from other plants. However, in the process of entering this country they were released from those natural counterbalances and consequently have the ability to dominate in many areas. For example, scotch broom, an exotic shrub used for erosion control, has 38 known herbivores in its native Europe, but only 8 predators in the United States (D'Antonio, 1993).

Weed populations, like human populations, can increase exponentially, beginning slowly, then doubling and redoubling. In one investigation weeds were estimated to be spreading at the rate of approximately 2,000 acres per day. Studies within western states, including California, show that within a time period of only 20-30 years, a specific weed can expand from just a few acres to many millions of acres of rangeland. Although the degrees of invasiveness are not known, new exotic plants arrive at a rate of nine new species per state per year (Asher, 1993).

It is almost impossible to find an area of California that has not been affected by the invasion of exotic weeds. Some introductions are intentional, such as the import of eucalyptus trees from Australia for timber and windbreaks, or the introduction of several European grasses brought here for livestock fodder. Other introductions have been accidental. These include most of the garden variety weeds we now remove from our landscapes.

But how do invasive weeds affect the natural ecosystems and why should they be controlled? Firstly, they reduce the biodiversity of any community by displacing the native species that they outcompete. Weed infestations can cause a shift in faunal resources, such as food and cover, by changing the composition of a plant community. They can, as in the case of tamarisk, clog stream courses and cause flooding. Lastly, the increased spread of highly invasive weeds into the native biota has begun to create a homogenization of habitat that impoverishes our natural heritage.

Areas that experience natural disturbance, such as shifting sand dunes or periodically-flooded stream banks, are particularly susceptible to weed invasion. Exotic invasives are, by definition, opportunistic colonizers. They establish, usually by seed, in openings created by the disturbance of preexisting vegetation. They grow quickly and generally produce a relatively large number of viable seed.

An Overview of Weed Management

The species identified for control have been chosen based on the following criteria:

- 1) Invasive potential - The most aggressive weeds were chosen. Exotics with little opportunity to alter the composition of the habitat and its intrinsic value to wildlife were not included.
- 2) Success potential - European grasses that are very widespread and naturalized throughout California were not selected for removal. Although the creation of a fully-native habitat is desirable, this goal is not feasible given the size of the area and the labor resources.
- 3) Aesthetic concerns - Larger, more conspicuous exotics were selected over diminutive species that are normally overlooked.

Three species -- castor bean, tobacco tree and palm -- will be targeted for removal within the blue-line stream corridor and the sycamore riparian woodland. Treatment with "Roundup Pro," a newly-formulated version of the herbicide is recommended for the first two species. This product will be available to the public in January, 1996. Roundup Pro needs no additional surfactant and is rain safe in 1-2 hours (versus 6 hours with the original formula). It should not be used near the intermittent drainage if running water is present or is anticipated. A backpack sprayer fitted with a flat fan nozzle (#8004) will give the best coverage. Information regarding the plants and treatment specifications follow.

Castor Bean

Background: Castor Bean (*Ricinus communis*) is originally from Asia and Africa and is now commonly scattered in disturbed areas along coastal and other relatively frost-free areas in California and elsewhere. The large leaves are peltate or shield-shaped. The seeds are poisonous. Castor Bean can grow and flower at any time during the year.

Control: Treat when the plants are actively growing, just before flower formation. Late spring or early summer should be the optimal period.

Application Rates: Spray for complete coverage with a 2% solution (volume to volume). Do not attempt application if winds are higher than 5 to 7 miles per hour.

Roundup or Roundup Pro will not deter seed that is stored in the soil and new plants are expected to emerge within a few weeks if water is supplied. Young castor bean can be easily pulled from the ground and must be removed (roots included) often. Eventually the seed supply will be depleted and continual removal will not be required.

Tobacco Tree

Background: Tobacco tree (*Nicotiana glauca*) is a native to South America. It grows in a tree-like form, although it often branches at the base, resembling a spindly shrub. It has rather large, blue-green leaves that grow up to 8 inches in length. The foliage is highly toxic. Tubular, yellow flowers are abundant in summer, at a time when other color is scarce. The tree may get as tall as 20 feet.

Tobacco tree colonizes recently disturbed places, such as cut slopes and burns. Plants can persist well after revegetation of a denuded area has occurred, and is most often seen along roadways adjacent to native vegetation.

Control: The use of herbicide to control this species, either in the form of a foliar spray or as an application to the cut stumps, is suggested as a first method of attack. Manual removal may be required.

"Roundup Pro" may be used to eradicate tobacco tree, whereas the original Roundup produced only partial control. Treat in late July - October, at the *end* of the growing season but before the plant shuts down during the winter.

Application Rates: Spray for complete coverage with a 2% solution (volume to volume). **Do not attempt application if winds are higher than 5 to 7 miles per hour.**

Another option is to cut the stump of the tree and **immediately** paint with 100% concentrated solution. This technique will pose less of a risk to adjacent, desirable vegetation than foliar spraying.

Alternative Control: Dig up established trees if "Roundup" application is not successful. Disturb as little ground as possible. Work in a few ounces of mugwort seed (*Artemisia douglasiana*) to the top 1/2 inch of disturbed ground to deter herbaceous weed growth. Mugwort, a native perennial herb, grows well from seed and occurs naturally in riparian areas.

Date Palm

Background: Canary Island Date Palm (*Phoenix canariensis*) is native to the Canary Islands, west of North Africa. It grows to 40-60 feet with a stout trunk. The tree is often planted as an ornamental and also occurs as a colonizer in waste places located close to seed sources.

Control: Trees have shallow root systems that can be dug up and replanted within a traditionally-landscaped area.

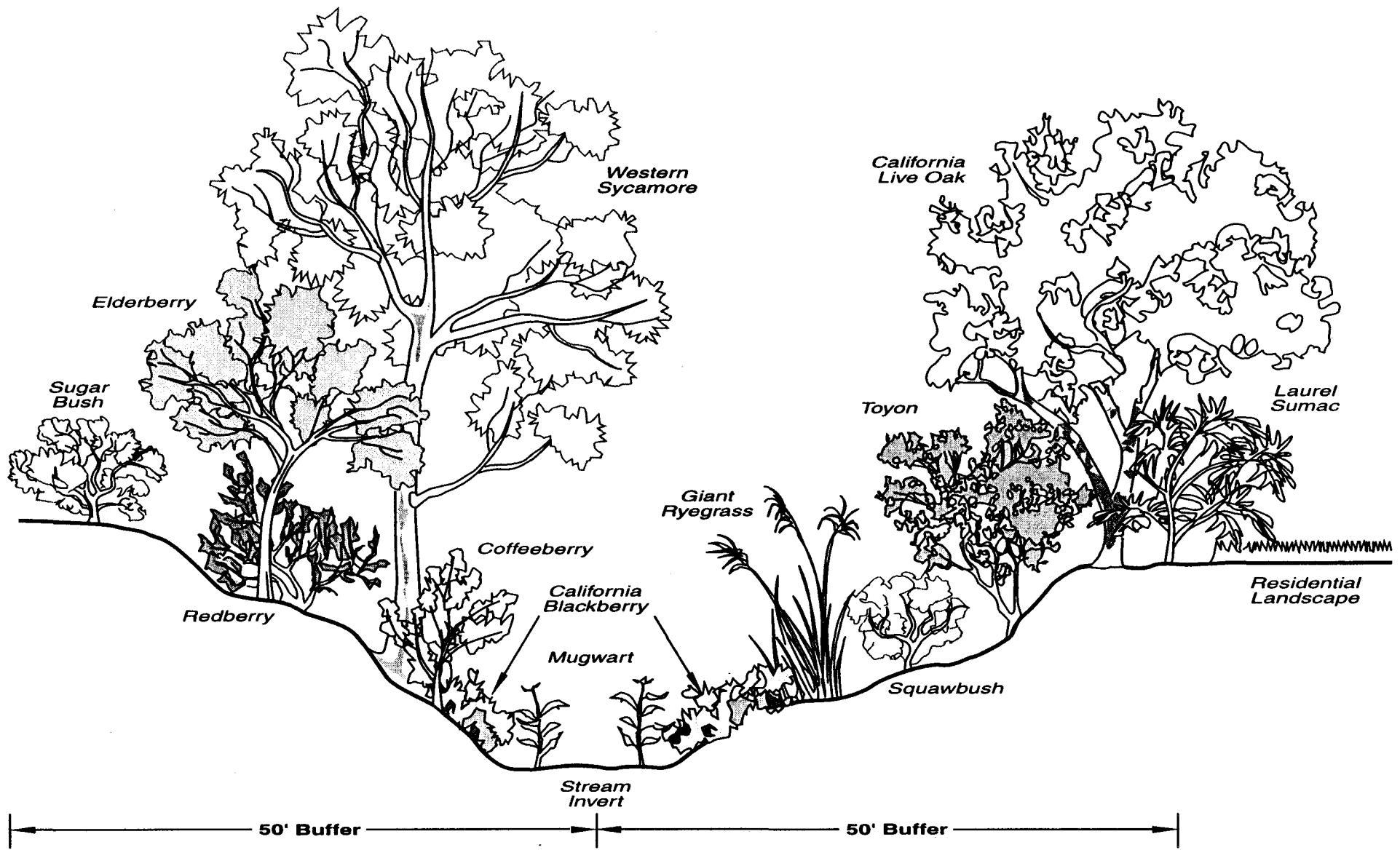
3.3.3 Riparian Planting Plan

In addition to weed removal, habitat value along parts of the blue-line drainage shall be enhanced by limited planting of native tree and shrub species. Seeding of appropriate native species will be sown along with the container plantings to improve wildlife habitat.

Areas to be restored (approximately 1.1 acres) are shown on Figure 2. Riparian planting within each Lot shall be undertaken as the particular Lot is developed. The time-line for Lot development is not known and may well extend for a number of years. The riparian corridor in Lots 3 and 4 presently passes through an avocado orchard. Some trees have just recently been planted. Restoration shall be initiated when Lots are developed, avoiding premature interruption of avocado production.

In an effort to further mitigate the loss of habitat value resulting from project development, a small triangle of land located off the southwestern corner of the site shall also be restored. The planting palette in this area shall complement the restoration already in place across the roadway on a neighboring property, but shall still consist of indigenous riparian species.

A representative drawing of the matured, riparian landscape is shown in Figure 3. This is not intended to be a formal Landscape Plan, showing the exact position of all container plants. Instead, plants shall be located in the field just prior to planting, by someone familiar with the ecological requirements of native species (see below).



SPECIES

<i>Rhamnus californica</i>	(Coffeeberry)	<i>Heteromeles arbutifolia</i>	(Toyon)
<i>Rhamnus crocea</i>	(Redberry)	<i>Platanus racemosa</i>	(Western Sycamore)
<i>Malosma laurina</i>	(Laurel Sumac)	<i>Quercus agrifolia</i>	(Coast Live Oak)
<i>Rhus ovata</i>	(Sugar Bush)	<i>Sambucus mexicanus</i>	(Elderberry)
<i>Rhus trilobata</i>	(Squawbush)	<i>Leymus condensatus</i>	(Giant Ryegrass)
<i>Rubus ursinus</i>	(California Blackberry)	<i>Artemisia douglasiana</i>	(Mugwort)

FIGURE 3
MHAB Trust

**Schematic Representation of
Riparian Landscape Plan**

**RACHEL
TIERNEY**



CONSULTING



Species Specification - Container Material

The following species shall be grown in one-gallon containers and outplanted along the lower, disturbed reaches within the 50-foot riparian buffer area. Approximately 500 feet of the stream corridor shall be planted. Approximate spacing and the number of plants required are listed below. Asterisks (*) identify species that should be planted in clusters of 3. Alternate species may be planted as long as they are native to the Malibu area and are typically found in a similar, riparian environment.

SHRUB SPECIES	APPROXIMATE NUMBER OF PLANTS	MINIMUM CENTER SPACING
Rhamnus californica (Coffeeberry)	20	15 feet
Rhamnus crocea (Redberry) *	40	10 feet
Malosma laurina (Laurel Sumac)	20	15 feet
Rhus ovata (Sugar Bush)	20	15 feet
Rhus trilobata (Squawbush) *	60	8 feet
Rubus ursinus (California Blackberry) *	60	8 feet

TREE SPECIES

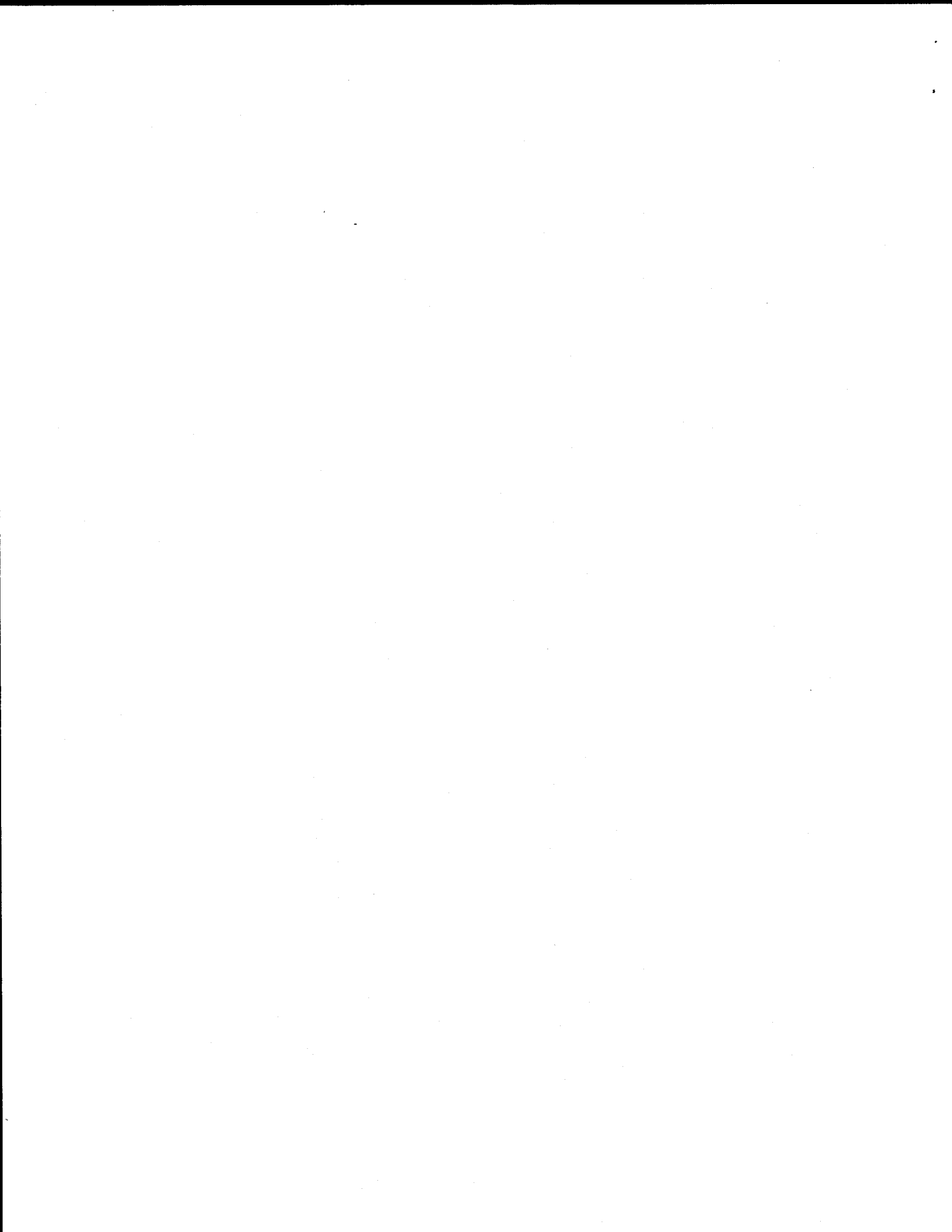
Heteromeles arbutifolia (Toyon)	20	25 feet
Platanus racemosa (Western Sycamore)	4	40 feet
Quercus agrifolia (Coast Live Oak)	10	25 feet
Sambucus mexicanus (Elderberry)	25	15 feet

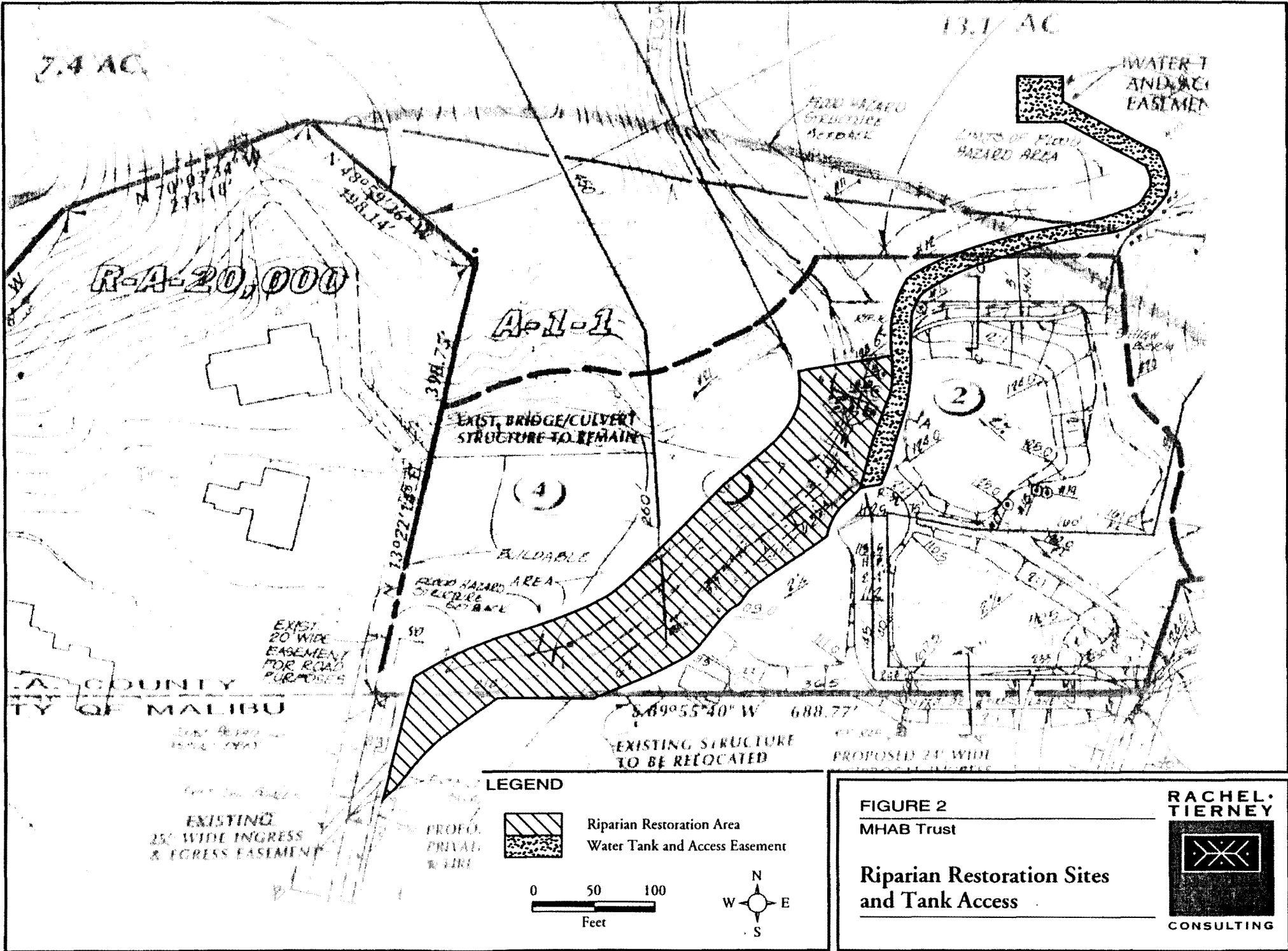
Planting Site Locations and Planting Procedures

Specific planting locations for trees and shrubs will be determined in the field by the landscape contractor or other individual familiar with native plants. Suitable sites will be chosen based on average center distances, as well as ecological and aesthetic concerns. Sites will be identified with colored pin flags just prior to planting.

Plants shall be inspected for proper root development before planting. Container material and planting holes shall be well watered just prior to planting.

Nursery-grown understory material shall be planted in late fall. Trees and understory shrub planting sites located within undisturbed areas shall be cleared of naturalized grasses and exotic broadleaf vegetation within a 3-foot diameter circle. Planting holes shall be twice the diameter and at least 6 inches deeper than the container. Holes shall be backfilled with





7.4 AC

13.1 AC

R-A-20,000

A=1=1

EXIST. BRIDGE/CULVERT STRUCTURE TO REMAIN

4

BUILDABLE

FLOOD HAZARD AREA SETBACK

EXIST. 20' WIDE EASEMENT FOR ROAD PURPOSES

A COUNTY CITY OF MALIBU

8.69°55'40" W 688.77'

EXISTING STRUCTURE TO BE RELOCATED

PROPOSED 24' WIDE

WATER TANK AND ACCESS EASEMENT

LIMITS OF FLOOD HAZARD AREA

FLOOD HAZARD STRUCTURE SETBACK

EXISTING 25' WIDE INGRESS & EGRESS EASEMENT

PROPO. PRIVATE DRIVE

LEGEND



Riparian Restoration Area
Water Tank and Access Easement

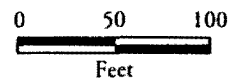
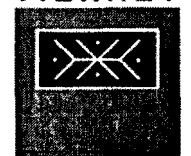


FIGURE 2

MHAB Trust

Riparian Restoration Sites and Tank Access

RACHEL TIERNEY



CONSULTING



native soil and 4 slow release Gro-power fertilizer tablets (or equivalent) per seedling. Fertilizer shall not come in contact with seedlings.

Mulch (wood chips or other organic material) shall be applied around the planting areas to help retain soil moisture. Mulch should be at least 6 inches deep when first applied and extend in a radius of at least 3 feet from the tree or shrub.

Seeding

The riparian corridor shall also be seeded with a mixture of riparian and shrubland species. The soil shall be lightly scarified if compacted during construction. Seed can be either hydroseeded or hand broadcast. See Table 1 below for seed specifications for areas adjacent to the blue-line drainage. Fertilizer is not included as an additive. Native plants have a very low nutrient requirement and the addition of fertilizer often encourages the establishment of non-native weedy species.

3.3.4 Access Road Maintenance

Figure 2 shows the location of an existing water tank and dirt access road. This road shall remain in place to service the tank. Maintenance shall consist of removal of brush within the 15-foot easement only. Overhanging limbs may also be trimmed if they pose a impediment to access. There are no sycamore or other native trees within 5 feet of either side of the access road, however a few small (less than 2 inches in diameter) limbs over hand the edges of the road.

3.4 Restoration Maintenance

This section describes general maintenance (weeding and irrigation) procedures that affect all restoration areas, unless otherwise indicated.

Weeding

The objective of the weeding program is to remove invasive broadleaf exotics that are interfering with the growth of desirable native container or seeded species within the drainage corridor. As mentioned above, castor bean, tobacco tree and date palm shall be removed throughout the entire site, even if they do not appear to be inhibiting native plant growth. Weeding shall be conducted at least twice a year.

Table 1: SEED PRESCRIPTION FOR THE BLUE-LINE DRAINAGE AND BUFFER

MIN. PURITY & GERMINATION	LBS/ACRE	\$/LBS *	SPECIES (Common Name)
10/50	3	\$45	Artemisia douglasiana (Mugwort)
2/50	3	\$30	Baccharis glutinosa (Mulefat)
35/75	3	\$18	Eriophyllum confertiflorum (Golden Yarrow)
20/40	2	\$18	Isocoma menziesii vernonioides (Goldenbush)
50/80	3	\$32	Leymus condensatus (Giant Wildrye)
90/60	3	\$10	Lotus scoparius (Deerweed)
90/80	4	\$9	Vulpia myuros (Zorro Fescue)
	21 lbs/ac	\$ 477/ac	

* Prices quoted from S & S Seed in Carpinteria, CA. (4/19/95) and are subject to change.

If hydroseeded, add to the slurry the following materials:

- 2,000 lbs per acre cellulose wood fiber
- 160 lbs per acre organic soil stabilizer

Competition from exotic weeds within the riparian areas will be the primary concern after initial establishment. However, weeding during the first spring season after planting in seeded areas may disturb native seedlings just emerging and difficult to notice. Extreme care must be taken to avoid accidentally dislodging the desired species. Hand removal of weeds (or weed whacking) will be required within seeded areas. Species to be removed include: tobacco tree, castor bean, mustards, wild radish, thistles, sweet fennel, and any other exotic that is interfering with the establishment of native (or naturalized) vegetation.

When dealing with annuals or biennials, the importance of scheduled weed removal takes on an added significance because of the reproductive cycle of the plants. Since most annual weeds will produce copious seed, it is necessary to remove the source before the seed is

released into the soil. For annual species, or biennial plants (those plants that complete their vegetative life cycle in two seasons, usually flowering in the second year), there is no need to remove the plant itself because it will die at the end of the season. The focus is on eliminating the season's crop of flowers or immature fruits which contain the seed. This can be accomplished by cutting the plant back to remove all flowering stalks as they approach maturity.

Timing is crucial. If the reproductive parts are removed too early, the plant may send up a second recruitment. If the stalks are cut too late, seed may have already matured and the weeding effort will only facilitate dispersal. A weed whacker does the job quickly. Any opportunity of *not* disturbing the soil should be taken.

Irrigation

Drip irrigation systems shall be installed to supplement rainfall. Each container plant shall receive one, 1-gallon emitter. Plants shall be watered once a week for at least two months. Irrigation shall be reduced to once every two weeks after this initial establishment period. Irrigation shall be tapered off slowly.

Predation Protection

Deer and other grazing animals are expected to be a threat to oak seedling survival. Each planting area (cluster of acorns or container sapling) will be protected by either individual cages or area fencing. Cages can be constructed from a cylinder of aviary wire (or similar material) that is approximately 18 inches in diameter and at least 3-feet tall. The cylinder will be buried at least 1 foot below grade to deter gopher predation. The top of the mesh shall be folded to deter deer browsing.

3.5 Monitoring Program

To evaluate the success of the Habitat Management Plan and to weigh the need for weeding and reseedling, a monitoring schedule, performance criteria and contingency actions are presented in Table 2. Monitoring will continue for at least three to five years, or until all performance criteria have been met. Success rates falling under the stated minimum may signal the need for a second or third revegetation effort.

Monitoring of vegetation growth and establishment will be performed to document the level of growth achieved by the revegetated areas. Performance criteria set a framework to determine if restoration has been successful, and to determine whether repeated treatments are required. Performance values and the schedule may be modified based upon the actual responses of the particular site, with approval from regulatory agencies.

Monitoring shall be conducted by a professional with experience in native plant revegetation. Data, gathered to determine vegetation establishment, will be collected annually in the spring, when the maximum number of species are likely to be present.

Monitoring methods need not be elaborate. A simple tally and general health index of container materials, evidence of reproduction (flowering), and a visually-estimated cover percentage will provide adequate information to determine if replanting is required or if restoration standards have been met. Testing procedures will be described and standardized in the first annual report and specified in each subsequent report. The monitor will evaluate the need for weeding and replanting. Annual reports and recommendations will be submitted to the County of Los Angeles Regional Planning and the California Department of Fish and Game. Follow-up monitoring may be needed to ensure that recommendations have been carried out.

Preliminary performance standards are presented in Table 2. If revegetation standards are not met or closely approached during the initial three to five year monitoring period, remediation through further revegetation efforts and extended monitoring shall be required. Modifications to the preliminary performance criteria (standards), presented in table form below, may be made, based upon actual responses of the particular sites.

Table 2: PRELIMINARY PERFORMANCE CRITERIA

FEATURE	OAKS (at least 25 oaks shall be planted; 5:1 replacement ratio)
Goals	<ul style="list-style-type: none"> • <i>100% survival after 3 - 5 years.</i>
Frequency	<ul style="list-style-type: none"> - 1st year following planting: 5 reconnaissance surveys; one comprehensive survey (in late spring/early summer), data collection and annual report. - 2nd year following planting: reconnaissance survey 3 times per year; comprehensive survey, data collection and annual report in the spring. - 3rd through 5th years following planting: reconnaissance survey 2 times per year; comprehensive survey, data collection and spring annual report.
Criteria	<ul style="list-style-type: none"> - End of 1st growing season, survival is at least 90% of original planting. - End of 2nd growing season, survival is at least 80% of original planting. - Thereafter, survival is at least 66% (10 trees) until oaks are established and weaned from irrigation.
Action	<ul style="list-style-type: none"> • <i>Replant</i> if values fall below expectations during the first 2 years. Replant and monitor until material is established and weaned from irrigation.
FEATURE	BLUE-LINE DRAINAGE TREES AND SHRUBS
Goals	<ul style="list-style-type: none"> • <i>Short-Term:</i> Restoration and habitat preservation program is implemented under guidelines of Restoration Plan. • <i>Long-Term:</i> (plant establishment period) - Container material --80% survival after 3-5 years.
Frequency	SAME AS FOR OAK MONITORING FREQUENCY
Criteria	<ul style="list-style-type: none"> - End of 1st growing season, survival is at least 90% of original planting. - End of 2nd growing season, survival is at least 80% of original planting. - End of 3rd-5th growing seasons, survival is at least 75% of original planting. Evidence of reproduction (flowering) after 3rd year.
Action	<ul style="list-style-type: none"> • <i>Replant</i> if values fall below expectations during the first 2 years. Replant and monitor until material is established and weaned from irrigation.
FEATURE	WEED CONTROL
Goals	<ul style="list-style-type: none"> • <i>Short-Term:</i> Boost establishment of native species by reducing competition for water, space and light. • <i>Long-Term:</i> Reduce the abundance of undesirable plant species within the site.
Frequency	<ul style="list-style-type: none"> • During reconnaissance and comprehensive surveys, as described above under OAKS. Weeding to occur at least twice a year, before fruit is set. Weeding of castor bean at least every 3 months during 1st year.
Criteria	<ul style="list-style-type: none"> • Weed growth is not interfering with native plant establishment or reproduction.
Action	<ul style="list-style-type: none"> • Continue to monitor and weed (with little or no ground disturbance) as necessary.

4.0 FUEL MODIFICATION PLAN

Fuel modification is the gradual transition from flammable native vegetation to irrigated, fire-resistant vegetation. It is a reduction of flammable vegetation, designed so that a fire will run out of fuel as it approaches a residence or other structure (County of Los Angeles, 1995).

The goal of the Fuel Modification Plan is to reduce dead and highly combustible fuel load within limited areas surrounding proposed buildings, roads and high-use zones, while preserving native habitat. The Plan proposes to reduce the intensity of a wildfire by decreasing combustible material and consequently reducing the potential energy released from the flames.

4.1 Treatment Areas

Effected areas contain primarily non-native grasses and ruderal species, however, some chaparral, sycamore and oak woodland will be influenced.¹ Dead material and mature chamise, buckwheat, sage and sagebrush would be removed within the chaparral community. (The chaparral is "mixed," and not overwhelmingly dominated by chamise.) Specimen oak trees would be limbed to 6 feet and resinous understory species removed within the woodlands. Two zones are identified:

- **"Clearance Zone"** 50 feet around structures -- Full clearance of all combustible vegetation is required within 50 feet of any structure as well as 50 feet of clearance away from any neighboring structures.
- **"Thinning Zone"** An additional 150 feet of clearance is required beyond the clearance zone around all structures on the site or on adjacent property.

Treatment within these zones will produce a 200-foot wide defensible space for structures. Chaparral, sycamore woodlands and scattered oaks will be treated. Most of the oaks within the area of proposed structures are presently void of understory and would require no additional treatment at this time. Treated areas are mapped in Figure 1 (back pocket). The specific treatments required within the areas are described below.

¹ The management zones also traverse the blue-line drainage. Vegetation within this area is similar to the chaparral community and is included in the tally for that habitat.

4.1.1 Clearance Zone (0-50 feet from Residence)

Most of the vegetation within the first 50 feet from the residence is now disturbed grassland with many ruderal (weedy) species. This area shall be planted with fire resistant, drought tolerant, irrigated landscaping. Landscaped vegetation must be continuously maintained to avoid the buildup of dead material. The following standards will be observed:

- The first 10 feet from the residence shall be vegetated with high moisture-retaining groundcovers and low shrubs selected from the County of Los Angeles Fire Department Fuel Modification Plant List; Attachment B.
- Clearance of 10 feet is also required on either side of any public or private access road or driveway.
- Branches of trees must be kept at least 10 feet from any structure.
- The remaining 40 feet of the Clearance Zone shall consist of low fuel volume, irrigated ornamental and/or native groundcover, shrub and tree species listed in the aforementioned Attachment.
- Grasses and groundcovers shall be maintained at no more than 18 inches in height.
- Native trees within the Clearance Zone must be at least 30 feet apart, measured from the edge of one tree canopy to the next.
- Trees must be limbed up to 6 feet above ground level.
- Shrubs shall be at least 15 feet apart and shall not be planted or allowed to grow in continuous masses.

Most of the area falling within the Clearance Zone is presently disturbed grassland or avocado orchard that will be graded and landscaped. However, a small portion of native chaparral also falls within this zone. The following species, found within this area, are highly combustible and shall be removed from the Clearance Zone:

Adenostoma fasciculatum (Chamise)

Artemisia californica (California sagebrush)

Brassica nigra (Black mustard)

Eriogonum fasciculatum (California buckwheat)

Salvia mellifera (Black sage)

All other shrubs and trees shall be treated following the spacing guidelines given above, producing a mosaic pattern of vegetation. Annual and perennial herbaceous material shall be trimmed in late spring, as it dries.

4.1.2 Thinning Zone (50-200 feet from Residence)

The Thinning Zone encompasses the next 150 feet outside of the Clearance Zone. Flammable material (high fuel volume and/or resinous material such as mature chamise, sagebrush, buckwheat and black sage) shall be removed within the first 50 feet of the Thinning Zone. Only specimen shrubs may be retained. All other living material (such as Rhus, Ceanothus, Prunus and toyon) shall be spaced at least 15 feet apart or 3 times their height, whichever is greater. All dead wood shall be removed.

Fuel modification within the next 100 feet of the Thinning Zone will be accomplished by removing dead wood. Flammable native shrubs may be retained if they are spaced at least 15 feet apart. Dead wood shall be hand pruned into 4-6 inch pieces. Cut material will be left within the area it was removed from to create a mulch. This procedure is called "Multicutting."

Treatment shall be required every 5 years (approximately). The fire of 1993 essentially cleared the site of all deadwood and combustible material. The first treatment should be scheduled for 1998. The multicutting technique produces results that differ from the more common practice of "mosaic clearance" described for the Clearance Zone. Whereas the mosaic procedure results in large open spaces dotted with single shrub specimens, the objective of multicutting is to achieve a more natural habitat cover, removing only the most flammable material. Multicut areas are expected to burn, however, the low flame lengths anticipated within treated areas will produce little more than a smoldering fire.

Within the chaparral community, the technique would entail the pruning of dead branches and/or shrubs and the removal of some of the highly resinous and flammable species.

Within existing oak woodlands, or around existing single trees, the Fuel Modification Plan seeks to remove lower oak branches (to 6 feet), dried grasses and dead branches.

Underplantings near oak trees should be kept at no more than 18 inches in height. No flammable or resinous material should occur under oaks or within 15 feet of the oak canopy. Young oaks and other native understory components such as toyon would not be removed as long as they are at least 15 feet from the canopy.

Grasses or other low growing vegetation within the Thinning Zone must be maintained on a yearly basis.

4.1.3 Sensitive Habitat

Sensitive habitat (including the riparian buffer area located outside of the 50-foot Clearance Zone; the sycamore woodland; and the marsh) would not be treated except to remove dead wood.

4.2 Fuel Modification Impact on Vegetation

The Fuel Modification Plan will affect a total of approximately 2.00 acres of native chaparral habitat.

It is important to realize that the Plan does not call for a dramatic change of vegetation cover within the last 100 feet of the Thinning Zone, where only dead or closely spaced, flammable material will be removed. Higher impacts would be expected in areas containing a large percent of dead wood and chamise, buckwheat, sage and sagebrush.

All of the areas scheduled for treatment have already been altered by the 1993 fire and would require very little treatment at this time. However, any removal of vegetation, either living or dead, will change the value of the resource to wildlife. Limbing up and selected thinning within oak woodland habitat will reduce the value by limiting cover. The effects will be similar to light grazing.

The Plan, as conceived, seeks to achieve a balance between a reduction in the fuel load and the preservation of biological habitat. Over time, the multicutting technique will encourage accelerated new growth within the chaparral community, as space previously occupied by dead material is made available. To avoid overclearing, initial multicut clearance must be carried out by individuals familiar with the minimum extent of selective cutting required to affect the necessary reduction in fuels.

5.0 REFERENCES

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