

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 585-1800



ADDENDUM

DATE: November 6, 2007
TO: Commissioners and Interested Parties
FROM: South Central District Staff
SUBJECT: Agenda Item **W 11c**
Coastal Development Application No. **4-07-028 (Johnson/Gray/Early)**

The purpose of this addendum is to make corrections to the October 25, 2007 staff report for CDP Application No. 4-07-028. Special Condition No. 1 on pages 3-4 of the staff report is hereby revised as follows (additions are underlined; deletions are shown in ~~strike-out~~):

1. Open Space Conservation Easement

No development, as defined in Section 30106 of the Coastal Act, grazing, or agricultural activities shall occur outside of the approved development areas, within the portion of each property identified as the "open space conservation easement area", as shown in **Exhibit 12** except for:

Any fuel modification required by the Los Angeles County Fire Department undertaken in accordance with any final approved fuel modification plan required and approved by the Commission pursuant to another CDP(s) issued by the Commission; any drainage and polluted runoff control activities approved by the Commission pursuant to another CDP(s) issued by the Commission; construction and maintenance of public hiking trails, if approved by the Commission as an amendment to this coastal development permit or a new coastal development permit; and construction and maintenance of roads, trails, and utilities pursuant to existing easements, if approved by the Commission in a new coastal development permit.

Prior to issuance of the Coastal Development Permit, each of the co-applicants shall execute and record a document in a form and content acceptable to the Executive Director, granting to the Mountains Recreation and Conservation Authority ("MRCA") on behalf of the people of the State of California an open space conservation easement over ~~the their respective~~ portion of the "open space conservation easement area" ~~described above that is on that co-applicant's property~~ as generally shown on Exhibit 12, for the purpose of habitat protection. Each recorded easement document shall include a formal legal description of the grantor's entire property; and a metes and bounds legal description and graphic depiction, prepared by a licensed surveyor, of the open space conservation easement area being granted, as generally shown on **Exhibit 12**. The recorded document shall reflect that no development shall occur within the open space conservation easement area except as otherwise set forth in this permit condition. The grant of easement shall be recorded free of prior liens and encumbrances (other than existing easements ~~allowing the holder to build for~~ roads, trails, and utilities) that the Executive Director determines may affect the interest being conveyed, and shall run with the land in favor of the MRCA on behalf of the people of the State of California, binding all successors and assigns.

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W 11c

Filed: 6/22/07
49th Day: 8/10/07
180th Day: 12/19/07
Staff: D. Christensen
Staff Report: 10/25/07
Hearing Date: 11/14/07
Commission Action:



STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-07-028

APPLICANTS: John Johnson, Terry Gray, and Mary Early

AGENT: Brent Schneider

PROJECT LOCATION: Mulholland Highway, Santa Monica Mountains (Los Angeles Co)

APN NO.: 4472-006-055 (Mary Early)
4472-006-056 (John Johnson)
4472-006-057 (Terry Gray)

PROJECT DESCRIPTION: After-the-fact request for authorization for the re-division of four (4) existing parcels into three (3) reconfigured parcels. All of the parcels are currently undeveloped. However, residential development is proposed on two of the three parcels pursuant to CDP applications 4-06-101 (Gray) and 4-06-102 (Early), which, presuming this application is approved, will be considered by the Commission at the November 2007 hearing as well, following this approval.

<u>Lot No.</u>	<u>Existing Area</u>	<u>Proposed Area</u>
Lot 1	2.52 acres	3.74 acres (4472-006-055)
Lot 2	2.52 acres	2.90 acres (4472-006-057)
Lot 3	2.52 acres	3.42 acres (4472-006-056)
Lot 4	2.52 acres	---

Land Use Plan Designations: Rural Land I (1 du/10 acres)

LOCAL APPROVALS RECEIVED: County of Los Angeles Department of Regional Planning, "Certificate of Compliance for Lot Line Adjustment No. 100,899", approved July 23, 1990; County of Los Angeles Department of Regional Planning, "Certificate of Exception", approved July 30, 1968.

SUBSTANTIVE FILE DOCUMENTS: "Geologic and Soils Engineering Exploration," prepared by Grover Hollingsworth and Associates, Inc., dated May 9, 2006; "Biological Resource Evaluation," prepared by Compliance Biology Inc., dated October 28, 2005; Coastal Development Permit No. 5-90-125 (Zacha).

Summary of Staff Recommendation

The applicants request after-the-fact approval for re-division of four existing parcels into three reconfigured parcels. Land divisions constitute development under the Coastal Act and require a coastal development permit. The owner of the four pre-redivision parcels failed to secure a coastal development permit at the time the redivision was executed in 1990. The three reconfigured parcels have since been sold and are now under new, separate ownership. No physical development is proposed on the subject parcels through this permit application. However, residential development is proposed on two of the three reconfigured parcels (Lots 1 and 2) pursuant to Coastal Development Permit Application Nos. 4-06-101 (Gray) and 4-06-102 (Early), which, presuming this application is approved, will be considered by the Commission at the November 2007 hearing as well, following this approval.

The stated purpose of the proposed land re-division is to reconfigure the parcels in consideration of topographical constraints and existing physical access. Review of the proposed parcel reconfiguration indicates that the re-division would allow for the clustering of three residences along the top of the on-site spur ridge in close proximity to existing residential development and an existing common access road. The subject parcels contain relatively undisturbed native habitat consisting primarily of chaparral plant communities contiguous with a larger area of native chaparral. Each of the parcels is considered environmentally sensitive habitat area (ESHA). However, because the proposed re-division will result in a decrease in the number of buildable lots, and future development sites have been identified that minimize grading, landform alteration, and removal of ESHA, Commission staff recommends **approval** of the proposed project, with one (1) special condition regarding open space conservation easements.

I. STAFF RECOMMENDATION

MOTION: *I move that the Commission approve Coastal Development Permit No. 4-07-028 pursuant to the staff recommendation.*

Staff Recommendation of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve the Permit:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

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 on which the Commission voted on the application. 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. **Interpretation.** Any questions of intent or interpretation of any term or condition will be resolved by the Executive Director or the Commission.
4. **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.
5. **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. Open Space Conservation Easement

No development, as defined in Section 30106 of the Coastal Act, grazing, or agricultural activities shall occur outside of the approved development areas, within the portion of each property identified as the "open space conservation easement area", as shown in **Exhibit 12** except for:

Any fuel modification required by the Los Angeles County Fire Department undertaken in accordance with any final approved fuel modification plan required and approved by the Commission pursuant to another CDP(s) issued by the Commission; any drainage and polluted runoff control activities approved by the Commission pursuant to another CDP(s) issued by the Commission; construction and maintenance of public hiking trails, if approved by the Commission as an amendment to this coastal development permit or a new coastal development permit; and construction and maintenance of roads, trails, and utilities pursuant to existing easements, if approved by the Commission in a new coastal development permit.

Prior to issuance of the Coastal Development Permit, each of the co-applicants shall execute and record a document in a form and content acceptable to the Executive Director,

granting to the Mountains Recreation and Conservation Authority ("MRCA") on behalf of the people of the State of California an open space conservation easement over the portion of the "open space conservation easement area" described above that is on that co-applicant's property, for the purpose of habitat protection. Each recorded easement document shall include a formal legal description of the grantor's entire property; and a metes and bounds legal description and graphic depiction, prepared by a licensed surveyor, of the open space conservation easement area being granted, as generally shown on **Exhibit 12**. The recorded document shall reflect that no development shall occur within the open space conservation easement area except as otherwise set forth in this permit condition. The grant of easement shall be recorded free of prior liens and encumbrances (other than existing easements allowing the holder to build roads, trails, and utilities) that the Executive Director determines may affect the interest being conveyed, and shall run with the land in favor of the MRCA on behalf of the people of the State of California, binding all successors and assigns.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION AND BACKGROUND

The applicants request after-the-fact approval for re-division of four existing parcels into three reconfigured parcels. The applicants also propose to grant an open space conservation easement across the portion of the parcels beyond the required fuel modification zone B that would apply to the areas being proposed as future development sites on the three reconfigured parcels.

The four existing 2.5-acre parcels were created in 1968 pursuant to issuance, by the County of Los Angeles Regional Planning Commission, of a "Certificate of Exception," on July 30, 1968 (**Exhibit 2**). As such, the subject four parcels were created prior to the effective date of the Coastal Act and were in compliance with all applicable state and local subdivision laws at the time of their creation, and therefore, are considered to be legal lots.

In 1990, the owner of the four existing parcels requested a lot line adjustment from Los Angeles County to create three parcels from the four existing parcels in order to provide each parcel with better physical access. The three reconfigured parcels received an unconditional "Certificate of Compliance No. 100,899" from the County of Los Angeles on July 23, 1990 (recorded as Instrument No. 90-1293605), confirming that the reconfigured parcels were in conformance with all requirements of the Subdivision Map Act and County Subdivision Ordinance (**Exhibits 3-4**). However, the owner of the four previously existing parcels failed to secure a coastal development permit at the time the re-division was executed in 1990. The three newly reconfigured parcels have since been sold by the owner and are now under new, separate ownership. The new owners of the parcels now request after-the-fact approval for the land re-division.

The subject parcels are located about a quarter-mile north of Mulholland Highway, west of its intersections with Decker Road and Little Sycamore Canyon Road, within the northwestern portion of the Santa Monica Mountains and approximately three and one half miles inland from the coast (**Exhibits 1, 2 and 15**). The properties straddle a north/south-trending spur ridge situated below a major ridge. The east and west flanks of the spur ridge descend approximately 90 feet at 2:1 to 4:1 gradients down to secondary drainage courses of the Arroyo Sequit

watershed. The area surrounding the subject parcels is characterized by rolling hillside terrain that is predominantly vacant, except for a residence to the north and a small residential enclave to the southeast. The subject parcels support and are largely surrounded by native chaparral and coastal sage scrub vegetation that qualifies as environmentally sensitive habitat (ESHA). However, there is minor disturbance along the top of the ridge that is associated with a historic road cut. The road cut along the top of the ridge was created prior to the effective date of the Coastal Act in 1977 and is visible in 1977 aerial photographs. In addition, a well head and concrete apron associated with the well head exists adjacent to the road cut on the north-central portion of the site. In 1990, the Commission approved construction of this water well and at grade cement cap (Coastal Development Permit No. 5-90-125 (Zacha)). The subject parcels are also located in a scenic area, visible from various public viewing points, such as Mulholland Highway (a designated Scenic Highway), Little Sycamore Canyon Road (a public road), and public parkland (Santa Monica Mountains National Recreation Area), which afford scenic vistas of the relatively undisturbed natural area (**Exhibit 16**).

No physical development is proposed on the subject parcels in this permit application. However, residential development is proposed on two of the three reconfigured parcels (Lots 1 and 2) pursuant to Coastal Development Permit Application Nos. 4-06-101 (Gray) and 4-06-102 (Early), which the Commission will subsequently consider also at the November 2007 hearing (**Exhibits 6-7**). Commission staff is recommending approval, with conditions, of those two applications. Although no coastal development permit application has been received to date for the third parcel (Lot 3), the owner has provided residential development plans that have received approval-in-concept from Los Angeles County Department of Regional Planning (**Exhibit 8**). The owner of Lot 3 intends to submit a CDP application shortly for the development of a residence. In addition, the applicant's geologic and geotechnical engineering consultant has analyzed the geologic conditions of the proposed development sites on each of the reconfigured parcels and determined that proposed development and grading is feasible from a geologic and soils engineering standpoint.

The stated purpose of the land re-division is to reconfigure the parcels in consideration of topographical constraints and existing physical access. The potential development density will also be reduced as a result. The applicants have identified future building sites and access driveways on each of the four existing parcels, as well as on each of the three reconfigured parcels. Review of the proposed parcel reconfiguration indicates that it would allow for the clustering of three residences along the top of the on-site spur ridge in close proximity to existing residential development and an existing access road. The proposed re-division would thereby minimize grading, landform alteration, and removal of ESHA.

B. CUMULATIVE IMPACTS AND ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Section 30250(a) of the Coastal Act provides that new development must be located within or near existing developed areas able to accommodate it, or in other areas with adequate public services, where it will not have significant adverse effects, either individually or cumulatively, on coastal resources:

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 only 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 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.

Section 30231 states:

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.

Section 30240 states:

- (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.***

Section 30107.5 of the Coastal Act, defines an environmentally sensitive area as:

"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

The Coastal Act requires that new development, including land divisions, be permitted within, contiguous with, or in close proximity to existing developed areas or, if outside such areas, only where public services are adequate and only where public access and coastal resources will not be cumulatively affected by such development. One of the basic goals of the Coastal Act is to

concentrate development in or near developed areas able to accommodate it, thereby promoting infilling and avoiding sprawl into areas with significant resource value. Further, the Commission has repeatedly emphasized the need to address the cumulative impacts of new development in the Malibu and Santa Monica Mountains area in past permit action. The Commission has reviewed land division applications to ensure that newly created or reconfigured parcels are of sufficient size, have access to roads and other utilities, are geologically stable and contain an appropriate potential building pad area where future structures can be developed consistent with the resource protection policies of the Coastal Act. In particular, the Commission has ensured that future development on new or reconfigured lots can minimize landform alteration and other visual impacts, and impacts to environmentally sensitive habitat areas. Finally, the Commission has required that all new or reconfigured lots have adequate public services, including road, bridge, and driveway access that meets the requirements of the Fire Department.

The Commission has considered several projects that the applicants and the County of Los Angeles treated as “lot line adjustments” even though they actually resulted in major reconfiguration of lot lines amongst several lots [4-96-28 (Harberger, et. al.) 4-96-150 (Rein, et. al.), 4-96-189 (Flinkman), 4-96-187 (Sohal)]. In these cases, the Commission has considered the proposed projects to actually be “re-divisions” or re-subdivisions of land whereby existing property boundary lines are significantly modified to re-divide the project site into wholly reconfigured lots. The Commission has analyzed these proposals just as it analyzes a new subdivision of lots. The Commission has only permitted such re-divisions where adequate fire access and other public services are available and where the resultant lots could be developed minimizing impacts to coastal resources.

The applicants propose to re-divide four existing, legal parcels into three reconfigured parcels. The applicants also propose to grant an open space conservation easement across the portion of the parcels beyond the required fuel modification zone B that would apply to the areas being proposed as the future development sites on the three reconfigured parcels. The proposed re-division will result in a decrease in number of lots and a decrease in density. The area where the proposed re-division is located has adequate public services, access, and is able to accommodate new development consistent with the requirements of Section 30250 of the Coastal Act. Below is a summary table of how the proposed re-division will change parcel number and size.

<u>Lot No.</u>	<u>Existing Area</u>	<u>Proposed Area</u>
Lot 1	2.52 acres	3.74 acres
Lot 2	2.52 acres	2.90 acres
Lot 3	2.52 acres	3.42 acres
Lot 4	2.52 acres	---

In past permit actions, the Commission has looked to the land use designations of the 1986 certified Malibu/Santa Monica Mountains Land Use Plan for guidance on the maximum allowable density and intensity of land use that may be permitted in any particular area. The Land Use Plan designates the proposed project site as Rural Land I, which allows one dwelling unit for ten acres of land. The four existing parcels are currently not in conformance with the density designation in the LUP. However, the proposed reconfigured lots will be in greater conformance with the LUP density designation than the existing lots. As discussed in detail below, the applicant has identified building sites on the three parcels that can be developed consistent with the Chapter Three policies of the Coastal Act and there are adequate services to accommodate the newly configured parcels.

Although the subject application does not propose any improvements or physical development on the properties, residential development is proposed on two of the three reconfigured parcels (Lots 1 and 2) pursuant to Coastal Development Permit Application Nos. 4-06-101 (Gray) and 4-06-102 (Early), which will be considered by the Commission subsequently, though also at the November 2007 hearing. The owner of the third parcel (Lot 3) has provided staff with detailed residential development plans that are approved-in-concept by Los Angeles County, but has not yet applied for a coastal development permit. Given the anticipated future development on the subject lots, the proposed re-division has implications for adverse cumulative impacts to sensitive resources, which are discussed in further detail below.

Section 30231 of the Coastal Act requires that the biological productivity and the quality of coastal waters and streams be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharge and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flows, maintaining natural buffer areas that protect riparian habitats, and minimizing alteration of natural streams. In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas must be protected against significant disruption of habitat values. Pursuant to Section 30107.5, in order to determine whether an area constitutes an ESHA, and is therefore subject to the protections of Section 30240, the Commission must ask four questions:

- 1) What is the area of analysis?
- 2) Is there a rare habitat or species in the subject area?
- 3) Is there an especially valuable habitat or species in the area, based on:
 - a) Does any habitat or species present have a special nature?
 - b) Does any habitat or species present have a special role in the ecosystem?
- 4) Is any habitat or species that has met test 2 or 3 (i.e., that is rare or especially valuable) easily disturbed or degraded by human activities and developments?

The Coastal Commission has found that the Mediterranean Ecosystem in the Santa Mountains is itself both rare and valuable because of its relatively pristine character, physical complexity, and resultant biological diversity. Therefore, habitat areas that provide important roles in that ecosystem are especially valuable and meet the third criterion for the ESHA designation. In the Santa Monica Mountains, coastal sage scrub and chaparral provide habitat that has many important roles in the ecosystem, including the provision of critical linkages between riparian corridors, the provision of essential habitat for species that require several habitat types during the course of their life histories, the provision of essential habitat for local endemics, the support of rare species, and the reduction of erosion, thereby protecting the water quality of coastal streams. For these and other reasons discussed in **Exhibit 14**, which is incorporated herein, the Commission finds that large contiguous, relatively pristine stands of coastal sage scrub and chaparral in the Santa Monica Mountains meet the definition of ESHA. This is consistent with the Commission's past findings on the Malibu LCP¹.

For any specific property within the Santa Monica Mountains, it is necessary to satisfy two tests in order to assign the ESHA designation. The first question is whether there is a species or habitat in the subject area that is either rare or especially valuable. This requires that the existing habitat is properly identified, for example as coastal sage scrub or chaparral, and it

¹ Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.

generally requires that any habitat at issue be relatively pristine and that it be part of a large, contiguous block of relatively pristine native vegetation. The second test is whether the habitat or species is easily disturbed or degraded by human activities and developments.

As previously mentioned, the site is located in a relatively undisturbed area and contains chaparral and coastal sage scrub habitat over most of the site, which is presently intact and undisturbed, and part of a larger, contiguous block of similar habitat. The applicants have submitted a biological assessment for the subject parcels, prepared by Compliance Biology and dated October 28, 2005, which characterizes and illustrates the biological resources on the site. The biological assessment indicates that the properties support moderate to high quality biological resources including chaparral and coastal sage scrub habitats, and that the entire site meets the definition of ESHA. In addition, the surrounding hillside terrain to the south, east, and west contains significant chaparral vegetation creating an extensive area of contiguous habitat. Therefore, due to the important ecosystem role of chaparral in the Santa Monica Mountains (detailed in Exhibit 14), and the fact that the subject site is relatively undisturbed and part of a large, unfragmented block of habitat, the Commission finds that the chaparral/coastal sage scrub habitat on the site meets the definition of ESHA under the Coastal Act.

Although physical development on the properties is not a part of the subject application, the applicants have provided detailed residential development plans for each of the three reconfigured parcels. There are pending coastal development permit applications for single family residences on Lots 1 and 2 (CDP Application Nos. 4-06-101 (Gray) and 4-06-102 (Early)), which staff is recommending the Commission conditionally approve at the November 2007 hearing as well. Although the owner of the third parcel (Lot 3) has not yet submitted a coastal development permit application, the owner has provided residential development plans that have been approved in-concept by Los Angeles County. There is an existing access road from Mulholland Highway up to the existing residence to the north of the subject parcels that the applicants have the legal ability to utilize (**Exhibit 15**). Improvements to this access road to meet County Fire Department access standards have already been approved by the Commission in September 2007 pursuant to CDP 4-06-090 (Johnson). As part of the pending CDP applications 4-06-101 (Gray) and 4-06-102 (Early) for development on Lots 1 and 2, the applicants propose to extend the existing access road onto the subject properties from the north. Development on each of the three reconfigured parcels will then branch off from the common access road (**Exhibit 5**).

The applicants have also submitted an alternatives analysis identifying the most feasible four potential building sites on each of the four existing parcels if the proposed re-division is not approved. If each of the four existing parcels in their existing configurations were to be developed with single family residences in the most feasible locations, additional access roads, grading, and removal of native vegetation would result due to topographical constraints of the site (**Exhibits 9-10**). Clustering development and utilizing a common access route across the four parcels, as they are currently configured, is impossible without significant alteration of the on-site spur ridge. Additional access roads and building pads would require significantly more grading and landform alteration, as well as more removal of on-site ESHA, than currently proposed. Review of the proposed parcel reconfiguration indicates that it would allow for the use of a single access road for all three parcels and for the clustering of the residences along the top of the on-site spur ridge that has been previously disturbed, with overlapping fuel modification zones, and in close proximity to existing residential development (**Exhibit 11**). As such, the Commission finds that residential development on the four existing parcels would result in greater adverse impacts to sensitive habitat resources and require significantly more grading and landform alteration than development of the subject three parcels as proposed to

be re-divided. Because the majority of the vegetation on the subject parcels is considered ESHA, no alternatives exist for siting future development under either lot configuration to completely avoid impacts to on-site ESHA.

Through past permit actions, the Commission has limited the development area for residential development in ESHA to a maximum development area of 10,000 square feet in order to minimize cumulative impacts and adverse impacts to ESHA from fuel modification requirements. As mentioned previously, the applicants have provided detailed residential development plans for each of the three proposed reconfigured parcels (**Exhibits 5-8**). The development area for each proposed parcel does not exceed 10,000 sq. ft.. Therefore, the development areas proposed by the applicants conform to the maximum development area of 10,000 sq. ft. that the Commission has typically allowed in similar situations on sites containing ESHA. These measures will minimize impacts to ESHA on the site. However, given the location of ESHA on the subject properties, the identified development areas and associated fuel modification proposed as part of the re-division will still result in unavoidable impacts to ESHA. The following discussion of ESHA impacts from new development and fuel modification is based on the findings of the Malibu LCP².

Fuel modification is the removal or modification of combustible native or ornamental vegetation. It may include replacement with drought tolerant, fire resistant plants. The amount and location of required fuel modification would vary according to the fire history of the area, the amount and type of plant species on the site, topography, weather patterns, construction design, and siting of structures. There are typically three fuel modification zones applied by the Fire Department:

Zone A (Setback Zone) is required to extend from the protected structures to a minimum of 20 feet beyond the edge of those structures. In this area native vegetation is cleared and only ground cover, green lawn, and a limited number of ornamental plant species are allowed. This zone must be irrigated to maintain a high moisture content.

Zone B (Irrigated Zone) is required to extend from the outermost edge of Zone A and can extend a maximum of 80 additional feet outward. In some cases, as with the proposed development, this zone can be reduced to 30 feet. In this area ground covers may not extend over 18 inches in height. Some native vegetation may remain in this zone if they are adequately spaced, maintained free of dead wood and individual plants are thinned. This zone must be irrigated to maintain a high moisture content.

Zone C (Thinning Zone) is required to extend from the outermost edge of Zone B up to an additional 100 feet out. This zone would primarily retain existing native vegetation, with the exception of high fuel species such as chamise, red shank, California sagebrush, common buckwheat and sage. Dead or dying vegetation must be removed and the fuel in existing vegetation reduced by thinning individual plants.

Thus, the combined required fuel modification area around structures can extend up to a maximum of 200 feet. If there is not adequate area on the project site to provide the required fuel modification for structures, then brush clearance may also be required on adjacent parcels.

² Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.

The Commission recognizes the need to protect structures from the risk of wildfire; however, it is also obligated to take account of the fact that fuel modification results in significant adverse impacts that are in excess of those directly related to the development itself. Within the area next to approved structures (Zone A), all native vegetation must be removed and ornamental, low-fuel plants substituted. In Zone B, most native vegetation will be removed or widely spaced. Finally, in Zone C, native vegetation may be retained if thinned, although particular high-fuel plant species must be removed (Several of the high fuel species are important components of the coastal sage scrub community). In this way, for a large area around any permitted structures, native vegetation will be cleared, selectively removed to provide wider spacing, and thinned.

Obviously, native vegetation that is cleared and replaced with ornamental species, or substantially removed and widely spaced will be lost as habitat and watershed cover. Additionally, thinned areas will be greatly reduced in habitat value. Even where complete clearance of vegetation is not required, the natural habitat can be significantly impacted, and ultimately lost. For instance, in coastal sage scrub and chaparral habitat, the natural soil coverage of the canopies of individual plants provides shading and reduced soil temperatures. When these plants are thinned, the microclimate of the area will be affected, increasing soil temperatures, which can lead to loss of individual plants and the eventual conversion of the area to a dominance of different non-native plant species. The areas created by thinning between shrubs can be invaded by non-native grasses that will over time out-compete native species.

For example, undisturbed coastal sage scrub and chaparral vegetation typical of coastal canyon slopes, and the downslope riparian corridors of the canyon bottoms, ordinarily contains a variety of tree and shrub species with established root systems. Depending on the canopy coverage, these species may be accompanied by understory species of lower profile. The established vegetative cover, including the leaf detritus and other mulch contributed by the native plants, slows rainfall runoff from canyon slopes and staunches silt flows that result from ordinary erosional processes. The native vegetation thereby limits the intrusion of sediments into downslope creeks. Accordingly, disturbed slopes where vegetation is either cleared or thinned are more directly exposed to rainfall runoff that can therefore wash canyon soils into down-gradient creeks. The resultant erosion reduces topsoil and steepens slopes, making revegetation increasingly difficult or creating ideal conditions for colonization by invasive, non-native species that supplant the native populations.

The cumulative loss of habitat cover also reduces the value of the sensitive resource areas as a refuge for birds and animals, for example by making them—or their nests and burrows—more readily apparent to predators. The impacts of fuel clearance on bird communities was studied by Stralberg who identified three ecological categories of birds in the Santa Monica Mountains: 1) local and long distance migrators (ash-throated flycatcher, Pacific-slope flycatcher, phainopepla, black-headed grosbeak), 2) chaparral-associated species (Bewick's wren, wrentit, blue-gray gnatcatcher, California thrasher, orange-crowned warbler, rufous-crowned sparrow, spotted towhee, California towhee) and 3) urban-associated species (mourning dove, American crow, Western scrub-jay, Northern mockingbird)³. It was found in this study that the number of migrators and chaparral-associated species decreased due to habitat fragmentation while the

³ Stralberg, D. 2000. Landscape-level urbanization effects on chaparral birds: a Santa Monica Mountains case study. Pp. 125–136 in Keeley, J.E., M. Baer-Keeley, and C.J. Fotheringham (eds.). *2nd interface between ecology and land development in California*. U.S. Geological Survey, Sacramento, California.

abundance of urban-associated species increased. The impact of fuel clearance is to greatly increase this edge-effect of fragmentation by expanding the amount of cleared area and “edge” many-fold. Similar results of decreases in fragmentation-sensitive bird species are reported from the work of Bolger et al. in southern California chaparral⁴.

Fuel clearance and habitat modification may also disrupt native arthropod communities, and this can have surprising effects far beyond the cleared area on species seemingly unrelated to the direct impacts. A particularly interesting and well-documented example with ants and lizards illustrates this point. When non-native landscaping with intensive irrigation is introduced, the area becomes favorable for the invasive and non-native Argentine ant. This ant forms “super colonies” that can forage more than 650 feet out into the surrounding native chaparral or coastal sage scrub around the landscaped area⁵. The Argentine ant competes with native harvester ants and carpenter ants displacing them from the habitat⁶. These native ants are the primary food resource for the native coast horned lizard, a California “Species of Special Concern.” As a result of Argentine ant invasion, the coast horned lizard and its native ant food resources are diminished in areas near landscaped and irrigated developments⁷. In addition to specific effects on the coast horned lizard, there are other Mediterranean habitat ecosystem processes that are impacted by Argentine ant invasion through impacts on long-evolved native ant-plant mutualisms⁸. The composition of the whole arthropod community changes and biodiversity decreases when habitats are subjected to fuel modification. In coastal sage scrub disturbed by fuel modification, fewer arthropod predator species are seen and more exotic arthropod species are present than in undisturbed habitats⁹.

Studies in the Mediterranean vegetation of South Africa (equivalent to California shrubland with similar plant species) have shown how the invasive Argentine ant can disrupt the whole ecosystem.¹⁰ In South Africa the Argentine ant displaces native ants as they do in California. Because the native ants are no longer present to collect and bury seeds, the seeds of the native plants are exposed to predation, and consumed by seed eating insects, birds and mammals. When this habitat burns after Argentine ant invasion the large-seeded plants that were protected by the native ants all but disappear. So the invasion of a non-native ant species drives out native ants, and this can cause a dramatic change in the species composition of the plant community by disrupting long-established seed dispersal mutualisms. In California, some insect eggs are adapted to being buried by native ants in a manner similar to plant seeds¹¹.

⁴ Bolger, D. T., T. A. Scott and J. T. Rotenberry. 1997. Breeding bird abundance in an urbanizing landscape in coastal Southern California. *Conserv. Biol.* 11:406-421.

⁵ Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041-2056.

⁶ Holway, D.A. 1995. The distribution of the Argentine ant (*Linepithema humile*) in central California: a twenty-year record of invasion. *Conservation Biology* 9:1634-1637. Human, K.G. and D.M. Gordon. 1996. Exploitation and interference competition between the invasive Argentine ant, (*Linepithema humile*), and native ant species. *Oecologia* 105:405-412.

⁷ Fisher, R.N., A.V. Suarez and T.J. Case. 2002. Spatial patterns in the abundance of the coastal horned lizard. *Conservation Biology* 16(1):205-215. Suarez, A.V. J.Q. Richmond and T.J. Case. 2000. Prey selection in horned lizards following the invasion of Argentine ants in southern California. *Ecological Applications* 10(3):711-725.

⁸ Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041-2056. Bond, W. and P. Slingsby. Collapse of an Ant-Plant Mutualism: The Argentine Ant (*Iridomyrmex humilis*) and Myrmecochorous Proteaceae. *Ecology* 65(4):1031-1037.

⁹ Longcore, T.R. 1999. Terrestrial arthropods as indicators of restoration success in coastal sage scrub. Ph.D. Dissertation, University of California, Los Angeles.

¹⁰ Christian, C. 2001. Consequences of a biological invasion reveal the importance of mutualism for plant communities. *Nature* 413:635-639.

¹¹ Hughes, L. and M. Westoby. 1992. Capitula on stick insect eggs and elaiosomes on seeds: convergent adaptations for burial by ants. *Functional Ecology* 6:642-648.

The cumulative impacts of development on all existing legal lots containing ESHA in the Santa Monica Mountains, including the impacts from the fuel modification that is required by the Fire Department in conjunction with such development and/or brushing, is substantial. As discussed above, these adverse impacts to ESHA can be reduced by considering project alternatives and mitigation measures, but they cannot be completely avoided. The proposed re-division would allow the future development sites on each of the three new parcels to minimize the amount of new fuel modification required. The sites have been clustered within development areas of less than 10,000 sq. ft and are located where required fuel modification will overlap. However, even with these measures, the proposed re-division will result in unavoidable impacts to ESHA. To find consistency with Section 30240 of the Coastal Act to the maximum extent feasible, the remaining ESHA on the property must be preserved. The most effective way to preserve the remaining ESHA on the site is through an open space conservation easement held by the Mountains Recreation and Conservation Authority that prohibits development on the remainder of the site now and in the future.

In order to ensure that the applicants' proposal to grant an open space conservation easement is implemented to permanently guarantee that no further development occurs outside the area that would be designated as fuel modification zone B of the identified building sites on the reconfigured parcels, generally shown on **Exhibit 12**, the Commission finds it necessary to require **Special Condition One (1)**, which confirms the applicants' proposal to grant to the Mountains Conservation and Recreation Authority an open space and conservation easement on the property. As detailed in Special Condition One (1), the open space and conservation easements will run with the land and will prohibit all development, with the exception of fuel modification required by the Los Angeles County Fire Department undertaken in accordance with the final approved fuel modification plans required and approved by the Commission pursuant to different CDP(s) issued by the Commission; drainage and polluted runoff control activities approved by the Commission pursuant to different CDP(s) issued by the Commission; construction and maintenance of public hiking trails, if approved by the Commission as an amendment to this coastal development permit or a new coastal development permit; and construction and maintenance of roads, trails, and utilities pursuant to existing easements, if approved by the Commission in a new coastal development permit.

Under the terms of Special Condition One (1), an open space and conservation easement over the open space area (shown in Exhibit 12) will be granted by each of the applicants to the Mountains Recreation and Conservation Authority ("MRCA"), a joint powers authority. The MRCA is a partnership between the Santa Monica Mountains Conservancy, the Conejo Recreation and Park District, and the Rancho Simi Recreation and Park District. The MRCA is dedicated to the preservation and management of open space, parkland, watershed lands, trails, and wildlife habitat. The MRCA manages and provides ranger services for almost 50,000 acres of public lands and parks that it owns or are owned by the Santa Monica Mountains Conservancy. The governing board of the MRCA has agreed to accept all open space easements required by the Commission for properties within the Santa Monica Mountains National Recreation Area.

The Commission finds that requiring an open space and conservation easement held by the MRCA is the most effective way to preserve the remaining ESHA on the property. The MRCA is a public agency that has park rangers and other staff active in the Santa Monica Mountains area to monitor open space areas to ensure that the restrictions are followed. The MRCA acquires and manages properties for recreation and conservation purposes in the Santa Monica Mountains. MRCA staff and park rangers routinely monitor properties under MRCA

management in the Santa Monica Mountains and enforce State law and local ordinances. Therefore, the MRCA is better able to monitor open space and conservation easements than Commission staff. Further, an easement will be recorded against the title to the property and thus provide notice to future owners of the limitations that apply to the open space conservation area, reducing the risk of a future irreparable violation of the restriction.

It is important that the property owner record an easement to MRCA rather than simply record an open space deed restriction. Although a deed restriction should notify future owners of the restriction in the same manner that a recorded easement would, it would not be as effective in preserving the remaining ESHA for two reasons, as explained below. First, a deed restriction is not as reliable because a property owner can record another document purporting to rescind the deed restriction. Although any attempt to rescind a deed restriction required by a coastal development permit ("CDP") without an amendment to that CDP authorizing such a rescission would constitute a violation of the CDP and the Coastal Act, the County Recorder's office is likely to allow recordation of a rescission without the required Coastal Commission authorization. Indeed, the Commission has experienced the phenomenon of property owners recording documents purporting to modify deed restrictions recorded pursuant to CDP requirements. See, e.g., Commission findings for CDP Amendment F7453-A2 (Stephenson), approved March, 2005, and Violation File V-6-04-010 (Del Mar Estates). On the other hand, because an easement necessarily involves more than one person, the County Recorder would not likely record a document purporting to rescind an easement unless the easement holder were also to sign the document. Thus, a condition requiring a deed restriction is much easier to violate, and therefore much less protective, than a condition requiring an easement.

Second, the Legislature has recently adopted new provisions to the Government Code specifically sanctioning the use of conservation easements for this purpose and changing procedures to ensure that they are prominent in searching title to property. In 2001, the Legislature adopted a new requirement that County Recorders keep a separate and "comprehensive index of conservation easements." See Cal. Gov't Code § 27255(a).

As such, the Commission finds that the requirement of an open space and conservation easement is the most effective method of ensuring that the remaining ESHA on the subject parcels will be conserved in the future.

In addition, the Commission concludes that an open space easement that allows only the easement holder and no other entity to enter the property for inspection purposes does not interfere with the fee title owner's right to exclude the general public. It therefore does not constitute a significant invasion of the fee title owner's property interest.

In conclusion, the proposed re-division from four to three parcels will reduce the density of development. As proposed to cluster road access and development areas and to provide a maximum development area of 10,000 sq. ft. on each proposed parcel, grading and vegetation removal will be minimized. The remainder of ESHA on the site outside of the road, driveways, development area and irrigated fuel modification (Zone B) for each parcel will be preserved through the granting of an open space conservation easement (Special Condition No. 1). As conditioned, the proposed project will locate development where it will not have significant individual or cumulative adverse impacts on coastal resources, will minimize impacts to ESHA, and will maintain the quality of coastal waters. Therefore, for the reasons set forth above, the Commission finds, that the proposed project, as conditioned is consistent with Section 30250, 30231, and 30240 of the Coastal Act.

C. VISUAL RESOURCES

Section 30251 of the Coastal Act states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline reservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Section 30251 of the Coastal Act requires scenic and visual qualities to be considered and preserved. Section 30251 also requires that development be sited and designed to protect views of scenic areas, minimize alteration of landforms, and be visually compatible with the surrounding area. The subject site is located within a rural area characterized by expansive, naturally vegetated mountains and hillsides. Existing residential development in the vicinity consists of a single family residence to the north, also along the top of the spur ridge, and several single family residences on adjacent knolls to the southeast.

The identified future development sites on the proposed re-divided parcels are located along the top of a spur ridge north of Mulholland Highway. Commission review of the publicly accessible locations from which future development on these sites will be visible indicate that development will be visible from Mulholland Highway (an LUP-designated scenic roadway) to the south and southeast, Little Sycamore Canyon Road (a public roadway) to the northeast, and public parkland (Santa Monica Mountains National Recreation Area) to the north and southeast, which afford scenic vistas of the relatively undisturbed natural area.

The potential development sites on the existing four legal parcels in their current configuration would also be unavoidably visible from the surrounding scenic viewing areas. If each of the four existing parcels in their existing configurations were to be developed with single family residences, additional access roads and building pads would be required, which would involve significantly more grading and landform alteration than currently proposed. Clustering development and utilizing a common access route across the four parcels, as they are currently configured, is impossible without significant alteration of the on-site spur ridge. Additional access roads and building pads would require significantly more grading and landform alteration than the subject proposed lot configuration.

The proposed re-division will reduce the total number of potential residences on the property from four to three, thereby reducing the overall impact to visual resources. Additionally, the identified future development sites on the proposed re-divided parcels are sited in a manner to allow for the clustering of development and use of a single common access road for all three reconfigured parcels. The proposed reconfiguration of the subject parcels will allow for clustering of the development with overlapping fuel modification zones, and will allow for the use of a single access for all three parcels. The clustering and use of a single access road will minimize the visual impacts of grading and landform alteration. Additionally, as mentioned

previously, the applicants have provided detailed residential development plans for each of the three proposed reconfigured parcels. The development area for each proposed parcel does not exceed the maximum development area of 10,000 sq. ft. that the Commission has previously found to minimize impacts to visual resources in similar situations on sites that are in highly scenic areas. Further, the areas of the site outside of the road, driveways, development area and irrigated fuel modification (Zone B) for each parcel will be preserved through the granting of an open space conservation easement (Special Condition No. 1), which will ensure that the visual quality of this area is protected. While the siting of development on the three proposed parcels ensures that impacts to visual resources are minimized, the Commission will still have to review the design of the proposed structures on each of the three parcels created in this permit for compliance with Section 30251 of the Coastal Act.

Therefore, the Commission finds that the proposed re-division of the subject parcels will serve to minimize adverse effects to public views and minimize the alteration of natural landforms to the maximum extent feasible. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Section 30251 of the Coastal Act.

D. LOCAL COASTAL PROGRAM

Section 30604 of the Coastal Act states:

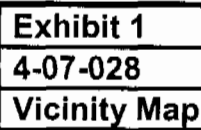
a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the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

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Development Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program, which conforms to Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if the condition listed above is incorporated into the project and is accepted by the applicants. 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 project, as conditioned, will not prejudice the County of Los Angeles' ability to prepare a Local Coastal Program for this area which is also consistent with the policies of Chapter 3 of the Coastal Act, as required by Section 30604(a).

E. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding showing the 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)(A) 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 effect that the activity may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed in detail above, project alternatives and mitigation measures have been considered and incorporated into the project. Five types of mitigation actions include those that are intended to avoid, minimize, rectify, reduce, or compensate for significant impacts of development. Mitigation measures required as part of this coastal development permit include the minimization of impacts to ESHA through clustering future development sites, and prohibiting development outside of the approved development area as required by the granting of an open space and conservation easement. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.



CERTIFICATE OF EXCEPTION "E. 10404"

PLAT PLAN MAP

LLA-100,899

Section: SW 1/4 of SEC. 8

Township: 1 S.

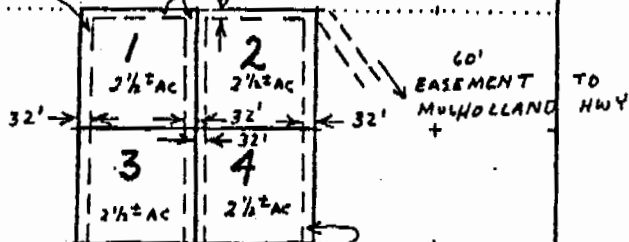
Range: 17 W.



CENTER SEC. 8

THIS CERTIFICATE OF EXCEPTION
constitutes a
CERTIFICATE OF COMPLIANCE
under
Subdivision Map Act
Sections 66422 & 66499.35(d)
California Government Code
6/23/77 Forrest O. Ke
DATE for PLANNING DIRECTOR

ROAD EASEMENTS



COUNTY OF LOS ANGELES
REGIONAL PLANNING COMMISSION

APPROVED

Certification of Exception
DATE: JUL 30 1968 BY: Henry L. Vongf.

ROAD EASEMENTS

40' EASEMENT TO
MULHOLLAND HWY

SW CORNER SEC. 8

EASEMENTS TO MULHOLLAND
HWY PER TITLE POLICY
* 670 9309.

TRIUNFO PASS QUAD
W.S. 94 1/2

Exhibit 2
4-07-028
Pre-Redivision
Parcel Map

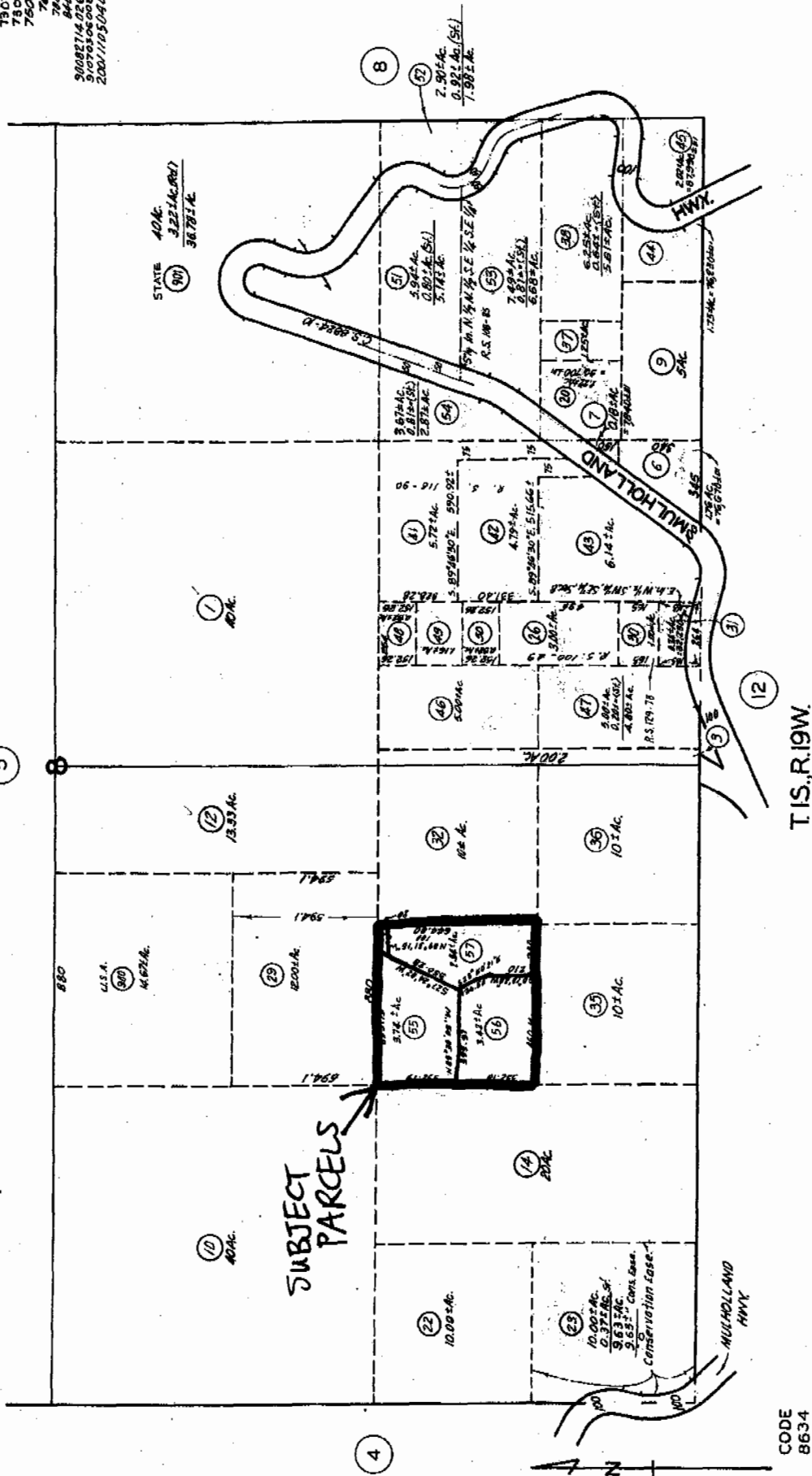
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SCALE 1" = 400'

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 1-18-66 8-20-64
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 780101870
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 840221-64
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 9070106-66
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V. ASSWT. SEE:

Exhibit 3

4-07-028

 Post-Redivision
 Parcel Map

 ASSESSOR'S MAP
 COUNTY OF LOS ANGELES, CALIF.

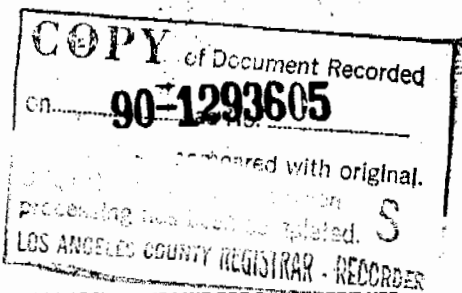
RECORDING REQUESTED BY

Department of Regional Planning
320 West Temple Street
Room 1381, Hall of Records
Los Angeles, California 90012

JUL 25 1990

AND WHEN RECORDED MAIL TO

Name: Michael Zacha
Street: 1700 Decker Road
City: Malibu, CA 90265



SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATE OF COMPLIANCE

REQUEST FOR CERTIFICATE OF COMPLIANCE FOR LOT LINE ADJUSTMENT

CERTIFICATE OF COMPLIANCE NO. 100,899

I/We, the undersigned owner(s) of record of real property within the unincorporated territory of the County of Los Angeles, hereby request to adjust existing property lines of the following described parcels:

Charles Michael Zacha III
Signature

Signature

Signature

Charles Michael Zacha III

Name (typed)

Name (typed)

Name (typed)

Signature

Signature

Signature

Name (typed)

Name (typed)

Name (typed)

Date

Date

Date

**LEGAL DESCRIPTION OF NEW PARCELS
(TYPED)**

PARCEL 1

A parcel of land situated in the County of Los Angeles, State of California, being that portion of the North half of the Northwest quarter of the Southeast quarter of the Southwest quarter of Section 8, Township 1 South, Range 19 West. San Bernardino Meridian, according to the official plat of said land filed in the District Land Office on April 10, 1900, described as follows:

Beginning at the Northwest corner of said North half; thence South 89° 31' 15" East along the north line of said North half 659.75 feet to the northeast corner of said North half; thence South 00° 13' 38" West along the East line of said North half 20.00 feet; thence North 89° 31' 15" West along a line parallel to and distant 20.00 feet southerly from said northerly line a distance of 100.00 feet; thence South 27° 24' 02" West 350.28 feet to a point on the south line of said North half, said point being distant westerly 259.97 feet from the southeast corner of said North half; thence North 89° 30' 09" West along the south line of said North half 399.97 feet to the southwest corner of said North half; thence North 0° 15' 38" East along the west line of said North half 332.19 feet to the point of beginning.

Exhibit 4

4-07-028

**Certificate of
Compliance 100,899**

CERTIFICATE OF COMPLIANCE CONTINUATION

CERTIFICATE OF COMPLIANCE NO. 100,899

PARCEL 2.

A parcel of land situated in the County of Los Angeles, State of California, being those portions of the North half and the South half, both of the Northwest quarter of the Southeast quarter of the Southwest quarter of Section 8, Township 1 South, Range 19 West, San Bernardino Meridian, according to the official plat of said land filed in the District Land Office on April 10, 1900, described as follows:

Beginning at a point in the east line of said North half, distant southerly 20.00 feet from the northeast corner of said North half; thence along a line parallel to and distant southerly 20.00 feet from the north line of said North half, North 89° 31' 15" West a distance of 100.00 feet; thence South 27° 24' 02" West 350.28 feet to a point on the south line of said North half, said point being North 89° 30' 09" West along the south line of said North half a distance of 259.97 feet from the southeast corner of said North half; thence South 25° 50' 21" East 136.50 feet; thence South 0° 13' 38" West 210.00 feet to a point in the south line of said South half, distant westerly 200.00 feet from the southeast corner of said South half; thence South 89° 29' 01" East 200.00 feet to last mentioned southeast corner; thence North 0° 13' 38" East along the east line of said North and South halves 644.80 feet to the point of beginning.

PARCEL 3

A parcel of land situated in the County of Los Angeles, State of California, being that portion of the South half of the Northwest quarter of the Southeast quarter of the Southwest quarter of Section 8, Township 1 South, Range 19 West, San Bernardino Meridian, according to the official plat of said land filed in the District Land Office on April 10, 1900, described as follows:

Beginning at the northwest corner of said South half; thence South 89° 30' 09" East along the north line thereof 399.97 feet to a point distant westerly 259.97 feet from the northeast corner of said South half; thence South 25° 50' 21" East 136.50 feet; thence South 0° 13' 38" West 210.00 feet to a point on the south line of said South half distant westerly 200.00 feet from the southeast corner of said South half; thence along said south line North 89° 29' 01" West 460.14 feet to the southwest corner of said South half; thence North 0° 15' 38" East along the west line of said South half 332.18 feet to the point of beginning.

CERTIFICATE OF COMPLIANCE

Pursuant to the provisions of the Subdivision Map Act (Sec. 66410 et seq., Government Code, State of California) and the County Subdivision Ordinance (Title 21 of the Los Angeles County Code), I hereby certify that I have reviewed the above described division of real property and have found it to be in conformance with all requirements of the Subdivision Map Act and of the County Subdivision Ordinance.



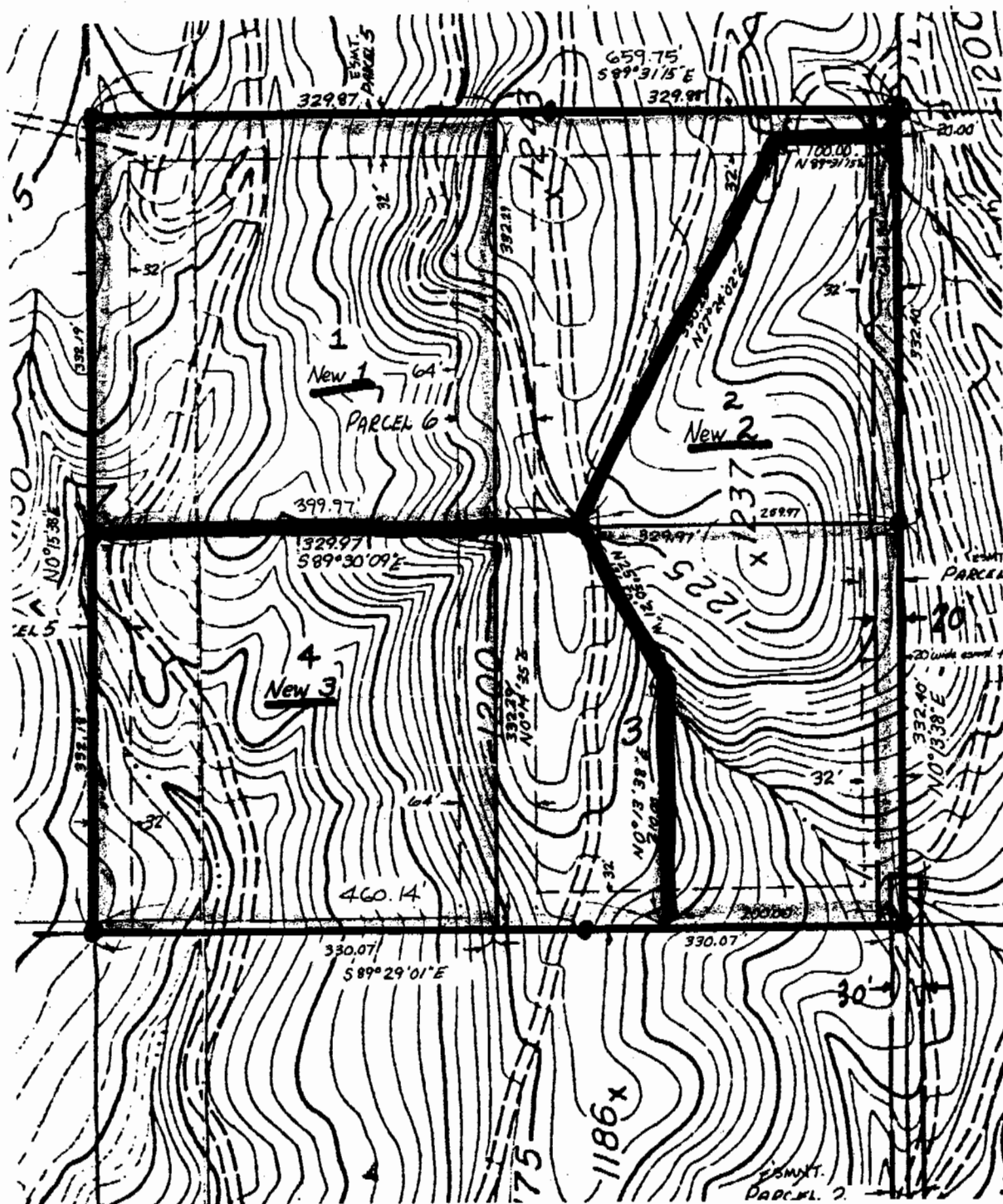
DEPARTMENT OF REGIONAL PLANNING
County of Los Angeles, State of California

DEPARTMENT OF REGIONAL PLANNING

By: [Signature]

Title: Administrator, Subdivision Admin. Div.

Date: 7-23-90



TOPOGRAPHY PLAN

THREE PARCEL TOPOGRAPHY

©



LOT LINE ADJUSTMENT FOR : MALIBU TNY LLC - APN : 4472 000 000
GRAY FAMILY TRUST - APN : 4472 000 000
JOHN JOHNSON - APN : 4472 000 000
1814 HOLLAND HIGHWAY : MALIBU, CALIFORNIA 90265
PHONE No. : 805. 468. 1979

SCALE PER PLAN	BCH BANK 141 E CHICAGO ILL 60601
DATE: 27 OCTOBER 1988	

Exhibit 5
4-07-028
Proposed Parcel Configuration with Development Sites

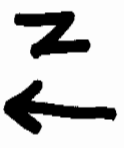
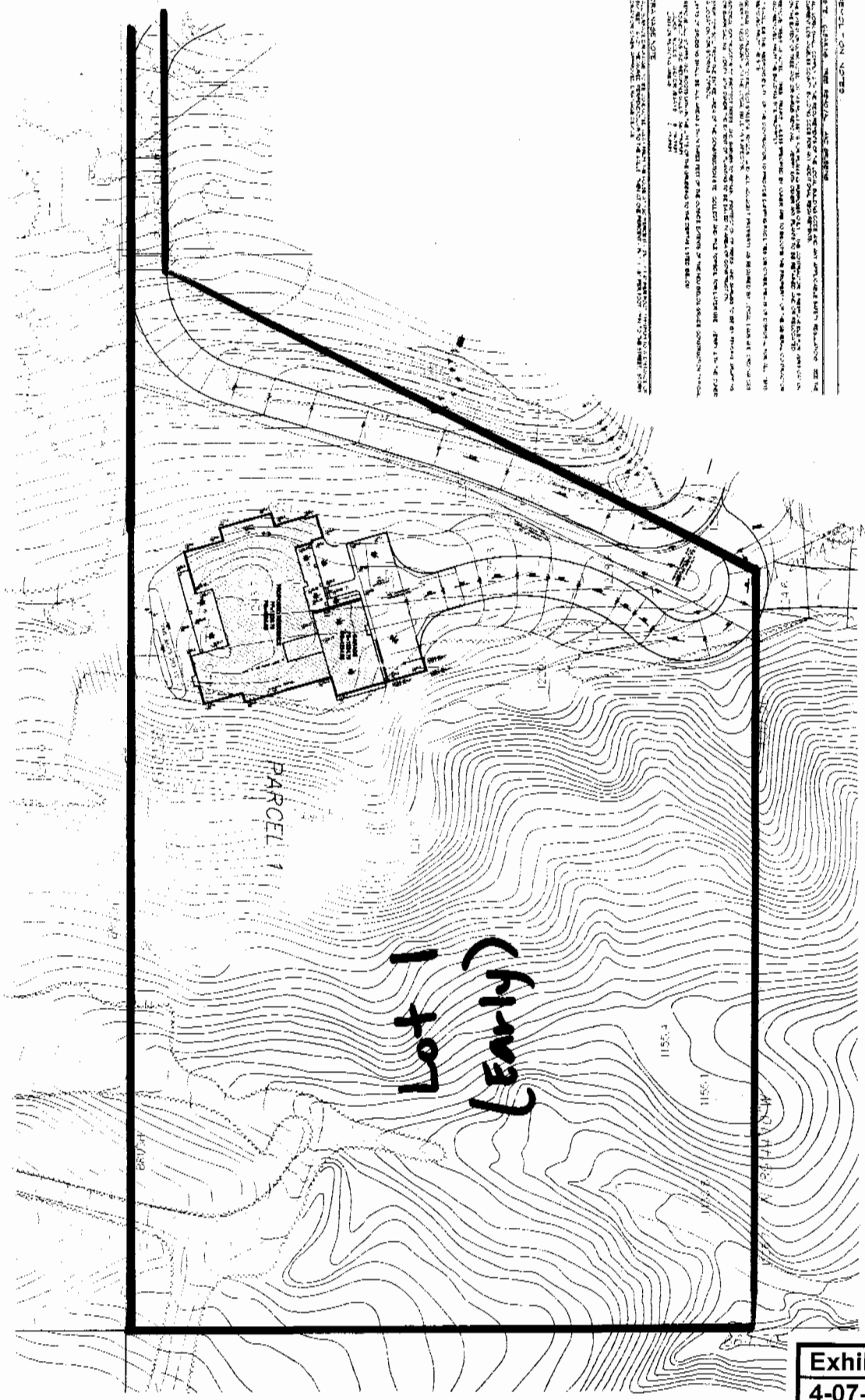
1. The proposed subdivision is shown on the attached map. The map shows the proposed subdivision of the land into lots, and the location of the proposed roads and easements. The map also shows the location of the proposed easements and the location of the proposed roads and easements.

2. The proposed subdivision is shown on the attached map. The map shows the proposed subdivision of the land into lots, and the location of the proposed roads and easements. The map also shows the location of the proposed easements and the location of the proposed roads and easements.

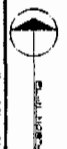
3. The proposed subdivision is shown on the attached map. The map shows the proposed subdivision of the land into lots, and the location of the proposed roads and easements. The map also shows the location of the proposed easements and the location of the proposed roads and easements.

4. The proposed subdivision is shown on the attached map. The map shows the proposed subdivision of the land into lots, and the location of the proposed roads and easements. The map also shows the location of the proposed easements and the location of the proposed roads and easements.

5. The proposed subdivision is shown on the attached map. The map shows the proposed subdivision of the land into lots, and the location of the proposed roads and easements. The map also shows the location of the proposed easements and the location of the proposed roads and easements.



SITE PLAN



SITE PLAN

Exhibit 6
 4-07-028
 Proposed Lot 1
 Site Plan

↑ N

Lot 2
(Gray)

SITE PLAN

SITE PLAN

1" = 20' - 0"

1740.8

REVISIONS

RESIDENCE FOR : GRAY FAMILY TRUST
 34221 MULHOLLAND HIGHWAY - APM : 4472 006 087
 WALLEN, CALIFORNIA 92088
 PHONE No. 619. 455. 1885

SCALE:
 THIS PLAN
 DATE:
 2/20/2008 2007

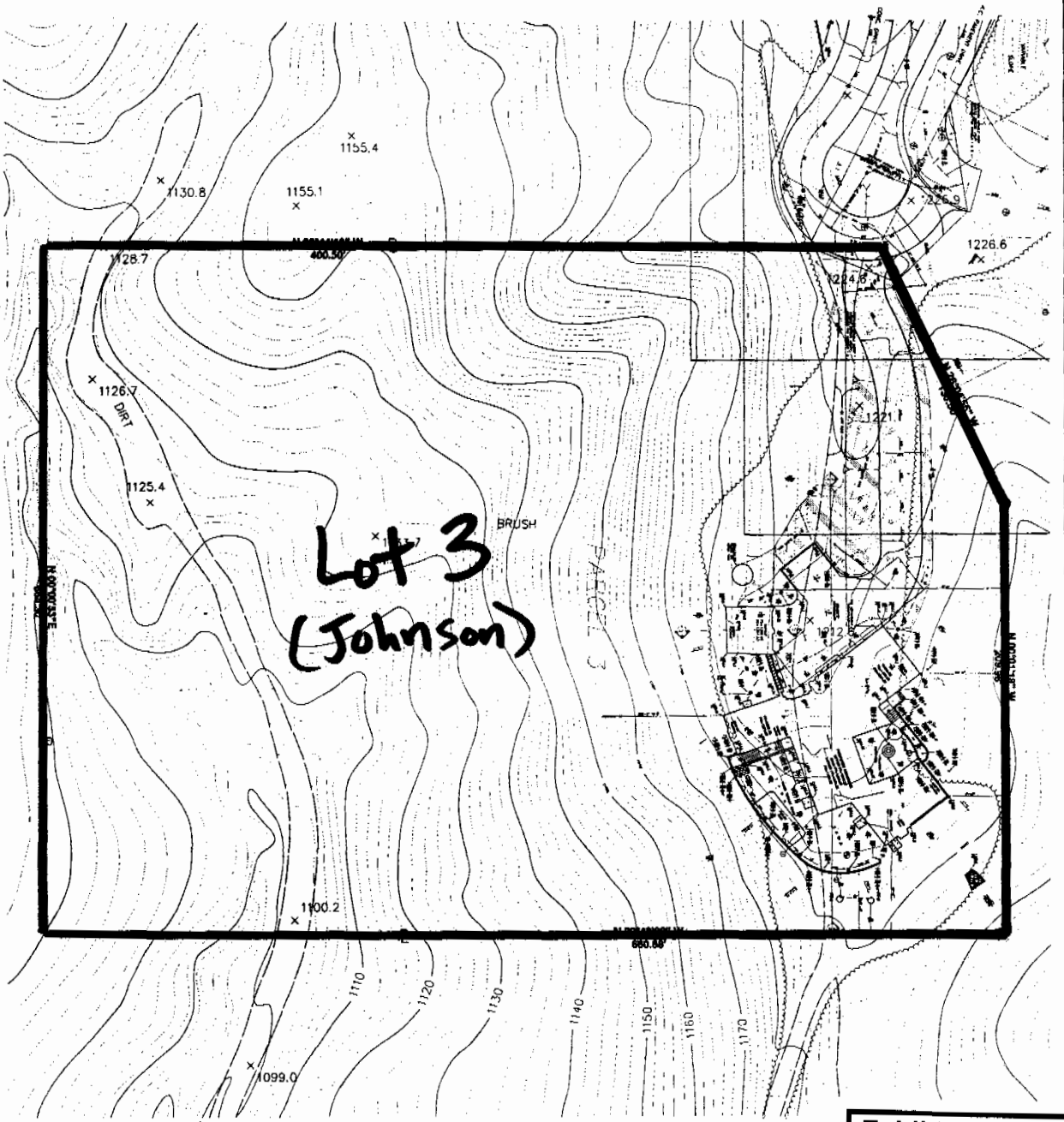
SCHNEIDER
 2007 000000
 2007 000000
 2007 000000
 2007 000000

Exhibit 7
4-07-028
Proposed Lot 2 Site Plan

EARTHWORK QUANTITIES BREAKDOWN FOR COASTAL PERMIT ONLY

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
Gravel Sub-base	cu. yd.	1,200	1.50	1,800.00
Gravel Base	cu. yd.	1,200	1.50	1,800.00
Gravel Surface	cu. yd.	1,200	1.50	1,800.00
Asphalt Surface	cu. yd.	1,200	1.50	1,800.00
Concrete Surface	cu. yd.	1,200	1.50	1,800.00
Earthwork	cu. yd.	1,200	1.50	1,800.00
Drainage	cu. yd.	1,200	1.50	1,800.00
Landscaping	cu. yd.	1,200	1.50	1,800.00
Utilities	cu. yd.	1,200	1.50	1,800.00
Structures	cu. yd.	1,200	1.50	1,800.00
Other	cu. yd.	1,200	1.50	1,800.00
TOTAL				21,600.00

N ↑



PROJECT DATA

LOT 3, 100.00 ACRES
 TOTAL DEVELOPMENT COST: \$1,000,000
 PROJECTED ANNUAL REVENUE: \$100,000
 PROJECTED PAYBACK PERIOD: 10 YEARS
 PROJECTED IRR: 10%
 PROJECTED NPV: \$1,000,000

SITE PLAN

SCALE: 1" = 20' - 0"



A2

REVISIONS


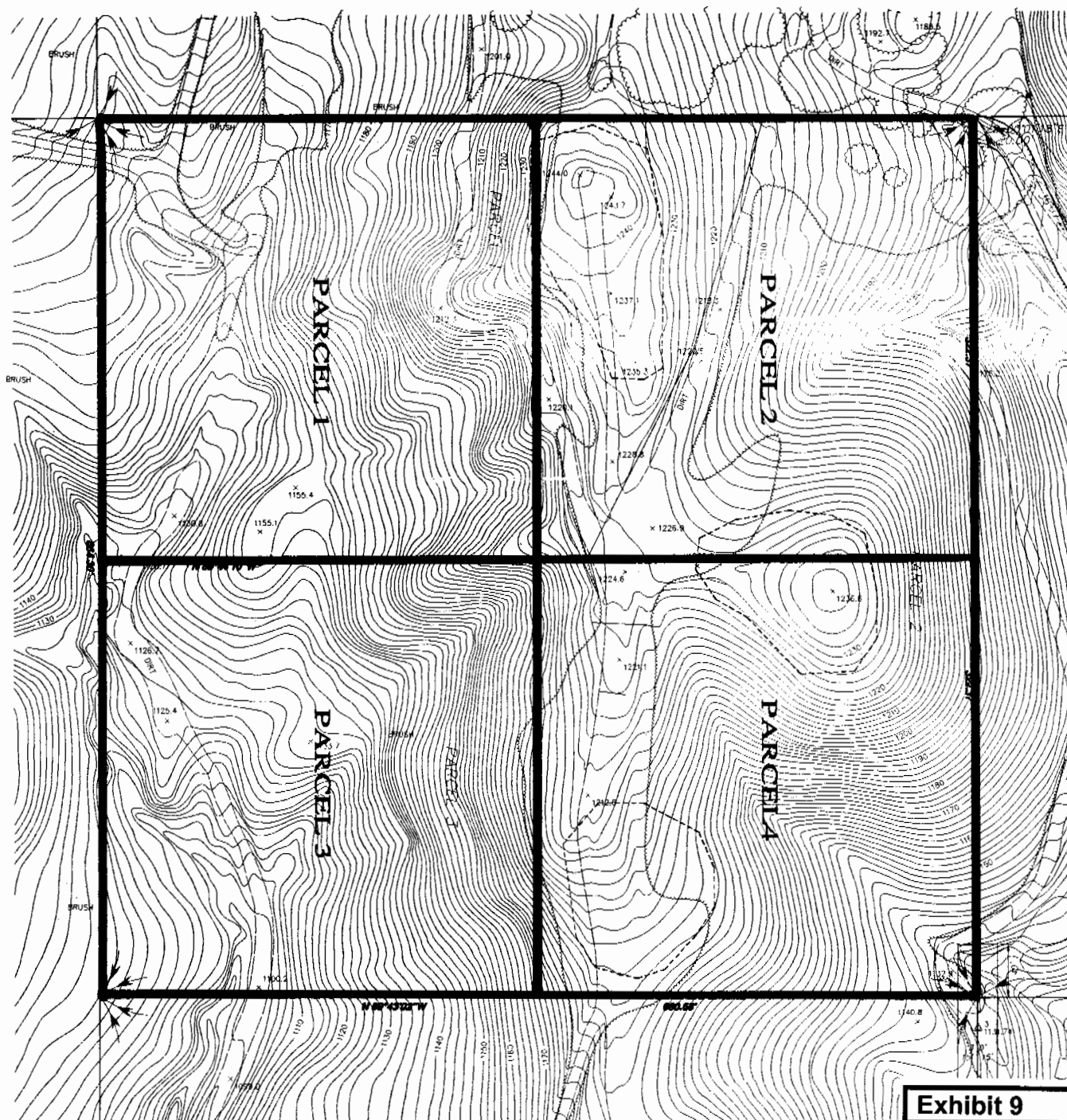
NO.	DESCRIPTION
1	Initial Design
2	Final Design

RESIDENCE FOR : JOHN JOHNSON
 10000 MULHOLLAND DRIVE
 MALIBU, CALIFORNIA 90260
 PHONE No. 310-310-1234

SCALE: 1" = 20' - 0"

DATE	BY	CHKD
4-07-028	J. Johnson	J. Johnson

Exhibit 8
4-07-028
Proposed Lot 3
Site Plan

 existing residence

TOPOGRAPHY PLAN

FOUR PARCEL TOPOGRAPHY

Full Month



Topo Plan with Existing Parcel Configuration

LOT LINE ADJUSTMENT FOR : MALIBU TNY LLC - APN : 4472 008 008
CURRY FAMILY TRUST - APN : 4472 008 007
JOHN JOHNSON - APN : 4472 008 006

MULHOLLAND HIGHWAY : MALIBU, CALIFORNIA 90265
PHONE No. : 805. 495. 1579

SCALE:
FEET PLAN

DATE:
BY: [illegible]

SCHNEIDER
141 DUNDAS STREET
WEST, TORONTO, ONT.
M6H 1B5
TEL: (416) 593-1111

N ↑

existing residence

TOPOGRAPHY PLAN

FOUR PARCEL TOPOGRAPHY

PAGE NUMBER



E3

Revisions

LOT LINE ADJUSTMENT FOR : MALIBU TRAIL LLC - APRN : 0472 000 000
JOHN JOHNSON - APRN : 0472 000 007
MULHOLLAND HIGHWAY : MALIBU, CALIFORNIA 90263
PHONE NO. : 310.455.1979

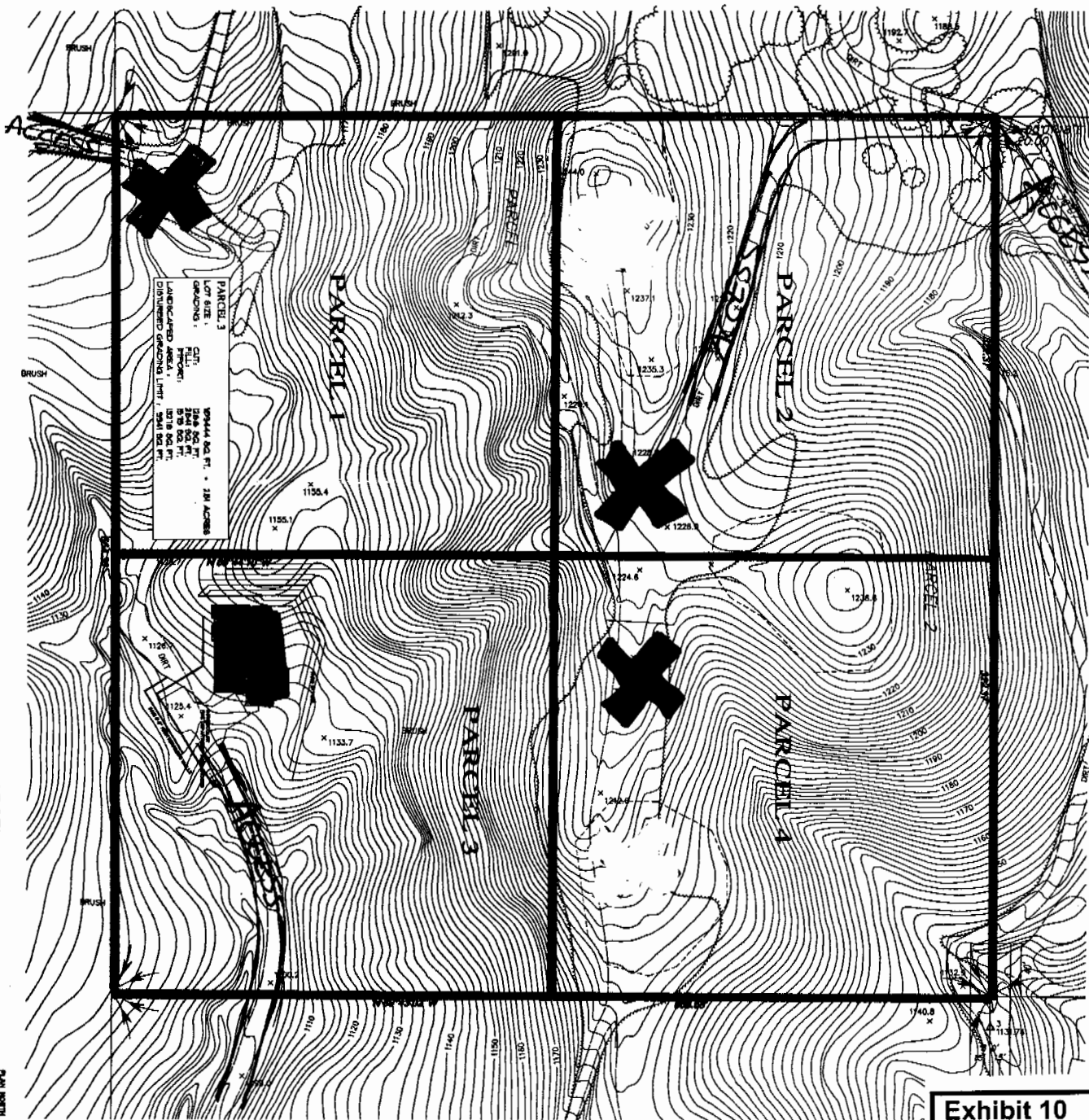
SCALE:
PER PLAN
DATE:
BY: [Signature]

SCHNEIDER
ENGINEER AND ARCHITECT
11111 WILSON AVENUE
MALIBU, CALIFORNIA 90263
PHONE : 310.455.1979

Exhibit 10

4-07-028

Development Sites
with Existing
Parcel Config.



↑N

existing residence

Zone C 150'

PARCEL 1

PARCEL 3

PARCEL 2

TOPOGRAPHY PLAN

THREE PARCEL TOPOGRAPHY

PLAN NORTH

* County approved Preliminary Fuel Modification Plans indicated 20-ft Zone A, 30' Zone B, and 150' Zone C.

Exhibit 11
4-07-028
Proposed Development Sites with Fuel Modif.

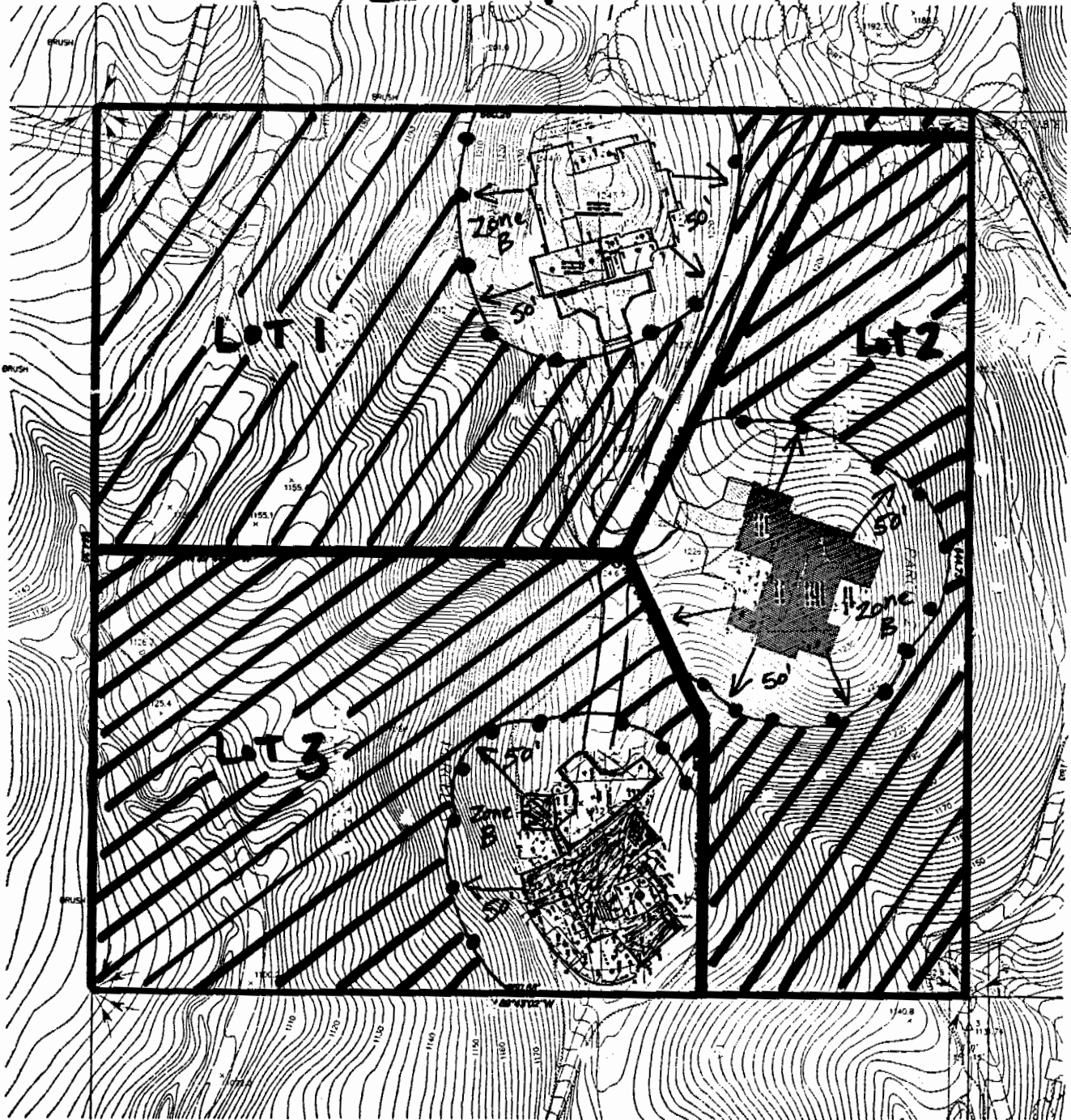
LOT LINE ADJUSTMENT FOR : GRAY FAMILY TRACT - APN : 4475 008 007
JOHN JOHNSON - APN : 4475 008 008
MULHOLLAND HIGHWAY - MALIBU, CALIFORNIA 90265
PHONE No. : 310. 495. 1919

SCALE: 1"=40' PLAN
DATE: 4/7/02
BY: [Signature]

SCHNEIDER
1411 14TH ST
MALIBU, CA 90265
PHONE: 310. 495. 1919



Open space areas



TOPOGRAPHY PLAN

THREE PARCEL TOPOGRAPHY

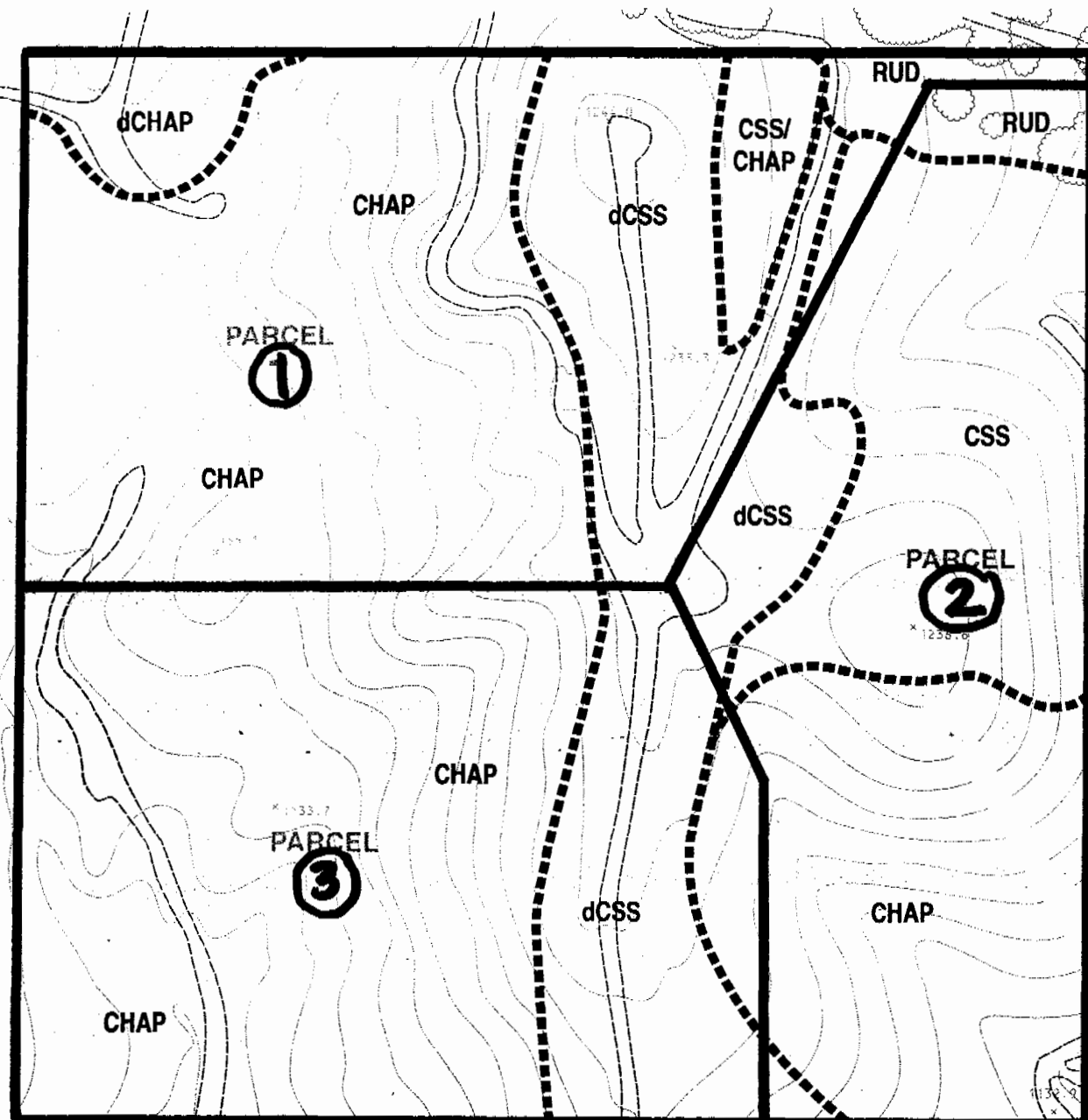
DATE: 11-17-77



Exhibit 12
4-07-028
Open Space Plan

LOT LINE ADJUSTMENT FOR: MALIBU TRAIL LLC - APN: 4475 000 000
GRANT FAMILY TRUST - APN: 4475 000 000
2244 JORDAN - APN: 4475 000 000
MALIBU, CALIFORNIA 90263
PHONE: 310-318-1976

SCALE:
1" = 100'
DATE: 11-17-77



KEY



Project Boundary

Parcel Boundary

CSS

Coastal Sage Scrub

CHAP

Chaparral

CSS/CHAP

Coastal Sage Scrub/Chaparral Mix

dCSS

Disturbed Coastal Sage Scrub

dCHAP

Disturbed Chaparral

RUD

Ruderal



SCALE IN APPROXIMATE FEET

Exhibit 13

4-07-028

Vegetation Map

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



MEMORANDUM

FROM: John Dixon, Ph.D.
Ecologist / Wetland Coordinator

TO: Ventura Staff

SUBJECT: Designation of ESHA in the Santa Monica Mountains

DATE: March 25, 2003

In the context of the Malibu LCP, the Commission found that the Mediterranean Ecosystem in the Santa Mountains is rare, and especially valuable because of its relatively pristine character, physical complexity, and resultant biological diversity. Therefore, areas of undeveloped native habitat in the Santa Monica Mountains that are large and relatively unfragmented may meet the definition of ESHA by virtue of their valuable roles in that ecosystem, regardless of their relative rarity throughout the state. This is the only place in the coastal zone where the Commission has recognized chaparral as meeting the definition of ESHA. The scientific background presented herein for ESHA analysis in the Santa Monica Mountains is adapted from the Revised Findings for the Malibu LCP that the Commission adopted on February 6, 2003.

For habitats in the Santa Monica Mountains, particularly coastal sage scrub and chaparral, there are three site-specific tests to determine whether an area is ESHA because of its especially valuable role in the ecosystem. First, is the habitat properly identified, for example as coastal sage scrub or chaparral? The requisite information for this test generally should be provided by a site-specific biological assessment. Second, is the habitat largely undeveloped and otherwise relatively pristine? Third, is the habitat part of a large, contiguous block of relatively pristine native vegetation? This should be documented with an aerial photograph from our mapping unit (with the site delineated) and should be attached as an exhibit to the staff report. For those habitats that are absolutely rare or that support individual rare species, it is not necessary to find that they are relatively pristine, and are neither isolated nor fragmented.

**Designation of Environmentally Sensitive Habitat in the
Santa Monica Mountains**

The Coastal Act provides a definition of "environmentally sensitive area" as: "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5).

Exhibit 14
4-07-028
ESHA Memo

There are three important elements to the definition of ESHA. First, a geographic area can be designated ESHA either because of the presence of individual species of plants or animals or because of the presence of a particular habitat. Second, in order for an area to be designated as ESHA, the species or habitat must be either rare or it must be especially valuable. Finally, the area must be easily disturbed or degraded by human activities.

The first test of ESHA is whether a habitat or species is rare. Rarity can take several forms, each of which is important. Within the Santa Monica Mountains, rare species and habitats often fall within one of two common categories. Many rare species or habitats are globally rare, but locally abundant. They have suffered severe historical declines in overall abundance and currently are reduced to a small fraction of their original range, but where present may occur in relatively large numbers or cover large local areas. This is probably the most common form of rarity for both species and habitats in California and is characteristic of coastal sage scrub, for example. Some other habitats are geographically widespread, but occur everywhere in low abundance. California's native perennial grasslands fall within this category.

A second test for ESHA is whether a habitat or species is especially valuable. Areas may be valuable because of their "special nature," such as being an unusually pristine example of a habitat type, containing an unusual mix of species, supporting species at the edge of their range, or containing species with extreme variation. For example, reproducing populations of valley oaks are not only increasingly rare, but their southernmost occurrence is in the Santa Monica Mountains. Generally, however, habitats or species are considered valuable because of their special "role in the ecosystem." For example, many areas within the Santa Monica Mountains may meet this test because they provide habitat for endangered species, protect water quality, provide essential corridors linking one sensitive habitat to another, or provide critical ecological linkages such as the provision of pollinators or crucial trophic connections. Of course, all species play a role in their ecosystem that is arguably "special." However, the Coastal Act requires that this role be "especially valuable." This test is met for relatively pristine areas that are integral parts of the Santa Monica Mountains Mediterranean ecosystem because of the demonstrably rare and extraordinarily special nature of that ecosystem as detailed below.

Finally, ESHAs are those areas that could be easily disturbed or degraded by human activities and developments. Within the Santa Monica Mountains, as in most areas of southern California affected by urbanization, all natural habitats are in grave danger of direct loss or significant degradation as a result of many factors related to anthropogenic changes.

Ecosystem Context of the Habitats of the Santa Monica Mountains

The Santa Monica Mountains comprise the largest, most pristine, and ecologically complex example of a Mediterranean ecosystem in coastal southern California.

California's coastal sage scrub, chaparral, oak woodlands, and associated riparian areas have analogues in just a few areas of the world with similar climate. Mediterranean ecosystems with their wet winters and warm dry summers are only found in five localities (the Mediterranean coast, California, Chile, South Africa, and south and southwest Australia). Throughout the world, this ecosystem with its specially adapted vegetation and wildlife has suffered severe loss and degradation from human development. Worldwide, only 18 percent of the Mediterranean community type remains undisturbed¹. However, within the Santa Monica Mountains, this ecosystem is remarkably intact despite the fact that it is closely surrounded by some 17 million people. For example, the 150,000 acres of the Santa Monica Mountains National Recreation Area, which encompasses most of the Santa Monica Mountains, was estimated to be 90 percent free of development in 2000². Therefore, this relatively pristine area is both large and mostly unfragmented, which fulfills a fundamental tenet of conservation biology³. The need for large contiguous areas of natural habitat in order to maintain critical ecological processes has been emphasized by many conservation biologists⁴.

In addition to being a large single expanse of land, the Santa Monica Mountains ecosystem is still connected, albeit somewhat tenuously, to adjacent, more inland ecosystems⁵. Connectivity among habitats within an ecosystem and connectivity among ecosystems is very important for the preservation of species and ecosystem integrity. In a recent statewide report, the California Resources Agency⁶ identified wildlife corridors and habitat connectivity as the top conservation priority. In a letter to governor Gray Davis, sixty leading environmental scientists have endorsed the

¹ National Park Service. 2000. Draft general management plan & environmental impact statement. Santa Monica Mountains National Recreation Area – California.

² Ibid.

³ Harris, L. D. 1988. Edge effects and conservation of biotic diversity. *Conserv. Biol.* 330-332. Soule, M. E., D. T. Bolger, A. C. Alberts, J. Wright, M. Sorice and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. *Conserv. Biol.* 2: 75-92. Yahner, R. H. 1988. Changes in wildlife communities near edges. *Conserv. Biol.* 2:333-339. Murphy, D. D. 1989. Conservation and confusion: Wrong species, wrong scale, wrong conclusions. *Conservation Biol.* 3:82-84.

⁴ Crooks, K. 2000. Mammalian carnivores as target species for conservation in Southern California. p. 105-112 *in*: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62. Sauvajot, R. M., E. C. York, T. K. Fuller, H. Sharon Kim, D. A. Kamradt and R. K. Wayne. 2000. Distribution and status of carnivores in the Santa Monica Mountains, California: Preliminary results from radio telemetry and remote camera surveys. p 113-123 *in*: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62. Beier, P. and R. F. Noss. 1998. Do habitat corridors provide connectivity? *Conserv. Biol.* 12:1241-1252. Beier, P. 1996. Metapopulation models, tenacious tracking and cougar conservation. *In*: Metapopulations and Wildlife Conservation, ed. D. R. McCullough. Island Press, Covelo, California, 429p.

⁵ The SMM area is linked to larger natural inland areas to the north through two narrow corridors: 1) the Conejo Grade connection at the west end of the Mountains and 2) the Simi Hills connection in the central region of the SMM (from Malibu Creek State Park to the Santa Susanna Mountains).

⁶ California Resources Agency. 2001. Missing Linkages: Restoring Connectivity to the California Landscape. California Wilderness Coalition, Calif. Dept of Parks & Recreation, USGS, San Diego Zoo and The Nature Conservancy. Available at: <http://www.calwild.org/pubs/reports/linkages/index.htm>

conclusions of that report⁷. The chief of natural resources at the California Department of Parks and Recreation has identified the Santa Monica Mountains as an area where maintaining connectivity is particularly important⁸.

The species most directly affected by large scale connectivity are those that require large areas or a variety of habitats, e.g., gray fox, cougar, bobcat, badger, steelhead trout, and mule deer⁹. Large terrestrial predators are particularly good indicators of habitat connectivity and of the general health of the ecosystem¹⁰. Recent studies show that the mountain lion, or cougar, is the most sensitive indicator species of habitat fragmentation, followed by the spotted skunk and the bobcat¹¹. Sightings of cougars in both inland and coastal areas of the Santa Monica Mountains¹² demonstrate their continued presence. Like the “canary in the mineshaft,” an indicator species like this is good evidence that habitat connectivity and large scale ecological function remains in the Santa Monica Mountains ecosystem.

The habitat integrity and connectivity that is still evident within the Santa Monica Mountains is extremely important to maintain, because both theory and experiments over 75 years in ecology confirm that large spatially connected habitats tend to be more stable and have less frequent extinctions than habitats without extended spatial structure¹³. Beyond simply destabilizing the ecosystem, fragmentation and disturbance

⁷ Letters received and included in the September 2002 staff report for the Malibu LCP.

⁸ Schoch, D. 2001. Survey lists 300 pathways as vital to state wildlife. Los Angeles Times. August 7, 2001.

⁹ Martin, G. 2001. Linking habitat areas called vital for survival of state's wildlife Scientists map main migration corridors. San Francisco Chronicle, August 7, 2001.

¹⁰ Noss, R. F., H. B. Quigley, M. G. Hornocker, T. Merrill and P. C. Paquet. 1996. Conservation biology and carnivore conservation in the Rocky Mountains. *Conserv. Biol.* 10: 949-963. Noss, R. F. 1995. Maintaining ecological integrity in representative reserve networks. World Wildlife Fund Canada.

¹¹ Sauvajot, R. M., E. C. York, T. K. Fuller, H. Sharon Kim, D. A. Kamradt and R. K. Wayne. 2000. Distribution and status of carnivores in the Santa Monica Mountains, California: Preliminary results from radio telemetry and remote camera surveys. p 113-123 in: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62. Beier, P. 1996. Metapopulation models, tenacious tracking and cougar conservation. In: *Metapopulations and Wildlife Conservation*, ed. D. R. McCullough. Island Press, Covelo, California, 429p.

¹² Recent sightings of mountain lions include: Temescal Canyon (pers. com., Peter Brown, Facilities Manager, Calvary Church), Topanga Canyon (pers. com., Marti Witter, NPS), Encinal and Trancas Canyons (pers. com., Pat Healy), Stump Ranch Research Center (pers. com., Dr. Robert Wayne, Dept. of Biology, UCLA). In May of 2002, the NPS *photographed* a mountain lion at a trip camera on the Back Bone Trail near Castro Crest – Seth Riley, Eric York and Dr. Ray Sauvajot, National Park Service, SMMNRA.

¹³ Gause, G. F. 1934. The struggle for existence. Baltimore, William and Wilkins 163 p. (also reprinted by Hafner, N.Y. 1964). Gause, G. F., N. P. Smaragdova and A. A. Witt. 1936. Further studies of interaction between predators and their prey. *J. Anim. Ecol.* 5:1-18. Huffaker, C. B. 1958. Experimental studies on predation: dispersion factors and predator-prey oscillations. *Hilgardia* 27:343-383. Luckinbill, L. S. 1973. Coexistence in laboratory populations of *Paramecium aurelia* and its predator *Didinium nasutum*. *Ecology* 54:1320-1327. Allen, J. C., C. C. Brewster and D. H. Slone. 2001. Spatially explicit ecological models: A spatial convolution approach. *Chaos, Solitons and Fractals*. 12:333-347.

can even cause unexpected and irreversible changes to new and completely different kinds of ecosystems (habitat conversion)¹⁴.

As a result of the pristine nature of large areas of the Santa Monica Mountains and the existence of large, unfragmented and interconnected blocks of habitat, this ecosystem continues to support an extremely diverse flora and fauna. The observed diversity is probably a function of the diversity of physical habitats. The Santa Monica Mountains have the greatest geological diversity of all major mountain ranges within the transverse range province. According to the National Park Service, the Santa Monica Mountains contain 40 separate watersheds and over 170 major streams with 49 coastal outlets¹⁵. These streams are somewhat unique along the California coast because of their topographic setting. As a "transverse" range, the Santa Monica Mountains are oriented in an east-west direction. As a result, the south-facing riparian habitats have more variable sun exposure than the east-west riparian corridors of other sections of the coast. This creates a more diverse moisture environment and contributes to the higher biodiversity of the region. The many different physical habitats of the Santa Monica Mountains support at least 17 native vegetation types¹⁶ including the following habitats considered sensitive by the California Department of Fish and Game: native perennial grassland, coastal sage scrub, red-shank chaparral, valley oak woodland, walnut woodland, southern willow scrub, southern cottonwood-willow riparian forest, sycamore-alder woodland, oak riparian forest, coastal salt marsh, and freshwater marsh. Over 400 species of birds, 35 species of reptiles and amphibians, and more than 40 species of mammals have been documented in this diverse ecosystem. More than 80 sensitive species of plants and animals (listed, proposed for listing, or species of concern) are known to occur or have the potential to occur within the Santa Monica Mountains Mediterranean ecosystem.

The Santa Monica Mountains are also important in a larger regional context. Several recent studies have concluded that the area of southern California that includes the Santa Monica Mountains is among the most sensitive in the world in terms of the number of rare endemic species, endangered species and habitat loss. These studies have designated the area to be a local hot-spot of endangerment in need of special protection¹⁷.

Therefore, the Commission finds that the Santa Monica Mountains ecosystem is itself rare and especially valuable because of its special nature as the largest, most pristine,

¹⁴ Scheffer, M., S. Carpenter, J. A. Foley, C. Folke and B. Walker. 2001. Catastrophic shifts in ecosystems. *Nature* 413:591-596.

¹⁵ NPS. 2000. op.cit.

¹⁶ From the NPS report (2000 op. cit.) that is based on the older Holland system of subjective classification. The data-driven system of Sawyer and Keeler-Wolf results in a much larger number of distinct "alliances" or vegetation types.

¹⁷ Myers, N. 1990. The biodiversity challenge: Expanded hot-spots analysis. *Environmentalist* 10:243-256. Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B. da Fonseca and J. A. Kent. 2000. Biodiversity hot-spots for conservation priorities. *Nature* 403:853-858. Dobson, A. P., J. P. Rodriguez, W. M. Roberts and D. S. Wilcove. 1997. Geographic distribution of endangered species in the United States. *Science* 275:550-553.

physically complex, and biologically diverse example of a Mediterranean ecosystem in coastal southern California. The Commission further finds that because of the rare and special nature of the Santa Monica Mountains ecosystem, the ecosystem roles of substantially intact areas of the constituent plant communities discussed below are “especially valuable” under the Coastal Act.

Major Habitats within the Santa Monica Mountains

The most recent vegetation map that is available for the Santa Monica Mountains is the map that was produced for the National Park Service in the mid-1990s using 1993 satellite imagery supplemented with color and color infrared aerial imagery from 1984, 1988, and 1994 and field review¹⁸. The minimum mapping unit was 5 acres. For that map, the vegetation was mapped in very broad categories, generally following a vegetation classification scheme developed by Holland¹⁹. Because of the mapping methods used the degree of plant community complexity in the landscape is not represented. For example, the various types of “ceanothus chaparral” that have been documented were lumped under one vegetation type referred to as “northern mixed chaparral.” Dr. Todd Keeler-Wolf of the California Department of Fish and Game is currently conducting a more detailed, quantitative vegetation survey of the Santa Monica Mountains.

The National Park Service map can be used to characterize broadly the types of plant communities present. The main generic plant communities present in the Santa Monica Mountains²⁰ are: coastal sage scrub, chaparral, riparian woodland, coast live oak woodland, and grasslands.

Riparian Woodland

Some 49 streams connect inland areas with the coast, and there are many smaller drainages as well, many of which are “blue line.” Riparian woodlands occur along both perennial and intermittent streams in nutrient-rich soils. Partly because of its multi-layered vegetation, the riparian community contains the greatest overall biodiversity of all the plant communities in the area²¹. At least four types of riparian communities are discernable in the Santa Monica Mountains: walnut riparian areas, mulefat-dominated riparian areas, willow riparian areas and sycamore riparian woodlands. Of these, the

¹⁸ Franklin, J. 1997. Forest Service Southern California Mapping Project, Santa Monica Mountains National Recreation Area, Task 11 Description and Results, Final Report. June 13, 1997, Dept. of Geography, San Diego State University, USFS Contract No. 53-91S8-3-TM45.

¹⁹ Holland R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, Dept. of Fish and Game, Natural Heritage Division, Sacramento, CA. 95814.

²⁰ National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000. (Fig. 11 in this document.)

²¹ Ibid.

sycamore riparian woodland is the most diverse riparian community in the area. In these habitats, the dominant plant species include arroyo willow, California black walnut, sycamore, coast live oak, Mexican elderberry, California bay laurel, and mule fat. Wildlife species that have been observed in this community include least Bell's vireo (a State and federally listed species), American goldfinches, black phoebes, warbling vireos, bank swallows (State listed threatened species), song sparrows, belted kingfishers, raccoons, and California and Pacific tree frogs.

Riparian communities are the most species-rich to be found in the Santa Monica Mountains. Because of their multi-layered vegetation, available water supply, vegetative cover and adjacency to shrubland habitats, they are attractive to many native wildlife species, and provide essential functions in their lifecycles²². During the long dry summers in this Mediterranean climate, these communities are an essential refuge and oasis for much of the areas' wildlife.

Riparian habitats and their associated streams form important connecting links in the Santa Monica Mountains. These habitats connect all of the biological communities from the highest elevation chaparral to the sea with a unidirectional flowing water system, one function of which is to carry nutrients through the ecosystem to the benefit of many different species along the way.

The streams themselves provide refuge for sensitive species including: the coast range newt, the Pacific pond turtle, and the steelhead trout. The coast range newt and the Pacific pond turtle are California Species of Special Concern and are proposed for federal listing²³, and the steelhead trout is federally endangered. The health of the streams is dependent on the ecological functions provided by the associated riparian woodlands. These functions include the provision of large woody debris for habitat, shading that controls water temperature, and input of leaves that provide the foundation of the stream-based trophic structure.

The importance of the connectivity between riparian areas and adjacent habitats is illustrated by the Pacific pond turtle and the coast range newt, both of which are sensitive and both of which require this connectivity for their survival. The life history of the Pacific pond turtle demonstrates the importance of riparian areas and their associated watersheds for this species. These turtles require the stream habitat during the wet season. However, recent radio tracking work²⁴ has found that although the Pacific pond turtle spends the wet season in streams, it also requires upland habitat for refuge during the dry season. Thus, in coastal southern California, the Pacific pond turtle requires both streams and intact adjacent upland habitats such as coastal sage

²² Walter, Hartmut. Bird use of Mediterranean habitats in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.

²³ USFWS. 1989. Endangered and threatened wildlife and plants; animal notice of review. Fed. Reg. 54:554-579. USFWS. 1993. Endangered and threatened wildlife and plants; notice of 1-year petition finding on the western pond turtle. Fed. Reg. 58:42717-42718.

²⁴ Rathbun, G.B., N.J. Scott and T.G. Murphy. 2002. Terrestrial habitat use by Pacific pond turtle in a Mediterranean climate. *Southwestern Naturalist*. (in Press).

scrub, woodlands or chaparral as part of their normal life cycle. The turtles spend about four months of the year in upland refuge sites located an average distance of 50 m (but up to 280 m) from the edge of the creek bed. Similarly, nesting sites where the females lay eggs are also located in upland habitats an average of 30 m (but up to 170 m) from the creek. Occasionally, these turtles move up to 2 miles across upland habitat²⁵. Like many species, the pond turtle requires both stream habitats and the upland habitats of the watershed to complete its normal annual cycle of behavior. Similarly, the coast range newt has been observed to travel hundreds of meters into upland habitat and spend about ten months of the year far from the riparian streambed²⁶. They return to the stream to breed in the wet season, and they are therefore another species that requires both riparian habitat and adjacent uplands for their survival.

Riparian habitats in California have suffered serious losses and such habitats in southern California are currently very rare and seriously threatened. In 1989, Faber estimated that 95-97% of riparian habitat in southern California was already lost²⁷. Writing at the same time as Faber, Bowler asserted that, "[t]here is no question that riparian habitat in southern California is endangered."²⁸ In the intervening 13 years, there have been continuing losses of the small amount of riparian woodlands that remain. Today these habitats are, along with native grasslands and wetlands, among the most threatened in California.

In addition to direct habitat loss, streams and riparian areas have been degraded by the effects of development. For example, the coast range newt, a California Species of Special Concern has suffered a variety of impacts from human-related disturbances²⁹. Human-caused increased fire frequency has resulted in increased sedimentation rates, which exacerbates the cannibalistic predation of adult newts on the larval stages.³⁰ In addition impacts from non-native species of crayfish and mosquito fish have also been documented. When these non-native predators are introduced, native prey organisms are exposed to new mortality pressures for which they are not adapted. Coast range newts that breed in the Santa Monica Mountain streams do not appear to have adaptations that permit co-occurrence with introduced mosquito fish and crayfish³¹. These introduced predators have eliminated the newts from streams where they previously occurred by both direct predation and suppression of breeding.

²⁵ Testimony by R. Dagit, Resource Conservation District of the Santa Monica Mountains at the CCC Habitat Workshop on June 13, 2002.

²⁶ Dr. Lee Kats, Pepperdine University, personal communication to Dr J. Allen, CCC.

²⁷ Faber, P.A., E. Keller, A. Sands and B.M. Massey. 1989. The ecology of riparian habitats of the southern California coastal region: a community profile. U.S. Fish and Wildlife Service Biological Report 85(7.27) 152pp.

²⁸ Bowler, P.A. 1989. Riparian woodland: An endangered habitat in southern California. Pp 80-97 in Schoenherr, A.A. (ed.) Endangered plant communities of southern California. Botanists Special Publication No. 3.

²⁹ Gamradt, S.C., L.B. Kats and C.B. Anzalone. 1997. Aggression by non-native crayfish deters breeding in California newts. *Conservation Biology* 11(3):793-796.

³⁰ Kerby, L.J., and L.B. Kats. 1998. Modified interactions between salamander life stages caused by wildfire-induced sedimentation. *Ecology* 79(2):740-745.

³¹ Gamradt, S.C. and L.B. Kats. 1996. Effect of introduced crayfish and mosquitofish on California newts. *Conservation Biology* 10(4):1155-1162.

Therefore, because of the essential role that riparian plant communities play in maintaining the biodiversity of the Santa Monica Mountains, because of the historical losses and current rarity of these habitats in southern California, and because of their extreme sensitivity to disturbance, the native riparian habitats in the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

Coastal Sage Scrub and Chaparral

Coastal sage scrub and chaparral are often lumped together as “shrublands” because of their roughly similar appearance and occurrence in similar and often adjacent physical habitats. In earlier literature, these vegetation associations were often called soft chaparral and hard chaparral, respectively. “Soft” and “hard” refers to differences in their foliage associated with different adaptations to summer drought. Coastal sage scrub is dominated by soft-leaved, generally low-growing aromatic shrubs that die back and drop their leaves in response to drought. Chaparral is dominated by taller, deeper-rooted evergreen shrubs with hard, waxy leaves that minimize water loss during drought.

The two vegetation types are often found interspersed with each other. Under some circumstances, coastal sage scrub may even be successional to chaparral, meaning that after disturbance, a site may first be covered by coastal sage scrub, which is then replaced with chaparral over long periods of time.³² The existing mosaic of coastal sage scrub and chaparral is the result of a dynamic process that is a function of fire history, recent climatic conditions, soil differences, slope, aspect and moisture regime, and the two habitats should not be thought of as completely separate and unrelated entities but as different phases of the same process³³. The spatial pattern of these vegetation stands at any given time thus depends on both local site conditions and on history (e.g., fire), and is influenced by both natural and human factors.

In lower elevation areas with high fire frequency, chaparral and coastal sage scrub may be in a state of flux, leading one researcher to describe the mix as a “coastal sage-chaparral subclimax.”³⁴ Several other researchers have noted the replacement of chaparral by coastal sage scrub, or coastal sage scrub by chaparral depending on fire history.³⁵ In transitional and other settings, the mosaic of chaparral and coastal sage

³² Cooper, W.S. 1922. The broad-sclerophyll vegetation of California. Carnegie Institution of Washington Publication 319. 124 pp.

³³ Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024. (See attached comment document in Appendix).

³⁴ Hanes, T.L. 1965. Ecological studies on two closely related chaparral shrubs in southern California. Ecological Monographs 41:27-52.

³⁵ Gray, K.L. 1983. Competition for light and dynamic boundary between chaparral and coastal sage scrub. Madrono 30(1):43-49. Zedler, P.H., C.R. Gautier and G.S. McMaster. 1983. Vegetation change in response to extreme events: The effect of a short interval between fires in California chaparral and coastal sage scrub. Ecology 64(4): 809-818.

scrub enriches the seasonal plant resource base and provides additional habitat variability and seasonality for the many species that inhabit the area.

Relationships Among Coastal Sage Scrub, Chaparral and Riparian Communities

Although the constituent communities of the Santa Monica Mountains Mediterranean ecosystem can be defined and distinguished based on species composition, growth habits, and the physical habitats they characteristically occupy, they are not independent entities ecologically. Many species of plants, such as black sage, and laurel sumac, occur in more than one plant community and many animals rely on the predictable mix of communities found in undisturbed Mediterranean ecosystems to sustain them through the seasons and during different portions of their life histories.

Strong evidence for the interconnectedness between chaparral, coastal scrub and other habitats is provided by “opportunistic foragers” (animals that follow the growth and flowering cycles across these habitats). Coastal scrub and chaparral flowering and growth cycles differ in a complimentary and sequential way that many animals have evolved to exploit. Whereas coastal sage scrub is shallow-rooted and responds quickly to seasonal rains, chaparral plants are typically deep-rooted having most of their flowering and growth later in the rainy season after the deeper soil layers have been saturated³⁶. New growth of chaparral evergreen shrubs takes place about four months later than coastal sage scrub plants and it continues later into the summer³⁷. For example, in coastal sage scrub, California sagebrush flowers and grows from August to February and coyote bush flowers from August to November³⁸. In contrast, chamise chaparral and bigpod ceanothus flower from April to June, buck brush ceanothus flowers from February to April, and hoaryleaf ceanothus flowers from March to April.

Many groups of animals exploit these seasonal differences in growth and blooming period. The opportunistic foraging insect community (e.g., honeybees, butterflies and moths) tends to follow these cycles of flowering and new growth, moving from coastal sage scrub in the early rainy season to chaparral in the spring³⁹. The insects in turn are followed by insectivorous birds such as the blue-gray gnatcatcher⁴⁰, bushtit, cactus wren, Bewick’s wren and California towhee. At night bats take over the role of daytime insectivores. At least 12 species of bats (all of which are considered sensitive) occur in

³⁶ DeSimone, S. 2000. California’s coastal sage scrub. *Fremontia* 23(4):3-8. Mooney, H.A. 1988. Southern coastal scrub. Chap. 13 in Barbour, M.G. and J. Majors; Eds. 1988. *Terrestrial vegetation of California*, 2nd Edition. Calif. Native Plant Soc. Spec. Publ. #9.

³⁷ Schoenherr, A. A. 1992. *A natural history of California*. University of California Press, Berkeley. 772p.

³⁸ Dale, N. 2000. Flowering plants of the Santa Monica Mountains. California Native Plant Society, 1722 J Street, Suite 17, Sacramento, CA 95814.

³⁹ Ballmer, G. R. 1995. What’s bugging coastal sage scrub. *Fremontia* 23(4):17-26.

⁴⁰ Root, R. B. 1967. The niche exploitation pattern of the blue-gray gnatcatcher. *Ecol. Monog.* 37:317-350.

the Santa Monica Mountains⁴¹. Five species of hummingbirds also follow the flowering cycle⁴².

Many species of 'opportunistic foragers', which utilize several different community types, perform important ecological roles during their seasonal movements. The scrub jay is a good example of such a species. The scrub jay is an omnivore and forages in coastal sage scrub, chaparral, and oak woodlands for insects, berries and notably acorns. Its foraging behavior includes the habit of burying acorns, usually at sites away from the parent tree canopy. Buried acorns have a much better chance of successful germination (about two-fold) than exposed acorns because they are protected from desiccation and predators. One scrub jay will bury approximately 5000 acorns in a year. The scrub jay therefore performs the function of greatly increasing recruitment and regeneration of oak woodland, a valuable and sensitive habitat type⁴³.

Like the scrub jay, most of the species of birds that inhabit the Mediterranean ecosystem in the Santa Monica Mountains require more than one community type in order to flourish. Many species include several community types in their daily activities. Other species tend to move from one community to another seasonally. The importance of maintaining the integrity of the multi-community ecosystem is clear in the following observations of Dr. Hartmut Walter of the University of California at Los Angeles:

"Bird diversity is directly related to the habitat mosaic and topographic diversity of the Santa Monicas. Most bird species in this bio-landscape require more than one habitat for survival and reproduction." "A significant proportion of the avifauna breeds in the wooded canyons of the Santa Monicas. Most of the canyon breeders forage every day in the brush- and grass-covered slopes, ridges and mesas. They would not breed in the canyons in the absence of the surrounding shrublands. Hawks, owls, falcons, orioles, flycatchers, woodpeckers, warblers, hummingbirds, etc. belong to this group. Conversely, some of the characteristic chaparral birds such as thrashers, quails, and wrentits need the canyons for access to shelter, protection from fire, and water. The regular and massive movement of birds between riparian corridors and adjacent shrublands has been demonstrated by qualitative and quantitative observations by several UCLA students⁴⁴."

Thus, the Mediterranean ecosystem of the Santa Monica Mountains is a mosaic of vegetation types linked together ecologically. The high biodiversity of the area results

⁴¹ Letter from Dr. Marti Witter, NPS, dated Sept. 13, 2001, in letters received and included in the September 2002 staff report for the Malibu LCP.

⁴² National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701

⁴³ Borchert, M. I., F. W. Davis, J. Michaelsen and L. D. Oyler. 1989. Interactions of factors affecting seedling recruitment of blue oak (*Quercus douglasii*) in California. Ecology 70:389-404. Bossema, I. 1979. Jays and oaks: An eco-ethological study of a symbiosis. Behavior 70:1-118. Schoenherr, A. A. 1992. A natural history of California. University of California Press, Berkeley. 772p.

⁴⁴ Walter, Hartmut. Bird use of Mediterranean habitats in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.

from both the diversity and the interconnected nature of this mosaic. Most raptor species, for example, require large areas and will often require different habitats for perching, nesting and foraging. Fourteen species of raptors (13 of which are considered sensitive) are reported from the Santa Monica Mountains. These species utilize a variety of habitats including rock outcrops, oak woodlands, riparian areas, grasslands, chaparral, coastal sage scrub, estuaries and freshwater lakes⁴⁵.

When the community mosaic is disrupted and fragmented by development, many chaparral-associated native bird species are impacted. In a study of landscape-level fragmentation in the Santa Monica Mountains, Stralberg⁴⁶ found that the ash-throated flycatcher, Bewick's wren, wrentit, blue-gray gnatcatcher, California thrasher, orange-crowned warbler, rufous-crowned sparrow, spotted towhee, and California towhee all decreased in numbers as a result of urbanization. Soule⁴⁷ observed similar effects of fragmentation on chaparral and coastal sage scrub birds in the San Diego area.

In summary, all of the vegetation types in this ecosystem are strongly linked by animal movement and foraging. Whereas classification and mapping of vegetation types may suggest a snapshot view of the system, the seasonal movements and foraging of animals across these habitats illustrates the dynamic nature and vital connections that are crucial to the survival of this ecosystem.

Coastal Sage Scrub

"Coastal sage scrub" is a generic vegetation type that is inclusive of several subtypes⁴⁸. In the Santa Monica Mountains, coastal sage scrub is mostly of the type termed "Venturan Coastal Sage Scrub." In general, coastal sage scrub is comprised of dominant species that are semi-woody and low-growing, with shallow, dense roots that enable them to respond quickly to rainfall. Under the moist conditions of winter and spring, they grow quickly, flower, and produce light, wind-dispersed seeds, making them good colonizers following disturbance. These species cope with summer drought by dying back, dropping their leaves or producing a smaller summer leaf in order to reduce water loss. Stands of coastal sage scrub are much more open than chaparral and contain a greater admixture of herbaceous species. Coastal sage scrub is generally restricted to drier sites, such as low foothills, south-facing slopes, and shallow soils at higher elevations.

⁴⁵ National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701. and Letter from Dr. Marti Witter, NPS, Dated Sept. 13, 2001, in letters received and included in the September 2002 staff report for the Malibu LCP.

⁴⁶ Stralberg, D. 2000. Landscape-level urbanization effects on chaparral birds: A Santa Monica Mountains case study. p 125-136 in: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62.

⁴⁷ Soule, M. E, D. T. Bolger, A. C. Alberts, J. Wright, M. Soric and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. *Conserv. Biol.* 2: 75-92.

⁴⁸ Kirkpatrick, J.B. and C.F. Hutchinson. 1977. The community composition of Californian coastal sage scrub. *Vegetatio* 35:21-33; Holland, 1986. op.cit.; Sawyer and Keeler-Wolf, 1995, op.cit.

The species composition and structure of individual stands of coastal sage scrub depend on moisture conditions that derive from slope, aspect, elevation and soil type. Drier sites are dominated by more drought-resistant species (e.g., California sagebrush, coast buckwheat, and *Opuntia* cactus). Where more moisture is available (e.g., north-facing slopes), larger evergreen species such as toyon, laurel sumac, lemonade berry, and sugar bush are common. As a result, there is more cover for wildlife, and movement of large animals from chaparral into coastal sage scrub is facilitated in these areas. Characteristic wildlife in this community includes Anna's hummingbirds, rufous-sided towhees, California quail, greater roadrunners, Bewick's wrens, coyotes, and coast horned lizards⁴⁹, but most of these species move between coastal sage scrub and chaparral during their daily activities or on a seasonal basis.

Of the many important ecosystem roles performed by the coastal sage scrub community, five are particularly important in the Santa Monica Mountains. Coastal sage scrub provides critical linkages between riparian corridors, provides essential habitat for species that require several habitat types during the course of their life histories, provides essential habitat for local endemics, supports rare species that are in danger of extinction, and reduces erosion, thereby protecting the water quality of coastal streams.

Riparian woodlands are primary contributors to the high biodiversity of the Santa Monica Mountains. The ecological integrity of those riparian habitats not only requires wildlife dispersal along the streams, but also depends on the ability of animals to move from one riparian area to another. Such movement requires that the riparian corridors be connected by suitable habitat. In the Santa Monica Mountains, coastal sage scrub and chaparral provide that function. Significant development in coastal sage scrub would reduce the riparian corridors to linear islands of habitat with severe edge effects⁵⁰, reduced diversity, and lower productivity.

Most wildlife species and many species of plants utilize several types of habitat. Many species of animals endemic to Mediterranean habitats move among several plant communities during their daily activities and many are reliant on different communities either seasonally or during different stages of their life cycle. Without an intact mosaic of coastal sage scrub, chaparral, and riparian community types, many species will not thrive. Specific examples of the importance of interconnected communities, or habitats, were provided in the discussion above. This is an essential ecosystem role of coastal sage scrub.

A characteristic of the coastal sage scrub vegetation type is a high degree of endemism. This is consonant with Westman's observation that 44 percent of the species he sampled in coastal sage scrub occurred at only one of his 67 sites, which were

⁴⁹ National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000.

⁵⁰ Environmental impacts are particularly severe at the interface between development and natural habitats. The greater the amount of this "edge" relative to the area of natural habitat, the worse the impact.

distributed from the San Francisco Bay area to Mexico⁵¹. Species with restricted distributions are by nature more susceptible to loss or degradation of their habitat. Westman said of this unique and local aspect of coastal sage scrub species in California:

“While there are about 50 widespread sage scrub species, more than half of the 375 species encountered in the present study of the sage scrub flora are rare in occurrence within the habitat range. In view of the reduction of the area of coastal sage scrub in California to 10-15% of its former extent and the limited extent of preserves, measures to conserve the diversity of the flora are needed.”⁵²

Coastal sage scrub in southern California provides habitat for about 100 rare species⁵³, many of which are also endemic to limited geographic regions⁵⁴. In the Santa Monica Mountains, rare animals that inhabit coastal sage scrub⁵⁵ include the Santa Monica shieldback katydid, silvery legless lizard, coastal cactus wren, Bell's sparrow, San Diego desert woodrat, southern California rufous-crowned sparrow, coastal western whiptail, and San Diego horned lizard. Some of these species are also found in chaparral⁵⁶. Rare plants found in coastal sage scrub in the Santa Monica Mountains include Santa Susana tarplant, Coulter's saltbush, Blockman's dudleya, Braunton's milkvetch, Parry's spineflower, and Plummer's mariposa lily⁵⁷. A total of 32 sensitive species of reptiles, birds and mammals have been identified in this community by the National Park Service.⁵⁸

One of the most important ecological functions of coastal sage scrub in the Santa Monica Mountains is to protect water quality in coastal streams by reducing erosion in the watershed. Although shallow rooted, the shrubs that define coastal sage scrub have dense root masses that hold the surface soils much more effectively than the exotic annual grasses and forbs that tend to dominate in disturbed areas. The native shrubs of this community are resistant not only to drought, as discussed above, but well adapted to fire. Most of the semi-woody shrubs have some ability to crown sprout after

⁵¹ Westman, W.E. 1981. Diversity relations and succession in Californian coastal sage scrub. *Ecology* 62:170-184.

⁵² Ibid.

⁵³ Atwood, J. L. 1993. California gnatcatchers and coastal sage scrub: The biological basis for endangered species listing. pp.149-166 *In: Interface Between Ecology and Land Development in California*. Ed. J. E. Keeley, So. Calif. Acad. of Sci., Los Angeles. California Department of Fish and Game (CDFG). 1993. The Southern California Coastal Sage Scrub (CSS) Natural Communities Conservation Plan (NCCP). CDFG and Calif. Resources Agency, 1416 9th St., Sacramento, CA 95814.

⁵⁴ Westman, W.E. 1981. op. cit.

⁵⁵ Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.

⁵⁶ O'Leary J.F., S.A. DeSimone, D.D. Murphy, P.F. Brussard, M.S. Gilpin, and R.F. Noss. 1994. Bibliographies on coastal sage scrub and related malacophyllous shrublands of other Mediterranean-type climates. *California Wildlife Conservation Bulletin* 10:1-51.

⁵⁷ Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.

⁵⁸ NPS, 2000, op cit.

fire. Several CSS species (e.g., *Eriogonum cinereum*) in the Santa Monica Mountains and adjacent areas resprout vigorously and other species growing near the coast demonstrate this characteristic more strongly than do individuals of the same species growing at inland sites in Riverside County.⁵⁹ These shrub species also tend to recolonize rapidly from seed following fire. As a result they provide persistent cover that reduces erosion.

In addition to performing extremely important roles in the Mediterranean ecosystem, the coastal sage scrub community type has been drastically reduced in area by habitat loss to development. In the early 1980's it was estimated that 85 to 90 percent of the original extent of coastal sage scrub in California had already been destroyed.⁶⁰ Losses since that time have been significant and particularly severe in the coastal zone.

Therefore, because of its increasing rarity, its important role in the functioning of the Santa Monica Mountains Mediterranean ecosystem, and its extreme vulnerability to development, coastal sage scrub within the Santa Monica Mountains meets the definition of ESHA under the Coastal Act.

Chaparral

Another shrub community in the Santa Monica Mountain Mediterranean ecosystem is chaparral. Like "coastal sage scrub," this is a generic category of vegetation. Chaparral species have deep roots (10s of ft) and hard waxy leaves, adaptations to drought that increase water supply and decrease water loss at the leaf surface. Some chaparral species cope more effectively with drought conditions than do desert plants⁶¹. Chaparral plants vary from about one to four meters tall and form dense, intertwining stands with nearly 100 percent ground cover. As a result, there are few herbaceous species present in mature stands. Chaparral is well adapted to fire. Many species regenerate mainly by crown sprouting; others rely on seeds which are stimulated to germinate by the heat and ash from fires. Over 100 evergreen shrubs may be found in chaparral⁶². On average, chaparral is found in wetter habitats than coastal sage scrub, being more common at higher elevations and on north facing slopes.

The broad category "northern mixed chaparral" is the major type of chaparral shown in the National Park Service map of the Santa Monica Mountains. However, northern mixed chaparral can be variously dominated by chamise, scrub oak or one of several species of manzanita or by ceanothus. In addition, it commonly contains woody vines and large shrubs such as mountain mahogany, toyon, hollyleaf redberry, and sugarbush⁶³. The rare red shank chaparral plant community also occurs in the Santa Monica Mountains. Although included within the category "northern mixed chaparral" in

⁵⁹ Dr. John O'Leary, SDSU, personal communication to Dr. John Dixon, CCC, July 2, 2002

⁶⁰ Westman, W.E. 1981. op. cit.

⁶¹ Dr. Stephen Davis, Pepperdine University. Presentation at the CCC workshop on the significance of native habitats in the Santa Monica Mountains. June 13, 2002.

⁶² Keely, J.E. and S.C. Keeley. Chaparral. Pages 166-207 in M.G. Barbour and W.D. Billings, eds. North American Terrestrial Vegetation. New York, Cambridge University Press.

⁶³ Ibid.

the vegetation map, several types of ceanothus chaparral are reported in the Santa Monica Mountains. Ceanothus chaparral occurs on stable slopes and ridges, and may be dominated by bigpod ceanothus, buck brush ceanothus, hoaryleaf ceanothus, or greenbark ceanothus. In addition to ceanothus, other species that are usually present in varying amounts are chamise, black sage, holly-leaf redberry, sugarbush, and coast golden bush⁶⁴.

Several sensitive plant species that occur in the chaparral of the Santa Monica Mountains area are: Santa Susana tarplant, Lyon's pentachaeta, marcescent dudleya, Santa Monica Mountains dudleya, Braunton's milk vetch and salt spring checkerbloom⁶⁵. Several occurring or potentially occurring sensitive animal species in chaparral from the area are: Santa Monica shieldback katydid, western spadefoot toad, silvery legless lizard, San Bernardino ring-neck snake, San Diego mountain kingsnake, coast patch-nosed snake, sharp-shinned hawk, southern California rufous-crowned sparrow, Bell's sparrow, yellow warbler, pallid bat, long-legged myotis bat, western mastiff bat, and San Diego desert woodrat.⁶⁶

Coastal sage scrub and chaparral are the predominant generic community types of the Santa Monica Mountains and provide the living matrix within which rarer habitats like riparian woodlands exist. These two shrub communities share many important ecosystem roles. Like coastal sage scrub, chaparral within the Santa Monica Mountains provides critical linkages among riparian corridors, provides essential habitat for species that require several habitat types during the course of their life histories, provides essential habitat for sensitive species, and stabilizes steep slopes and reduces erosion, thereby protecting the water quality of coastal streams.

Many species of animals in Mediterranean habitats characteristically move among several plant communities during their daily activities, and many are reliant on different communities either seasonally or during different stages of their life cycle. The importance of an intact mosaic of coastal sage scrub, chaparral, and riparian community types is perhaps most critical for birds. However, the same principles apply to other taxonomic groups. For example, whereas coastal sage scrub supports a higher diversity of native ant species than chaparral, chaparral habitat is necessary for the coast horned lizard, an ant specialist⁶⁷. Additional examples of the importance of an interconnected communities, or habitats, were provided in the discussion of coastal sage scrub above. This is an extremely important ecosystem role of chaparral in the Santa Monica Mountains.

Chaparral is also remarkably adapted to control erosion, especially on steep slopes. The root systems of chaparral plants are very deep, extending far below the surface and

⁶⁴ Ibid.

⁶⁵ Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.

⁶⁶ Ibid.

⁶⁷ A.V. Suarez. Ants and lizards in coastal sage scrub and chaparral. A presentation at the CCC workshop on the significance of native habitats in the Santa Monica Mountains. June 13, 2002.

penetrating the bedrock below⁶⁸, so chaparral literally holds the hillsides together and prevents slippage.⁶⁹ In addition, the direct soil erosion from precipitation is also greatly reduced by 1) water interception on the leaves and above ground foliage and plant structures, and 2) slowing the runoff of water across the soil surface and providing greater soil infiltration. Chaparral plants are extremely resistant to drought, which enables them to persist on steep slopes even during long periods of adverse conditions. Many other species die under such conditions, leaving the slopes unprotected when rains return. Since chaparral plants recover rapidly from fire, they quickly re-exert their ground stabilizing influence following burns. The effectiveness of chaparral for erosion control after fire increases rapidly with time⁷⁰. Thus, the erosion from a 2-inch rain-day event drops from 5 yd³/acre of soil one year after a fire to 1 yd³/acre after 4 years.⁷¹ The following table illustrates the strong protective effect of chaparral in preventing erosion.

Soil erosion as a function of 24-hour precipitation and chaparral age.

Years Since Fire	Erosion (yd ³ /acre) at Maximum 24-hr Precipitation of:		
	2 inches	5 inches	11 inches
1	5	20	180
4	1	12	140
17	0	1	28
50+	0	0	3

Therefore, because of its important roles in the functioning of the Santa Monica Mountains Mediterranean ecosystem, and its extreme vulnerability to development, chaparral within the Santa Monica Mountains meets the definition of ESHA under the Coastal Act.

Oak Woodland and Savanna

Coast live oak woodland occurs mostly on north slopes, shaded ravines and canyon bottoms. Besides the coast live oak, this plant community includes hollyleaf cherry, California bay laurel, coffeeberry, and poison oak. Coast live oak woodland is more

⁶⁸ Helmers, H., J.S. Horton, G. Juhren and J. O'Keefe. 1955. Root systems of some chaparral plants in southern California. *Ecology* 36(4):667-678. Kummerow, J. and W. Jow. 1977. Root systems of chaparral shrubs. *Oecologia* 29:163-177.

⁶⁹ Radtke, K. 1983. *Living more safely in the chaparral-urban interface*. General Technical Report PSW-67. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Berkeley, California. 51 pp.

⁷⁰ Kittredge, J. 1973. *Forest influences — the effects of woody vegetation on climate, water, and soil*. Dover Publications, New York. 394 pp. Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. (Table 1). The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024. Vicars, M. (ed.) 1999. *FireSmart: protecting your community from wildfire*. Partners in Protection, Edmonton, Alberta.

⁷¹ Ibid.

tolerant of salt-laden fog than other oaks and is generally found nearer the coast⁷². Coast live oak also occurs as a riparian corridor species within the Santa Monica Mountains.

Valley oaks are endemic to California and reach their southern most extent in the Santa Monica Mountains. Valley oaks were once widely distributed throughout California's perennial grasslands in central and coastal valleys. Individuals of this species may survive 400-600 years. Over the past 150 years, valley oak savanna habitat has been drastically reduced and altered due to agricultural and residential development. The understory is now dominated by annual grasses and recruitment of seedlings is generally poor. This is a very threatened habitat.

The important ecosystem functions of oak woodlands and savanna are widely recognized⁷³. These habitats support a high diversity of birds⁷⁴, and provide refuge for many species of sensitive bats⁷⁵. Typical wildlife in this habitat includes acorn woodpeckers, scrub jays, plain titmice, northern flickers, cooper's hawks, western screech owls, mule deer, gray foxes, ground squirrels, jackrabbits and several species of sensitive bats.

Therefore, because of their important ecosystem functions and vulnerability to development, oak woodlands and savanna within the Santa Monica Mountains met the definition of ESHA under the Coastal Act.

Grasslands

Grasslands consist of low herbaceous vegetation that is dominated by grass species but may also harbor native or non-native forbs.

California Perennial Grassland

Native grassland within the Santa Monica Mountains consists of perennial native needlegrasses: purple needlegrass, (*Nassella pulchra*), foothills needlegrass, (*Nassella lepida*) and nodding needlegrass (*Nassella cernua*). These grasses may occur in the same general area but they do not typically mix, tending to segregate based on slope

⁷² NPS 2000. op. cit.

⁷³ Block, W.M., M.L. Morrison, and J. Verner. 1990. Wildlife and oak-woodland interdependency. *Fremontia* 18(3):72-76. Pavlik, B.M., P.C. Muick, S. Johnson, and M. Popper. 1991. *Oaks of California*. Cachuma Press and California Oak Foundation, Los Olivos, California. 184 pp.

⁷⁴ Cody, M.L. 1977. Birds. Pp. 223-231 in Thrower, N.J.W., and D.E. Bradbury (eds.). *Chile-California Mediterranean scrub atlas*. US/IBP Synthesis Series 2. Dowden, Hutchinson & Ross, Stroudsburg, Pennsylvania. National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701

⁷⁵ Miner, K.L., and D.C. Stokes. 2000. Status, conservation issues, and research needs for bats in the south coast bioregion. Paper presented at *Planning for biodiversity: bringing research and management together*, February 29, California State University, Pomona, California.

and substrate factors⁷⁶. Mixed with these native needlegrasses are many non-native annual species that are characteristic of California annual grassland⁷⁷. Native perennial grasslands are now exceedingly rare⁷⁸. In California, native grasslands once covered nearly 20 percent of the land area, but today are reduced to less than 0.1 percent⁷⁹. The California Natural Diversity Database (CNDDDB) lists purple needlegrass habitat as a community needing priority monitoring and restoration. The CNDDDB considers grasslands with 10 percent or more cover by purple needlegrass to be significant, and recommends that these be protected as remnants of original California prairie. Patches of this sensitive habitat occur throughout the Santa Monica Mountains where they are intermingled with coastal sage scrub, chaparral and oak woodlands.

Many of the raptors that inhabit the Santa Monica Mountains make use of grasslands for foraging because they provide essential habitat for small mammals and other prey. Grasslands adjacent to woodlands are particularly attractive to these birds of prey since they simultaneously offer perching and foraging habitat. Particularly noteworthy in this regard are the white-tailed kite, northern harrier, sharp-shinned hawk, Cooper's hawk, red-shouldered hawk, red-tailed hawk, golden eagle, American kestrel, merlin, and prairie falcon⁸⁰.

Therefore, because of their extreme rarity, important ecosystem functions, and vulnerability to development, California native perennial grasslands within the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

California Annual Grassland

The term "California annual grassland" has been proposed to recognize the fact that non-native annual grasses should now be considered naturalized and a permanent feature of the California landscape and should be acknowledged as providing important ecological functions. These habitats support large populations of small mammals and provide essential foraging habitat for many species of birds of prey. California annual grassland generally consists of dominant invasive annual grasses that are primarily of Mediterranean origin. The dominant species in this community include common wild oats (*Avena fatua*), slender oat (*Avena barbata*), red brome (*Bromus madritensis* ssp. *Rubens*), ripgut brome, (*Bromus diandrus*), and herbs such as black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*) and sweet fennel (*Foeniculum vulgare*). Annual grasslands are located in patches throughout the Santa Monica Mountains in previously disturbed areas, cattle pastures, valley bottoms and along roadsides. While many of

⁷⁶ Sawyer, J. O. and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, 1722 J St., Suite 17, Sacramento, CA 95814.

⁷⁷ Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.

⁷⁸ Noss, R.F., E.T. LaRoe III and J.M. Scott. 1995. Endangered ecosystems of the United States: a preliminary assessment of loss and degradation. Biological Report 28. National Biological Service, U.S. Dept. of Interior.

⁷⁹ NPS 2000. op. cit.

⁸⁰ NPS 2000. op. cit.

these patches are dominated by invasive non-native species, it would be premature to say that they are never sensitive or do not harbor valuable annual native species. A large number of native forbs also may be present in these habitats⁸¹, and many native wildflowers occur primarily in annual grasslands. In addition, annual grasslands are primary foraging areas for many sensitive raptor species in the area.

Inspection of California annual grasslands should be done prior to any impacts to determine if any rare native species are present or if any rare wildlife rely on the habitat and to determine if the site meets the Coastal Act ESHA criteria.

Effects of Human Activities and Development on Habitats within the Santa Monica Mountains

The natural habitats of the Santa Monica Mountains are highly threatened by current development pressure, fragmentation and impacts from the surrounding megalopolis. The developed portions of the Santa Monica Mountains represents the extension of this urbanization into natural areas. About 54% of the undeveloped Santa Monica Mountains are in private ownership⁸², and computer simulation studies of the development patterns over the next 25 years predict a serious increase in habitat fragmentation⁸³. Development and associated human activities have many well-documented deleterious effects on natural communities. These environmental impacts may be both direct and indirect and include the effects of increased fire frequency, of fire clearance, of introduction of exotic species, and of night lighting.

Increased Fire Frequency

Since 1925, all the major fires in the Santa Monica Mountains have been caused by human activities⁸⁴. Increased fire frequency alters plant communities by creating conditions that select for some species over others. Strong resprouting plant species such as laurel sumac, are favored while non-sprouters like bigpod ceanothus, are at a disadvantage. Frequent fire recurrence before the non-sprouters can develop and reestablish a seed bank is detrimental, so that with each fire their chances for propagation are further reduced. Resprouters can be sending up new shoots quickly, and so they are favored in an increased fire frequency regime. Also favored are weedy and invasive species. Dr. Steven Davis in his abstract for a Coastal Commission

⁸¹ Holstein, G. 2001. Pre-agricultural grassland in Central California. *Madrono* 48(4):253-264. Stromberg, M.R., P. Kephart and V. Yadon. 2001. Composition, invasibility and diversity of coastal California grasslands. *Madrono* 48(4):236-252.

⁸² National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000.

⁸³ Swenson, J. J., and J. Franklin. 2000. The effects of future urban development on habitat fragmentation in the Santa Monica Mountains. *Landscape Ecol.* 15:713-730.

⁸⁴ NPS, 2000, op. cit.

Workshop stated⁸⁵ *“We have evidence that recent increases in fire frequency has eliminated drought-hardy non-sprouters from chaparral communities near Malibu, facilitating the invasion of exotic grasses and forbs that further exacerbate fire frequency.”* Thus, simply increasing fire frequency from about once every 22 years (the historical frequency) to about once every 12 years (the current frequency) can completely change the vegetation community. This has cascading effects throughout the ecosystem.

Fuel Clearance

The removal of vegetation for fire protection in the Santa Monica Mountains is required by law in “Very High Fire Hazard Severity Zones”⁸⁶. Fuel removal is reinforced by insurance carriers⁸⁷. Generally, the Santa Monica Mountains are considered to be a high fire hazard severity zone. In such high fire hazard areas, homeowners must often resort to the California FAIR Plan to obtain insurance. Because of the high risk, all homes in “brush areas” are assessed an insurance surcharge if they have less than the recommended 200-foot fuel modification zone⁸⁸ around the home. The combination of insurance incentives and regulation assures that the 200-foot clearance zone will be applied universally⁸⁹. While it is not required that all of this zone be cleared of vegetation, the common practice is simply to disk this zone, essentially removing or highly modifying all native vegetation. For a new structure not adjacent to existing structures, this results in the removal or modification of a minimum of three acres of vegetation⁹⁰. While the directly impacted area is large, the effects of fuel modification extend beyond the 200-foot clearance area.

Effects of Fuel Clearance on Bird Communities

The impacts of fuel clearance on bird communities was studied by Stralberg who identified three ecological categories of birds in the Santa Monica Mountains: 1) local and long distance migrators (ash-throated flycatcher, Pacific-slope flycatcher, phainopepla, black-headed grosbeak), 2) chaparral-associated species (Bewick’s wren, wrentit, blue-gray gnatcatcher, California thrasher, orange-crowned warbler, rufous-crowned sparrow, spotted towhee, California towhee) and 3) urban-associated species

⁸⁵ Davis, Steven. Effects of fire and other factors on patterns of chaparral in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.

⁸⁶ 1996 Los Angeles County Fire Code Section 1117.2.1

⁸⁷ Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024. Vicars, M. (ed.) 1999. FireSmart: protecting your community from wildfire. Partners in Protection, Edmonton, Alberta.

⁸⁸ Fuel Modification Plan Guidelines. Co. of Los Angeles Fire Department, Fuel Modification Unit, Prevention Bureau, Forestry Division, Brush Clearance Section, January 1998.

⁸⁹ Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024.

⁹⁰ Ibid.

(mourning dove, American crow, Western scrub-jay, Northern mockingbird)⁹¹. It was found in this study that the number of migrators and chaparral-associated species decreased due to habitat fragmentation while the abundance of urban-associated species increased. The impact of fuel clearance is to greatly increase this edge-effect of fragmentation by expanding the amount of cleared area and “edge” many-fold. Similar results of decreases in fragmentation-sensitive bird species are reported from the work of Bolger et al. in southern California chaparral⁹².

Effects of Fuel Clearance on Arthropod Communities

Fuel clearance and habitat modification may also disrupt native arthropod communities, and this can have surprising effects far beyond the cleared area on species seemingly unrelated to the direct impacts. A particularly interesting and well-documented example with ants and lizards illustrates this point. When non-native landscaping with intensive irrigation is introduced, the area becomes favorable for the invasive and non-native Argentine ant. This ant forms “super colonies” that can forage more than 650 feet out into the surrounding native chaparral or coastal sage scrub around the landscaped area⁹³. The Argentine ant competes with native harvester ants and carpenter ants displacing them from the habitat⁹⁴. These native ants are the primary food resource for the native coast horned lizard, a California “Species of Special Concern.” As a result of Argentine ant invasion, the coast horned lizard and its native ant food resources are diminished in areas near landscaped and irrigated developments⁹⁵. In addition to specific effects on the coast horned lizard, there are other Mediterranean habitat ecosystem processes that are impacted by Argentine ant invasion through impacts on long-evolved native ant-plant mutualisms⁹⁶. The composition of the whole arthropod community changes and biodiversity decreases when habitats are subjected to fuel modification. In coastal sage scrub disturbed by fuel modification, fewer arthropod

⁹¹ Stralberg, D. 2000. Landscape-level urbanization effects on chaparral birds: a Santa Monica Mountains case study. Pp. 125–136 in Keeley, J.E., M. Baer-Keeley, and C.J. Fotheringham (eds.). *2nd interface between ecology and land development in California*. U.S. Geological Survey, Sacramento, California.

⁹² Bolger, D. T., T. A. Scott and J. T. Rotenberry. 1997. Breeding bird abundance in an urbanizing landscape in coastal Southern California. *Conserv. Biol.* 11:406-421.

⁹³ Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041-2056.

⁹⁴ Holway, D.A. 1995. The distribution of the Argentine ant (*Linepithema humile*) in central California: a twenty-year record of invasion. *Conservation Biology* 9:1634-1637. Human, K.G. and D.M. Gordon. 1996. Exploitation and interference competition between the invasive Argentine ant, (*Linepithema humile*), and native ant species. *Oecologia* 105:405-412.

⁹⁵ Fisher, R.N., A.V. Suarez and T.J. Case. 2002. Spatial patterns in the abundance of the coastal horned lizard. *Conservation Biology* 16(1):205-215. Suarez, A.V. J.Q. Richmond and T.J. Case. 2000. Prey selection in horned lizards following the invasion of Argentine ants in southern California. *Ecological Applications* 10(3):711-725.

⁹⁶ Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041-2056. Bond, W. and P. Slingsby. Collapse of an Ant-Plant Mutualism: The Argentine Ant (*Iridomyrmex humilis*) and Myrmecochorous Proteaceae. *Ecology* 65(4):1031-1037.

predator species are seen and more exotic arthropod species are present than in undisturbed habitats⁹⁷.

Studies in the Mediterranean vegetation of South Africa (equivalent to California shrubland with similar plant species) have shown how the invasive Argentine ant can disrupt the whole ecosystem.⁹⁸ In South Africa the Argentine ant displaces native ants as they do in California. Because the native ants are no longer present to collect and bury seeds, the seeds of the native plants are exposed to predation, and consumed by seed eating insects, birds and mammals. When this habitat burns after Argentine ant invasion the large-seeded plants that were protected by the native ants all but disappear. So the invasion of a non-native ant species drives out native ants, and this can cause a dramatic change in the species composition of the plant community by disrupting long-established seed dispersal mutualisms. In California, some insect eggs are adapted to being buried by native ants in a manner similar to plant seeds⁹⁹.

Artificial Night Lighting

One of the more recently recognized human impacts on ecosystem function is that of artificial night lighting as it effects the behavior and function of many different types of organisms¹⁰⁰. For literally billions of years the only nighttime sources of light were the moon and stars, and living things have adapted to this previously immutable standard and often depend upon it for their survival. A review of lighting impacts suggests that whereas some species are unaffected by artificial night lighting, many others are severely impacted. Overall, most impacts are negative ones or ones whose outcome is unknown. Research to date has found negative impacts to plants, aquatic and terrestrial invertebrates, amphibians, fish, birds and mammals, and a detailed literature review can be found in the report by Longcore and Rich¹⁰¹.

Summary

In a past action, the Coastal Commission found¹⁰² that the Santa Monica Mountains Mediterranean Ecosystem, which includes the undeveloped native habitats of the Santa Monica Mountains, is rare and especially valuable because of its relatively pristine

⁹⁷ Longcore, T.R. 1999. Terrestrial arthropods as indicators of restoration success in coastal sage scrub. Ph.D. Dissertation, University of California, Los Angeles.

⁹⁸ Christian, C. 2001. Consequences of a biological invasion reveal the importance of mutualism for plant communities. *Nature* 413:635-639.

⁹⁹ Hughes, L. and M. Westoby. 1992. Capitula on stick insect eggs and elaiosomes on seeds: convergent adaptations for burial by ants. *Functional Ecology* 6:642-648.

¹⁰⁰ Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024.

¹⁰¹ Ibid, and Ecological Consequences of Artificial Night Lighting, Conference, February 23-24, 2002, UCLA Los Angeles, California.

¹⁰² Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.

character, physical complexity, and resultant biological diversity. The undeveloped native habitats within the Santa Monica Mountains that are discussed above are ESHA because of their valuable roles in that ecosystem, including providing a critical mosaic of habitats required by many species of birds, mammals and other groups of wildlife, providing the opportunity for unrestricted wildlife movement among habitats, supporting populations of rare species, and preventing the erosion of steep slopes and thereby protecting riparian corridors, streams and, ultimately, shallow marine waters.

The importance the native habitats in the Santa Monica Mountains was emphasized nearly 20 years ago by the California Department of Fish and Game¹⁰³. Commenting on a Draft Land Use Plan for the City of Malibu, the Regional Manager wrote that, "It is essential that large areas of land be reclassified to reflect their true status as ESHAs. One of the major needs of the Malibu LUP is that it should provide protection for entire drainages and not just stream bottoms." These conclusions were supported by the following observations:

"It is a fact that many of the wildlife species of the Santa Monica Mountains, such as mountain lion, deer, and raccoon, have established access routes through the mountains. They often travel to and from riparian zones and development such as high density residential may adversely affect a wildlife corridor.

Most animal species that exist in riparian areas will, as part of their life histories, also be found in other habitat types, including chapparal (sic) or grassland. For example, hawks nest and roost in riparian areas, but are dependent on large open areas for foraging. For the survival of many species, particularly those high on the food chain, survival will depend upon the presence of such areas. Such areas in the Santa Monica Mountains include grassland and coastal sage scrub communities, which have been documented in the SEA studies as supporting a wide diversity of plant and animal life."

This analysis by the Department of Fish and Game is consonant with the findings of the Commission in the case of the Malibu LCP, and with the conclusion that large contiguous areas of relatively pristine native habitat in the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

¹⁰³ Letter from F. A. Worthley, Jr. (CDFG) to N. Lucast (CCC) re Land Use Plan for Malibu dated March 22, 1983.

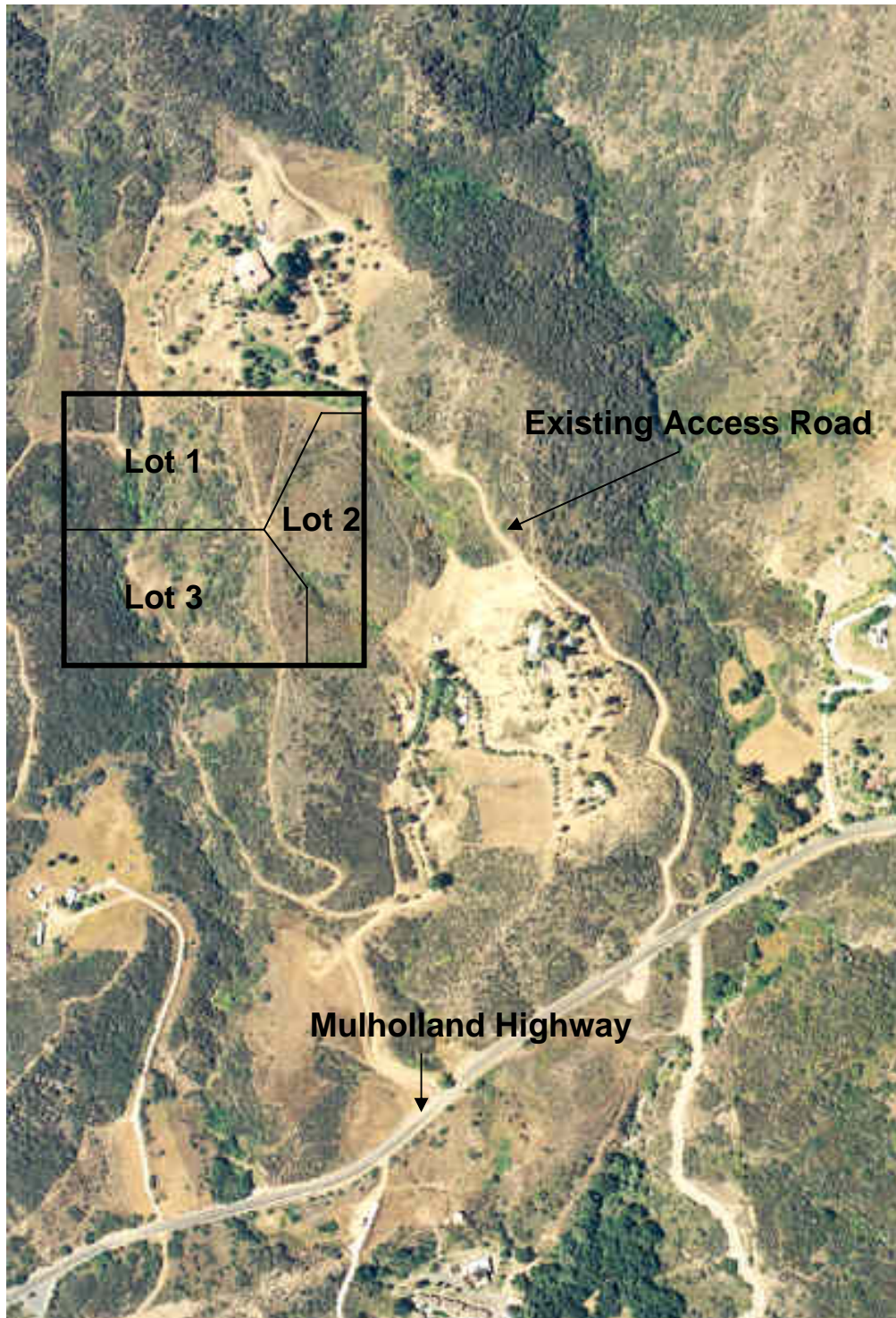


EXHIBIT 15
4-07-028
Aerial View

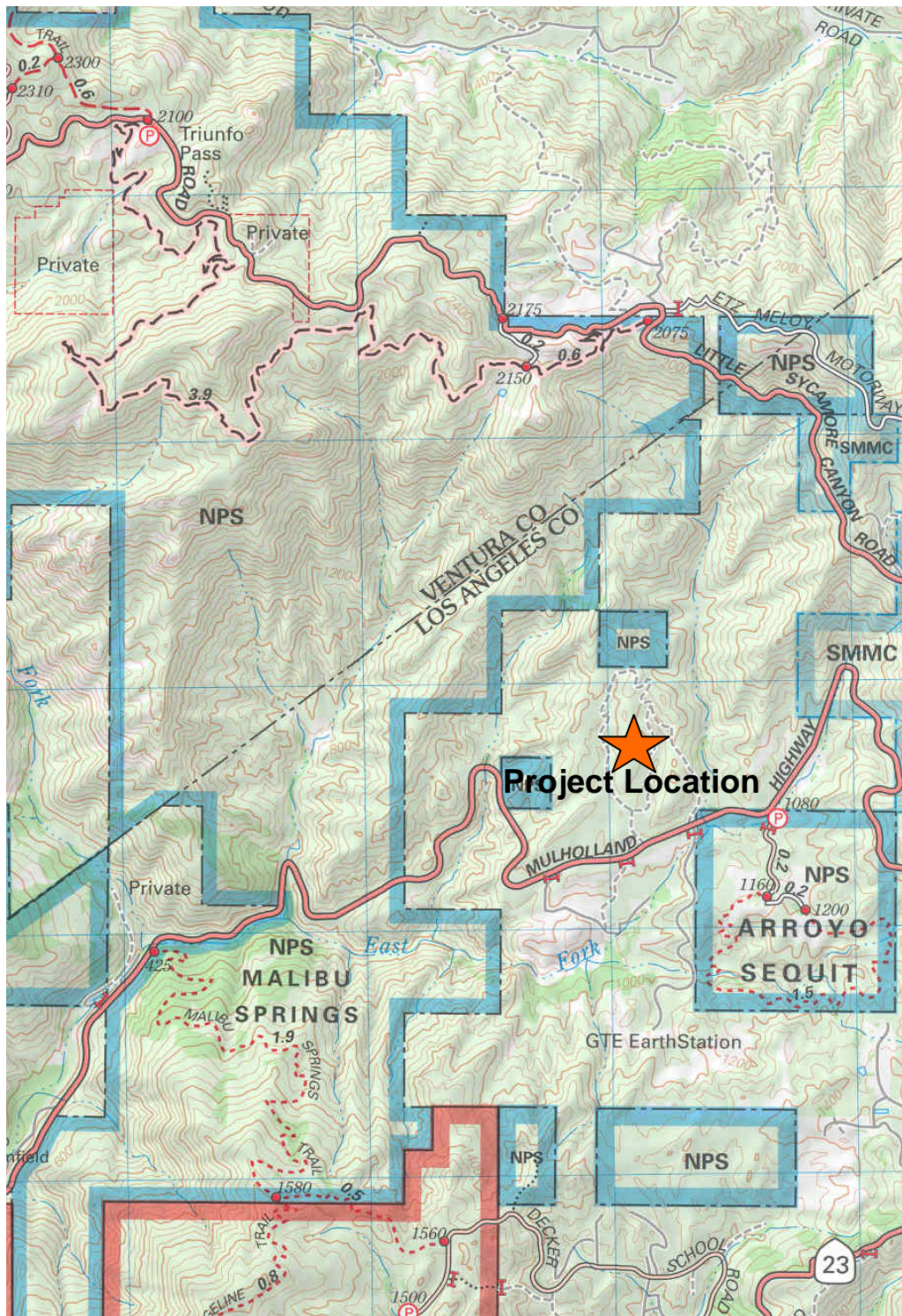


EXHIBIT 16
4-07-028
Public Lands/Trail Map