

Item TH 9g

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, Governor

CALIFORNIA COASTAL COMMISSION

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

RECORD PACKET COPY

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STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-05-063

APPLICANT: Stoney Heights LLC (Brian A. Sweeney and Elizabeth Tyler, Managers) and Meadowlands Ranch LLC (David R. Sweeney and Brian Sweeney, Managers)

AGENT: Schmitz & Associates

PROJECT LOCATION: The project is comprised of two parcels that are adjacent: Lot 1 fronts Corral Canyon Road, while Lot 2 fronts Searidge Drive within the El Nido small lot subdivision, Santa Monica Mountains, Los Angeles County

PROJECT DESCRIPTION: Redivision of two vacant lots that are 34.5-acres (Lot 1) and 0.16 acres (7,202 sq. ft.) (Lot 2) to create two new wholly reconfigured lots that are 14.8-acres and 19.8-acres in size.

LOCAL APPROVALS RECEIVED: Los Angeles County Approval in Concept, Fire Department Approval of Preliminary Fuel Modification Plans and Approval of Access Roads, Driveway, and Turnarounds for Sage and Poppy Residences; and Los Angeles County Health Department Conceptual Approval of Private Sewage Disposal System for Sage and Poppy Residence.

SUBSTANTIVE FILE DOCUMENTS: 1986 Los Angeles County Malibu Land Use Plan; City of Malibu LCP Revised Findings; "Updated Geologic and Geotechnical Engineering Report, and Notice of Change of Engineering Geologic and Geotechnical Engineering consultants for Proposed Single-Family Residence, Corral Canyon West Property, Malibu," by Gold Coast Geoservices, Inc, August 19, 2003 and subsequent addenda. CDP Applications 4-03-086 (Stoney Heights LLC/Meadowlands Ranch LLC); 4-04-028 (Stoney Heights LLC)

SUMMARY OF STAFF RECOMMENDATION

Staff recommends denial of the application, as the proposed development will create two wholly reconfigured parcels within ESHA and would not minimize impacts to ESHA or water quality as required by Sections 30231 and 30240 of the Coastal Act. Further, the proposed redivision will result in the cumulative impact of two residences instead of one on the ridge above Corral Canyon, which would not minimize impacts to visual resources, as required by Section 30251 of the Coastal Act.

STAFF RECOMMENDATION:

MOTION: *I move that the Commission approve Coastal Development Permit No. 4-05-063 for the development proposed by the applicant.*

Staff Recommendation of Denial:

Staff recommends a **NO** vote. Failure of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Deny the Permit:

The Commission hereby denies a coastal development permit for the proposed development on the ground that the development will not conform with the policies of Chapter 3 of the Coastal Act and will 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 would not comply with the California Environmental Quality Act because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description.

The applicants propose to redivide two existing adjacent parcels into two completely reconfigured lots (**Exhibits 1 and 2**). Following is a chart that details the existing and proposed size of the subject parcels:

Parcel	Existing Size	Proposed Size
Parcel 1--APN 4457-013-050	34.5 Acres	14.8 Acres
Parcel 2—APN 4457-019-010	0.16 acres (7,202 square feet)	19.8 Acres

The project site is located on the west side of Corral Canyon Road, adjacent to the El Nido small-lot subdivision. Corral Canyon Road runs along the ridge between Corral Canyon and Dry Canyon in this area. The larger parcel (34.5-acres) that is part of the project site descends steeply from the west side of Corral Canyon Road into Dry Canyon Creek, a designated blue-line stream, and extends up the canyon slopes on the other side. The parcel is well vegetated with Venturan Coastal Sage Scrub, Montane Ceanothus Chaparral, and Coast Live Oak Woodland. The vegetation is

undisturbed with the exception of a small 30-foot wide area along Corral Canyon Road (approximately 0.55 acres), the area of Barrymore Drive that crosses the western portion of the site, and an unpermitted horse corral area adjacent to Dry Canyon Creek on the southwest side of the lot. The Commission notes that Barrymore and Corral Canyon Road existed prior to 1976. Development of the horse corral area occurred following 1977 without authorization from the Commission through the approval of a coastal development permit. Stoney Heights LLC has proposed to remove the corral, shade structure, and fencing and restore the area back to natural conditions in Coastal Development Permit Application 4-04-028 (for the development of a single family residence on the 35-acre parcel that is part of the subject proposed lot line adjustment), which will also be reviewed at the September 2005 Coastal Commission Hearing.

The smaller parcel (0.16-acre.) is located within Dry Canyon and is one of the lots that make up the El Nido small lot subdivision. This parcel does not extend up the slope to Corral Canyon Road and is accessed from Searidge Drive, one of several roads that extend through the El Nido small lot subdivision. The parcel is steep and well vegetated with coastal sage scrub vegetation. The lowest area of the parcel directly adjacent to Searidge Drive has been cleared of vegetation for fire protection purposes for nearby structures. In addition, a small draw extends down the lower slope of Dry Canyon and across the parcel. Three vacant parcels where development rights have not been retired are located south of the 0.16-acre parcel. In addition, several existing residences are located west of the parcel. This existing small lot subdivision parcel, as well as the existing neighboring residences, are serviced by emergency and fire protection services.

The applicant's representative has submitted several items in support of the subject application including plans for two residences on the proposed reconfigured lots (**Exhibit 3**). The first house, called the "Poppy Residence," would be approximately 5540 sq. ft. in extent (including garage and guest units) and located on the proposed 14.8-acre lot 140 feet south of a previously approved neighboring single-family residence on Corral Canyon Road. This neighboring residence was approved by the Commission in April 2004 (CDP 4-03-054) for construction by Malibu Ocean Ranches LLC. The second proposed residence, called the "Sage Residence," would be approximately 5,120 sq. ft. in extent (including garage and guest unit) and located approximately 200 feet south of the Poppy Residence on the reconfigured 19.8-acre parcel. The applicant has submitted geotechnical, soils, and septic system analysis for these building sites. In addition, they have submitted fuel modification plans for the residences. On August 29, 2005, the applicant's agents submitted elevations for a revised "Sage Residence" that includes a reduction in height of approximately 1.5 feet as seen from the east.

The Commission notes that the subject application is identical in all respects to CDP Application 4-03-086 denied by the Commission in August 2004, with the exception of the revised fuel modification plans submitted for the proposed building sites. The applicant has revised the previous fuel modification plans to include the use of fire walls to reduce the fuel modification area west of the residences from 200 feet to 150 feet

from the buildings. Application 4-03-086 is discussed further in the following Section B. Related Permit Actions.

In addition to building plans, the applicants' representative has submitted a comparison of the areal extent of vegetation removal that would be required for development of a residence on the existing parcel configuration and the proposed reconfiguration (**Exhibit 6**). The applicant has also submitted a comparison of the slope steepness for the areas where vegetative removal would occur for development of a residence on the existing parcel configuration and the proposed reconfiguration (**Exhibit 6**). Additionally, the applicant's representatives submitted a letter dated August 25, 2005 (**Exhibit 6f**) with a revised fuel modification comparison and an exhibit showing a possible development scenario for the three lots adjacent to the 0.16-acre parcel on Searidge Drive. Vegetation removal and slope intensity are discussed in Section D. Environmentally Sensitive Habitat and Water Quality below.

Finally, the applicants' representative previously submitted a letter from Captain Dennis Cusino of Fire Station 71 of the Los Angeles County Fire Department in support of CDP Application 4-03-086. This letter was not submitted as part of the subject permit application, even though the development proposed herein is the same as the redivision previously proposed in Application 4-03-086. The applicant's representatives previously raised the question of fire and emergency access as a major issue both in Application 4-03-086 as well as the lawsuit that the applicant filed with regard to the Commission's denial action on that application. As such, staff has included this letter from Application File No. 4-03-086 as **Exhibit 6g** to the subject staff report. The June 10, 2004 letter states that:

Existing Lot 2, however, is located in the crowded and overburdened El Nido small lot subdivision, at the end of Searidge Drive and more than 1,500 feet from the El Nido entrance off of Corral Canyon Road... Alternatively Corral Canyon Road is currently 40 feet wide and, as it does for Lot 1, promotes safe and direct emergency access for proposed Lot 2. After the lot line adjustment, the Lot 2 building site will therefore be significantly improved with respect to emergency access and fire safety.

Staff would acknowledge that Corral Canyon is wider than Searidge Drive, although it is also only a two-lane road. However, there is existing development within the El Nido small lot subdivision, including residences located on Searidge Drive. There are also vacant parcels that are unretired and may be developed in the future, including the three parcels adjacent to the 0.16-acre parcel. In approving these residences, the local government (County of Los Angeles) did not find that the development could not be adequately served by fire and emergency services, or that the development raised significant issue with public health or safety. The fire department letter does not state that the development of the existing 0.16-acre parcel in its existing configuration would result in a situation where it would be dangerous or impossible to provide fire or other emergency services. Similarly, the letter does not state that fire or other emergency service access will be substantially improved by substituting the development of a very small residence on one small lot subdivision lot (the 0.16-acre parcel that is part of the subject site) with the development of a far larger structure on Corral Canyon Road.

Furthermore, as discussed further below, there are alternatives to the proposed project that could result in a reduction in the ultimate number of structures on Searidge Drive within El Nido, such as the combination of lots, and/or the retirement of development rights for the development of a larger structure elsewhere.

B. Related Permit Actions

On April 24, 2003, the Executive Director waived the requirement for a permit (Waiver No. 4-02-245-W) and the Commission concurred for development on one of the lots subject to this application (APN 4453-013-050). The development was a lot line adjustment redividing two existing parcels into two completely reconfigured lots. The 34.5-acre parcel that is the subject of this permit was the southernmost of the two reconfigured lots. The pre-existing lot configuration was such that one lot had road access to Corral Canyon and the other lot had no road access. The redivision resulted in both parcels having road access directly to Corral Canyon Road, which would allow for the reduction in grading and landform alteration associated with the eventual development of the parcels. As part of the application for 4-02-245-W, the applicant submitted exempt certificate of compliances for each parcel, demonstrating that at the time the lots were created, they were exempt from the Subdivision Map Act and the Los Angeles County Subdivision Ordinance.

On April 15, 2004, the Commission approved Permit 4-03-054 (Malibu Ocean Ranches LLC) for a single-family residence on the lot directly north of the subject 34.5-acre lot. This neighboring parcel is the northernmost of the two lots previously created through redivision, as approved in Permit Waiver 4-02-245-W described above. The permit is for the construction of a 3,944 sq. ft, 35 ft. high single-family residence with 2-car garage, pool, 108 cu. yds. of grading (84 cu. yds. cut and 24 cu. yds. fill), and septic system, on an 8,160 sq. ft. development area, with 2.56-acres of vegetation removal. The residence is named the "Toyon Residence" and is located approximately 40 feet north of the Stoney Heights 34.5-acre parcel. The fuel modification area for the approved residence on the adjacent parcel extends a substantial distance onto the Stoney Heights 34.5-acre parcel. In approving this permit, the Commission found that the project site, with the exception of a disturbed area along the roadway, contains habitat area that is ESHA. The Commission also found that the proposed structure immediately adjacent to Corral Canyon Road would be highly visible from parkland and trails across the canyon. While impacts to visual resources could be reduced by siting the proposed structure down the slope further away from the ridge, the Commission found that such siting would have greater adverse impacts on ESHA. This permit was approved with eleven special conditions.

On August 13, 2004, the Commission, by unanimous vote, denied CDP Application 4-03-086 submitted by Stoney Heights LLC and Meadowlands Ranch LLC to redivide the subject 35-acre lot (previously designated APN 4457-013-020 (2), now 4457-013-050) and 0.16 acre lot (APN 4457-019-010) to create two new completely reconfigured lots 14.8 and 19.8 acres in size. In denying this permit, the Commission found that the lots are located in ESHA and the reconfiguration would not minimize impacts to ESHA.

or water quality as required by Section 30231 and 30240 of the Coastal Act. Further the Commission found that the proposed redivision would result in the cumulative impact of two residences instead of one on the highly visible ridge above Coral Canyon, which would not minimize impacts to visual resources, as required by Section 30251 of the Coastal Act.

Following this decision, Stoney Heights LLC and Meadowlands Ranch LLC filed a request for reconsideration for the coastal development permit (4-03-086-R), which was subsequently withdrawn by the applicant's agent on March 16, 2005. Stoney Heights LLC has filed a lawsuit challenging the Commission's denial of Application No. 4-03-086 and that action is still pending. In May 2005 Stoney Heights LLC and Meadowlands Ranch LLC submitted the subject application (4-05-063) for redivision of the same properties as described in Application 4-03-086. The Commission notes that the subject application is identical to the previously denied application 4-03-086, with the exception of newly revised fuel modification plans for the two proposed building sites. The applicant has revised the previous fuel modification plans to include the use of fire walls to reduce the fuel modification area west of the residences from 200 feet to 150 feet from the buildings.

Prior to the Commission's denial of application 4-03-086 for the abovementioned redivision, Stoney Heights LLC and Meadowlands Ranch LLC had each submitted an application for the development of a single family residence on each of the redivided parcels proposed in application 4-03-086. Meadowlands Ranch LLC proposed Coastal Development Permit 4-04-027 for construction of a single-family residence named the "Poppy Residence" on the proposed 19.8-acre parcel (Parcel 2 of the proposed redivision). Stoney Heights LLC submitted application 4-04-028 for the "Sage Residence" on the proposed 14.8-acre lot (Parcel 1 on the proposed redivision), which is located entirely within the existing 35-acre lot. Following denial of Coastal Development Permit Application 4-03-086 for the redivision, Meadowlands Ranch LLC withdrew application 4-04-027. Stoney Heights LLC has continued to process the application 4-04-028 for the "Sage Residence" on the existing 34.5-acre parcel.

Application 4-04-028 for the "Sage Residence" was scheduled for hearing before the Commission in June 2005. At that time, the applicant requested that review of the application be postponed until the subject application for the proposed lot line adjustment (4-05-063) could be filed and the applications could be presented at the same hearing. Application 4-04-028 for the "Sage Residence" will, therefore, be reviewed at the September hearing along with the subject application. Commission staff is recommending approval of Application 4-04-028 with eighteen special conditions. Among the conditions recommended by staff is a requirement for revised plans to relocate the proposed 10,000 sq. ft. development area and residence approximately 200 feet north. This alternative building site would reduce impacts to ESHA as the development and fuel modification area required for the house would overlap with the fuel modification area approved in CDP 4-03-054 for the neighboring Malibu Ocean Ranches "Toyon Residence." This recommendation assumes that the

Commission has adopted the staff recommendation to deny the lot line adjustment proposed in this application, so the existing lot configuration remains unchanged.

The location of the approved neighboring Malibu Oceans Ranch ("Toyon") residence (CDP 4-03-054) as well as the proposed locations of the Stoney Heights "Sage Residence" (Application 4-04-028) and "Poppy" residence (Withdrawn Application 4-04-027) are shown on **Exhibit 4**.

C. Cumulative Impacts

Section 30250(a) of the Coastal Act states:

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

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

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

The Commission has repeatedly emphasized, in past permit decisions, the need to address the cumulative impacts of new development in the Malibu/Santa Monica Mountains coastal zone. The proposed redivision implicates Section 30250 of the Coastal Act in several ways.

Small Lot Subdivision Development

Throughout the Malibu/Santa Monica Mountains coastal zone there are a number of areas, which were subdivided in the 1920's and 30's into very small "urban" scale lots. These subdivisions, known as "small lot subdivisions" are comprised of parcels of less than one acre but more typically range in size from 4,000 to 5,000 square feet. The total buildout of these dense subdivisions would result in a number of adverse cumulative impacts to coastal resources. Cumulative development constraints common to small lot subdivisions were documented by the Coastal Commission and the Santa Monica Mountains Comprehensive Planning Commission in the January 1979 study entitled: "Cumulative Impacts of Small Lot Subdivision Development In the Santa Monica Mountains Coastal Zone". Analysis of the potential cumulative impacts led the Commission, through many permit decisions, to restrict development within small lot

subdivisions through the use of a maximum gross structural area, and to ensure that the number of lots would not be increased by requiring that the creation of new lots mitigate for impacts by retiring lots through the TDC program. Additionally, the Coastal Conservancy completed several lot retirement programs within small lot subdivisions. Many lots have been retired in the El Nido small lot subdivision, both for TDC's and through the El Nido Restoration Project carried out by the Coastal Conservancy, which resulted in the retirement of 173 lots. **Exhibit 8** shows the lots that have been retired within the El Nido small lot subdivision, the majority of which are located in the northwest half of the subdivision. Most of these retired lots were part of the Conservancy restoration project.

The "Cumulative Impacts of Small Lot Subdivision Development In the Santa Monica Mountains Coastal Zone" study acknowledged that the existing small lot subdivisions can only accommodate a limited amount of additional new development due to major constraints to buildout of these areas that include: Geologic, road access, water quality, disruption of rural community character, creation of unreasonable fire hazards and others. Following an intensive one year planning effort regarding impacts on coastal resources by Coastal Commission staff, including five months of public review and input, new development standards relating to residential development on small lots in hillsides, including the Slope-Intensity/Gross Structural Area Formula (GSA) were incorporated into the Malibu District Interpretive Guidelines in June 1979. A nearly identical Slope Intensity Formula was incorporated into the 1986 certified Malibu/Santa Monica Mountains Land Use Plan under policy 271(b)(2) to reduce the potential effects of buildout as discussed below.

The Commission has found that minimizing the cumulative impacts of new development is especially critical in the Malibu/Santa Monica Mountains area because of the large number of lots, which already exist, many in remote, rugged mountain and canyon areas. From a comprehensive planning perspective, the potential development of thousands of existing undeveloped and poorly sited parcels in these mountains creates cumulative impacts on coastal resources and public access over time. Because of this, the demands on road capacity, public services, recreational facilities, and beaches could be expected to grow tremendously.

Policy 271(b)(2) of the Malibu/Santa Monica Mountains LUP, which has been used as guidance by the Coastal Commission, requires that new development in small lot subdivisions comply with the Slope Intensity Formula for calculating the allowable Gross Structural Area (GSA) of a residential unit. Past Commission action certifying the LUP indicates that the Commission considers the use of the Slope Intensity Formula appropriate for determining the maximum level of development, which may be permitted in small lot subdivision areas consistent with the policies of the Coastal Act. The basic concept of the formula assumes the suitability of development of small hillside lots should be determined by the physical characteristics of the building site, recognizing that development on steep slopes has a high potential for adverse impacts on resources. Following is the formula and description of each factor used in its calculation:

Slope Intensity Formula:

$$\text{GSA} = (A/5) \times ((50-S)/35) + 500$$

GSA = the allowable gross structural area of the permitted development in square feet. The GSA includes all substantially enclosed residential and storage areas, but does not include garages or carports designed for storage of autos.

A = the area of the building site in square feet. The building site is defined by the applicant and may consist of all or a designated portion of the one or more lots comprising the project location. All permitted structures must be located within the designated building site.

S = the average slope of the building site in percent as calculated by the formula:

$$S = I \times L/A \times 100$$

I = contour interval in feet, at not greater than 25-foot intervals, resulting in at least 5 contour lines

L = total accumulated length of all contours of interval "I" in feet

A = the area being considered in square feet

At the request of staff, the applicants submitted, as part of application 4-03-086, a GSA calculation for parcel 4457-019-010 in conformance to Policy 271(b)(2) of the Malibu/Santa Monica Mountains LUP. Using the formula for slope, the applicant determined that the average slope of the 0.16-acre parcel is fifty percent. Given this slope, the calculation arrived at a maximum GSA of 500 sq. ft. of habitable space. Staff has confirmed that the applicant's calculations conform to the formula used by the Commission in past permit decisions.

Land Divisions

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.

In addition to the individual impacts of developing newly created parcels, land divisions and the development of multi-family residential projects increase the number of parcels and/or the number of residential units that be built over the number of existing parcels

in an area. The Commission has long recognized that adverse cumulative impacts to coastal resources would result from an increase in the overall number of parcels in the Malibu/Santa Monica Mountains coastal zone area, particularly given the large number of undeveloped parcels and the limited availability of urban services. The Commission has consistently required the mitigation of the cumulative impacts of creating new lots through subdivision and of developing multi-family units by retirement of future development on existing parcels within the Santa Monica Mountains region. The retirement process is formalized as the Commission's Transfer of Development Credit (TDC) Program. The TDC program is implemented by the Commission through permit actions to mitigate the cumulative impacts caused by the existence of a large number of undeveloped parcels, the limited availability of public services, the impacts to major coastal access routes and the potential significant adverse environmental impacts that would result from developing the parcels and of providing services. CDPs for the subdivision of parcels can only be approved with a condition requiring the mitigation of cumulative impacts through the retirement of development rights on existing parcels that contain ESHA, or are located within designated Significant Watersheds, on a one to one basis. TDC credit may also be obtained for the retirement of development rights on small lot subdivision parcels, although given the constraints to development that exist on most small lots, several (three or more) small lots must be retired to provide adequate mitigation for the creation of one new lot.

In this case, a land division to create two new reconfigured parcels from the existing 34.5-acre lot would require mitigation of cumulative impacts equivalent to one TDC. In order to provide this mitigation, development rights would have to be retired on at least three parcels of the approximate size and slope of the 0.16-acre parcel considered herein. Additionally, the 34.5-acre site contains habitat considered to be ESHA, as discussed in greater detail below. As such, it is unlikely that such a land division could be approved because creating an additional building site within ESHA would have significant adverse impacts to ESHA, which would not be consistent with the resource protection policies of the Coastal Act. Staff would note that the applicants did at one time propose to the County of Los Angeles a subdivision such that two parcels would be created out of the 34.5-acre lot. The applicants did not pursue this application and later proposed the subject redivision whereby one small lot subdivision parcel and one large parcel would be redivided.

The Commission has considered several projects, which the applicants and the County treated as "lot line adjustments" which would have 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), 4-00-110 (Gurvitz)]. In these cases as in the subject proposed project, the Commission has considered the proposed projects to actually be "redvisions" whereby existing property boundary lines are significantly modified to redivide the project site into the same number or fewer wholly reconfigured lots. The Commission has analyzed these proposals just as it analyzes a new subdivision of lots. The Commission has only permitted such redvisions where adequate fire access and other public services are available and where the resultant lots could be developed minimizing impacts to coastal resources.

As noted in the project description, the proposed project involves a redivision of two existing lots into two reconfigured lots. Therefore, the project does not increase the number of lots so there is no overall increase in density. Each existing parcel has road access and the area has adequate public services. However, as described above, the proposed redivision will create two new reconfigured parcels within ESHA, will not minimize impacts to ESHA, and will allow for a much larger amount of development than the existing configuration. Further, the proposed redivision would allow for the construction of an additional home on a ridge that will be visible from parkland and trails, having a cumulative adverse impact on visual resources. As such, the Commission finds that the proposed redivision will not minimize cumulative impacts to coastal resources and is therefore inconsistent with Section 30250(a) of the Coastal Act.

There are alternatives to the proposed redivision. Obviously, the lots can be maintained in their existing configuration. Additionally, the potential impacts of developing the two lots in their existing configuration could be further reduced. As provided by the Commission in past permit decisions, the smaller lot (0.16-acre) could be combined with one or more adjacent vacant lots in order to increase the maximum GSA and construct one larger residence rather than several small homes. In this way, development would be clustered, vegetation removal reduced and the number of cars and traffic trips to the area kept to the minimum. Alternatively, the small lot could be retired in exchange for a larger development on a lot or multiple lots elsewhere in the small lot subdivision (the Commission has also approved retirement of lots for extra square footage in another small lot subdivision within the same watershed). Therefore, the Commission finds that there are feasible alternatives to the proposed project that would not result in significant adverse effects on the environment and would be consistent with the Chapter 3 policies of the Coastal Act.

D. Environmentally Sensitive Habitat and Water Quality

Section 30230 of the Coastal Act states that:

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

Section 30231 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.

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, 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, Sections 30107.5 and 30240 of the Coastal Act state that environmentally sensitive habitat areas must be protected against disruption of habitat values. Therefore, when considering any area, such as the Santa Monica Mountains, with regard to an ESHA determination one must focus on three main questions:

- 1) Is a habitat or species rare?
- 2) Is the habitat or species especially valuable because of its special nature or role in the ecosystem?
- 3) Is the habitat or species easily disturbed or degraded by human activities and developments?

The Coastal Commission has found that the Mediterranean Ecosystem in the Santa Mountains is itself 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 second criterion for the ESHA designation. In the Santa Monica Mountains, coastal sage scrub and chaparral have 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 9**, 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 meet three tests in order to assign an ESHA designation. First, is the habitat properly identified, for example as coastal sage scrub or chaparral? Second, is the habitat undeveloped and otherwise relatively pristine? Third, is the habitat part of a large, contiguous block of relatively pristine native vegetation?

The subject site is located on the west side of Corral Canyon Road, adjacent to the El Nido small-lot subdivision. Corral Canyon Road runs along the ridge between Corral Canyon and Dry Canyon in this area. The larger of the two lots that comprise the project site descends steeply from the west side of Corral Canyon Road into Dry Canyon Creek, a designated blue-line stream, and extends up the canyon slopes on the other side. The site is well vegetated. A small area along Corral Canyon Road and Barrymore Road on the southwestern corner of the property have been cleared of vegetation for fuel modification purposes. Staff notes that aerial photos show the roads and associated vegetative clearance to predate the Coastal Act. There is also a disturbed area along the southern property line, within the stream corridor of Dry Canyon Creek. The stream is contained within a culvert under Searidge Road, just south of the property. In the area just upstream of the culvert, all vegetation has been removed from the stream course and there is some growth of weedy species. On the west side of the stream corridor, all vegetation has been cleared and a horse corral has been constructed. No authorization from the Commission or Coastal Development Permit was obtained for the abovementioned development of the horse corral. Stoney Heights LLC has proposed removal of all horse corral structures and restoration of the area in Application 4-04-028, which will be heard before the Commission at the September hearing.

The smaller of the two parcels that comprise the project site extends from Searidge Road up the lower slope of Dry Canyon. There is a small draw extending down the slope and across the site. The lowest area of the parcel directly adjacent to the road has been cleared of vegetation as have all of the parcels along this road. The remainder of the site is well vegetated.

Although the applicants did not provide a biological survey of the project site for the subject application, two reports have been submitted for the lots as proposed to be reconfigured (as described above, the applicants have submitted an application for development on each of the proposed parcels). The Biological Assessments, both

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

dated November 7, 2003, were prepared by Pacific Southwest Biological Services, Inc. The reports address the habitats present on the project site. The reports identify four vegetation/habitat communities on the properties. The report for the proposed 14.8-acre parcel (northernmost of the reconfigured lots) approximates the acreages and describes these habitats thus:

Disturbed Habitat (0.23 acres)

A disced area approximately 30 feet wide paralleling Coral Canyon Road exists on-site. The vegetation within this area is dominated by exotic Castor Bean (*Ricinus communis*) with non-native grasses (*Bromus* sp.) also occurring in very limited numbers.

Venturan Coastal Sage Scrub (11.83 acres)

This is the most abundant vegetation type found on site. The dominant plants in this vegetation type are Ashleaf Buckwheat (*Eriogonum cinereum*), California Sagebrush (*Atemesia californica*), Purple Sage (*Salvia leucophylla*) and in some areas, Laurel-leaf Sumac (*Malosma Laurina*). These species are found in extremely thick densities, having 100% cover at most locations. As a consequence, the understory is either poorly developed, or non-existent in many areas.

Montane Ceanothus Chaparral (2.56 acres)

This vegetation type is dominated by Greenbark Ceanothus (*Ceanothus spinosus*). A wide linear patch of this vegetation parallels the on-site jurisdictional drainage. This vegetation type is also found on the east-facing slope located at the northwestern portion of the site.

Coast Live Oak Woodland (0.38 acres)

Coast Live Oaks (*Quercus agrifolia*) occur along the jurisdictional drainage and on the east facing slopes on-site. The oaks located on the slope are the southwestern portion of the Coast Live Oak Woodland, which is mainly found in APN# 4457-013-020(1). The oak trees in the jurisdictional drainage are mixed with Western Sycamore (*Platanus racemosa*). At the southern end of this grouping, a stand of approximately six Western Sycamores exist. Although these trees appear separate from the oak woodland, they are part of this vegetation type.

With regard to the proposed 19.8-acre parcel (southernmost of the two reconfigured lots), the report states the following regarding the habitats present:

Disturbed Habitat (0.32 acres)

A disced area approximately 30 feet wide paralleling Coral Canyon Road exists on-site. The vegetation within this area is dominated by exotic Castor Bean (*Ricinus communis*) with non-native grasses (*Bromus* sp.) also occurring in very limited numbers.

Urban/Developed (0.19 acres)

Barrymore Drive passes through the southwestern corner of the property.

Venturan Coastal Sage Scrub (15.57 acres)

This is the most abundant vegetation type found on site. The dominant plants in this vegetation type are Ashleaf Buckwheat (*Eriogonum cinereum*), California Sagebrush (*Atemesia californica*), Purple Sage (*Salvia leucophylla*) and in some areas, Laurel-leaf

Sumac (*Malosma Laurina*). These species are found in extremely thick densities, having 100% cover at most locations. As a consequence, the understory is either poorly developed, or non-existent in many areas.

Montane Ceanothus Chaparral (1.63 acres)

This vegetation type is dominated by Greenbark Ceanothus (*Ceanothus spinosus*). A wide linear patch of this vegetation parallels the on-site jurisdictional drainage.

Coast Live Oak Woodland (2.44 acres)

Coast Live Oaks (*Quercus agrifolia*) occur in three distinct areas along the east-facing slopes on-site. A small group of oaks are located on the northwestern corner of the site boundary, with larger areas of oaks lining the non-jurisdictional tributaries to the south.

Neither biological assessment report addresses the areas of disturbed habitat along Searidge Drive, within the stream corridor just north of the road, or the area occupied by the horse corral. A map of the habitats on the site was also prepared by the biological consultant as part of each report. Commission staff visited the subject property in April 2004 and confirmed that the project site is comprised of coastal sage scrub, chaparral and oak woodland habitat areas. **Exhibits 10 and 11** show the vegetation on the property.

With the exception of the disturbed areas described above (immediately along Corral Canyon Road, along Searidge Drive, within the Dry Canyon stream corridor, and within the horse corral), the project site is undisturbed. While there is scattered residential development in the area and more intense residential development in the small lot subdivision south of the project site, there is undisturbed, contiguous coastal sage scrub, chaparral habitat, and oak woodland habitat to the north and west of the site. Additionally, there is a large contiguous area of undisturbed habitat east of the project site, across the road in Corral Canyon. **Exhibit 10** is a 2001 aerial photograph of the immediate area around the project site.

Therefore, due to the important ecosystem roles of coastal sage scrub and chaparral in the Santa Monica Mountains (detailed in **Exhibit 9**) and the fact that the subject site is predominately undisturbed and part of a large, unfragmented block of habitat, the Commission finds that the chaparral, coastal sage scrub, and coast live oak woodland on and surrounding the project site (excluding the disturbed areas) meets the definition of ESHA under the Coastal Act.

As explained above, the project site and the surrounding area (excluding the areas disturbed for fuel modification along Corral Canyon Road and Searidge Drive) constitutes an environmentally sensitive habitat area (ESHA) pursuant to Section 30107.5. Section 30240 requires that "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." Section 30240 restricts development on the parcel to only those uses that are dependent on the resource. While no development of structures is proposed as part of the subject application, the proposed parcels would presumably be developed with residential uses. As described

above, the applicants have submitted applications for the development of a single-family residence on each proposed parcel. The applicants have identified a potential development area for each proposed parcel adjacent to Corral Canyon Road. While there are some disturbed areas along Corral Canyon Road, the construction of residences in that location would still require the removal of ESHA (primarily coastal sage scrub habitat) for the development area and also as a result of fuel modification for fire protection purposes. As single-family residences do not have to be located within ESHA to function, the Commission does not consider single-family residences to be a use dependent on ESHA resources. Application of Section 30240, by itself, would require denial of applications for residential development, because such development would result in significant disruption of habitat values and would not be a use dependent on those sensitive habitat resources.

However, the Commission also has to consider Section 30010, and the Supreme Court decision in *Lucas v. South Carolina Coastal Council* (1992) 505 U.S. 1003, 112 S.Ct. 2886. Section 30010 of the Coastal Act provides that the Coastal Act shall not be construed as authorizing the Commission to exercise its power to grant or deny a permit in a manner which will take private property for public use. Application of Section 30010 may overcome the presumption of denial in some instances. The subject of what government action results in a "taking" was addressed by the U.S. Supreme Court in *Lucas v. South Carolina Coastal Council*. In *Lucas*, the Court identified several factors that should be considered in determining whether a proposed government action would result in a taking. For instance, the Court held that where a permit applicant has demonstrated that he or she has a sufficient real property interest in the property to allow the proposed project, and that project denial would deprive his or her property of all economically viable use, then denial of the project by a regulatory agency might result in a taking of the property for public use unless the proposed project would constitute a nuisance under State law. Another factor that should be considered is the extent to which a project denial would interfere with reasonable investment-backed expectations.

The Commission interprets Section 30010, together with the *Lucas* decision, to mean that if Commission denial of the project would deprive an applicant's property of all reasonable economic use, the Commission may be required to allow some development even where a Coastal Act policy would otherwise prohibit it, unless the proposed project would constitute a nuisance under state law. In other words, Section 30240 of the Coastal Act cannot be read to deny all economically beneficial or productive use of land because Section 30240 cannot be interpreted to require the Commission to act in an unconstitutional manner. As such, similar to the actions the Commission has taken on many CDPS for residential development on parcels containing ESHA, including Permit 4-03-054 on the parcel to the north of the project site, the Commission is likely to approve a residence on each of the existing parcels that is sited and designed to minimize impacts to ESHA. In fact, the Commission will consider Permit Application 4-04-028 (Stoney Heights LLC) for the development of a single family residence on the 34.5-acre parcel at the same hearing as the subject application. Although the applicants have not applied for development on the 0.16-acre

parcel, it is likely that a residence could be approved on that parcel, consistent with the GSA restrictions detailed above. As such, "takings" are not at issue in the subject application for redivision of two parcels within ESHA because the development of a residence on each of those parcels could be approved.

In the subject case, the proposed lot line adjustment would redivide one large parcel (34.5-acres) and one small parcel (0.16-acre into two wholly reconfigured lots (14.8 and 19.8-acres in size) that each contain ESHA. The Commission concludes that if the reconfigured lots were approved through this application, residential development would eventually be approved, with conditions to restrict development siting and design as well as to provide adequate mitigation of impacts, on each new lot within ESHA in order to avoid a taking. In order to evaluate the potential impacts of the proposed lot line adjustment, it is necessary to look at the impacts that are likely to result from the ultimate development of the proposed parcels.

Given the location of ESHA on the project sites, there are likely to be significant impacts to ESHA resulting from the removal of vegetation for the development areas as well as any required fuel modification area around structures. 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 be a minimum of 20 feet beyond the edge of protected 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 to a maximum of 80 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 100 feet. This zone would primarily retain existing native vegetation, with the exception of high fuel species such as chamise, red shank, California sagebrush,

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

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. This distance can be modified with the use of fire walls where appropriate. 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.

Notwithstanding the need to protect structures from the risk of wildfire, 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 chaparral 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, particularly if such areas are subjected to supplemental water through irrigation. In coastal sage scrub 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 can 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 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

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.

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.

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.

While these impacts resulting from fuel modification can be reduced through siting and designing alternatives for new development, they cannot be completely avoided, given the high fire risk and the location of ESHA on and around the project sites.

In this case, the applicant has submitted preliminary fuel modification plans for two proposed building sites adjacent to Corral Canyon Road on the proposed reconfigured parcels (**Exhibit 3**). The first residence, called the "Poppy Residence," would be approximately 5540 sq. ft. in extent (including garage and guest unit) and located on the proposed 14.8-acre lot, 140 feet south of a residence previously approved by the Commission on a neighboring lot. This residence, named the "Toyon Residence" was approved by the Commission in April 2004 (CDP 4-03-054) for construction by Malibu Ocean Ranches LLC. The second proposed residence, called the "Sage Residence," would be approximately 5,120 sq. ft. in extent (including garage and guest unit) and located approximately 200 feet south of the Poppy Residence on the reconfigured 19.8-acre parcel. The fuel modification plans that have been approved by the Fire Department for the proposed residences include use of 6-foot high firewalls. These firewalls would reduce the required fuel modification area from 200 feet to 150 feet west of the proposed residences. North and south of the proposed residences, fuel modification will extend 200 feet from the buildings. The fuel modification areas for the

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.

Poppy, Sage, and previously approved Toyon Residence overlap. If the proposed lot line adjustment were approved, the total undisturbed, vegetated area that would need to be cleared for fuel modification purposes would total approximately 1.59 acres for both the Sage and Poppy Residences combined.

The Commission notes that the ideal location for one residence on the existing 34.5-acre parcel is the location of the Poppy Residence, located approximately 140 feet south of the previously approved Malibu Ocean Ranches Toyon Residence (CDP 4-03-054). This building site minimizes impacts to ESHA as it would be located partially on an existing disturbed area and is close enough to the Toyon Residence so that there would be some overlap of fuel modification areas (**Exhibit 7**). Staff have estimated that construction of a second residence south of the Poppy Residence on the proposed new Parcel 2, would require approximately 0.89 acres of vegetative removal for fire protection purposes in areas that are currently undisturbed and would not be disturbed by the residence to the north (the Poppy Residence).

No fuel modification plans have been submitted by the applicant for any potential building sites on the existing 0.16-acre parcel. Staff therefore assumes that any proposed residence on the parcel would be located adjacent to Searidge Road and that the full 200 foot radius fuel modification area would be required around the house. Just as there would be overlap of fuel modification areas with the two proposed residences on Corral Canyon Road, there also will be overlap of fuel modification areas for development of a residence on the 0.16-acre parcel. There is an existing residence on the west side of Searidge Road whose required fuel modification would overlap. Further, any future development on the three lots adjacent to the existing 0.16-acre lot to the south on Searidge Road would require fuel modification. As shown on **Exhibit 8**, these lots are vacant and development rights for these lots have not been retired. All three lots are held in the same ownership, but the lots have not been combined or merged. It is reasonable to assume that at least one residence will be proposed on these lots in the future (lots could be combined for the construction of one larger home under the GSA provisions). Given that there are three separate parcels, it is also possible that three separate small residences could be developed.

The applicants' representatives have argued (**Exhibit 6f**) that given the topography of the three parcels, it is most likely that future development of them would consist of one larger residence located on the middle of the three lots. They have provided a GSA calculation and topographic map showing this development scenario (staff would note that although the applicants' map shows the three parcels as linked, the existing lots are not in fact linked at this time). Since no applications have been submitted, it is unknown at this time how many structures might eventually be developed or where they would be located. With development of one, two or three residences on these three parcels, there would be a substantial overlap of fuel modification areas, significantly reducing the amount of vegetation removal necessary for a residence on the 0.16-acre parcel. Assuming the presence of one or more residences on these vacant lots, development of the 0.16-acre parcel could require as little as 0.55 acres of vegetative clearance for fuel modification purposes in areas currently undisturbed (**Exhibit 7**).

This area is less than the 0.89 sq. ft. of vegetative clearance that would be required for a second residence adjacent to Corral Canyon Road on the existing 34.5-acre parcel.

The applicants have stated that the proposed lot reconfiguration will reduce impacts from removal of vegetation for a development area and fuel modification from that which would be required to develop one residence on the existing 34.5-acre parcel and one on the 0.16-acre parcel (**Exhibit 6**). They further state that development of a second residence on Corral Canyon Road would reduce the amount of vegetation cleared on steep slopes, as the 0.16-acre lot is very steep. Given the fact that three adjacent vacant lots exist adjacent to the 0.16-acre. in the small lot subdivision that could be developed with one or more residences, though, the reduction in impacts to ESHA that the applicant asserts will result from the proposed redivision will not be realized. The fuel modification resulting from the development of one or more of the adjacent lots in the small lot subdivision would be much the same as that required for development of the 0.16-acre. lot that is part of the subject application. Additionally, while the proposed Sage Residence may require slightly less vegetative clearance on steep (over 50%) slopes than development on the 0.16-acre site, each site contains very steep slopes where vegetative clearance would be required. In the case of the 0.16-acre lot, a majority of the vegetative clearance that would occur on slopes over 40 percent are areas that would need to also be cleared for any proposed development on the three vacant lots adjacent to the 0.16-acre lot (**Exhibit 7**). Reconfiguration of the lots would, therefore, not result in a reduction of impacts to ESHA from fuel modification.

Further, the applicant's representatives submitted a letter dated August 25, 2005 (**Exhibit 6f**) with a revised fuel modification comparison wherein they assert that the amount of fuel modification attributable to a residence on the existing 0.16-acre parcel should be substantially increased for three reasons. One is that the most likely development scenario for the three small lots adjacent to the south would be the construction of one residence on the middle of these parcels. That would result in a small decrease in the fuel modification overlap. However, as noted previously, no applications have been submitted, so it is unknown at this time how many structures might eventually be developed or where they would be located. Another reason the applicants' agents assert that the fuel modification estimate should be increased for development on the 0.16-acre parcel is that required fuel modification for a residence on the 0.16-acre parcel that would fall within the disturbed horse corral area on the 34.5-acre parcel should be included since this area will be restored as proposed and required as a condition of Permit 4-04-028 (described above in detail). Staff would note that the area of fuel modification that would be within the horse corral area is quite small. Finally, the applicants' representatives have increased their estimate of fuel modification to include what they term "intensified fuel modification" which includes areas that would be required to be thinned for the "Zone C" requirements of an adjacent structure, but would be within the "Zone A or B" for a residence on the 0.16-acre parcel. However, as noted above, thinning of vegetation for required Zone C fuel modification has substantial impacts on ESHA, particularly coastal sage scrub or chaparral plant species. Even where complete clearance of vegetation is not required, the natural

habitat can be significantly impacted, and ultimately lost, particularly if such areas are subjected to supplemental water through irrigation. In coastal sage scrub 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 can over time out-compete native species. As such, staff must conclude that even thinning vegetation for Zone C has substantial impacts on ESHA.

The applicants' agents also assert that development on the existing 0.16-acre parcel would have greater impacts on ESHA than the new lots created through the proposed redivision because fuel modification would directly impact Dry Canyon Creek and its associated riparian vegetation. While the development area proposed for the reconfigured parcels would be further away from the stream, staff does not agree that this would lessen any impacts in this particular case for several reasons. For one, the Fire Department does not ordinarily require the removal of riparian vegetation for fuel modification. Additionally, the development area on the existing 0.16-acre parcel would be at least 100 feet away from the creek and would not drain into the open channel portion of the creek on the 34.5-acre parcel. The creek has been channelized downstream of the site and enters a culvert at Searidge Road on the southern edge of the 34.5-acre parcel. Further, all riparian or other native vegetation has already been removed from within the Dry Canyon stream corridor and this area is occupied by weeds. Therefore, while in most cases siting development further away from a stream minimizes impacts, in this particular case with this set of facts, the proposed reconfiguration will not result in any reduction of impacts to the stream.

Further, the new reconfigured parcels would have greater potential for impacts to water quality given a larger development area and more impervious surfaces. As described above, the 0.16-acre parcel has a maximum Gross Structural Area of 500 sq. ft. (based on the slope and size of the lot). Staff would note that additional small lots either adjacent or within El Nido could be retired to increase the maximum GSA. In any case, any residential development approved on this parcel would be much smaller and have a much smaller development area than the 3,558 sq. ft. residence with detached 827 sq. ft. garage, 735 sq. ft. guesthouse, and approximately 10,000 sq. ft. development area that the applicants have proposed for the reconfigured parcel.

An increase in impervious surface at the subject site decreases the infiltrative function and capacity of existing permeable land on site. Reduction in permeable space therefore leads to an increase in the volume and velocity of stormwater runoff that can be expected to leave the site. Further, pollutants commonly found in runoff associated with residential use include petroleum hydrocarbons including oil and grease from vehicles; heavy metals; synthetic organic chemicals including paint and household cleaners; soap and dirt from washing vehicles; dirt and vegetation from yard maintenance; litter; fertilizers, herbicides, and pesticides; and bacteria and pathogens from animal waste. The discharge of these pollutants to coastal waters can cause

cumulative impacts such as: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation which provide food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; and acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes and reduce optimum populations of marine organisms and have adverse impacts on human health.

In conclusion, the proposed redivision will result in the creation of two new reconfigured parcels within ESHA. The proposed configuration will allow for the development of a much larger residence on the proposed 19.8-acre parcel than on the existing 0.16-acre parcel in its present configuration. While the overlap of fuel modification zones for two residences on the proposed parcels would result in less vegetation removal, a similar overlap and significant reduction in vegetation removal would be expected to occur between residences on the existing 0.16-acre parcel and the adjacent vacant parcels. Additionally, given the fact that the adjacent vacant lots could be developed with one or more residences, the reduction in impacts to ESHA that the applicant asserts will result from the proposed redivision will not be realized because the fuel modification required for development on one or more of the adjacent lots would be much the same as that required for development of the 0.16-acre lot. As such, the Commission finds that the proposed redivision will not minimize impacts to ESHA or water quality, as required by Sections 30231 and 30240 of the Coastal Act.

There are alternatives to the proposed redivision. Obviously, the lot can be maintained in their existing configuration. Additionally, the potential impacts of developing the two lots in their existing configuration could be further reduced. As provided by the Commission in past permit decisions, the smaller lot (0.16-acre) could be combined with one or more adjacent vacant lots in order to increase the maximum GSA and construct one larger residence rather than several small homes. In this way, development would be clustered, vegetation removal reduced and the number of cars and traffic trips to the area kept to the minimum. Alternatively, the small lot could be retired in exchange for a larger development on a lot or multiple lots elsewhere in the small lot subdivision (the Commission has also approved retirement of lots for extra square footage in another small lot subdivision within the same watershed). Finally, the lot could be retired, in conjunction with two or more other small lots, as a TDC(s) to provide mitigation for a land division elsewhere in the Santa Monica Mountains. Therefore, the Commission finds that there are feasible alternatives to the proposed project that would not result in significant adverse effects on the environment and would be consistent with the Chapter 3 policies of the Coastal Act.

F. Visual Resources

Section 30251 of the Coastal Act requires that visual qualities of coastal areas shall be considered and protected and that, where feasible, degraded areas shall be enhanced and restored. In addition, in past Commission actions, the Commission has required new development to be sited and designed to protect public views from scenic highways, scenic coastal areas, and public parkland. Further, the Commission has also required structures to be designed and located so as to create an attractive appearance and harmonious relationship with the surrounding environment. As a result, in highly scenic areas and along scenic highways, new development (including buildings, fences, paved areas, signs, and landscaping) has been required to be sited and designed to protect views to and along the ocean and other scenic features, to minimize landform alteration, to be visually compatible with and subordinate to the character of the project setting, and to be sited so as not to significantly intrude into the skyline as seen from public viewing places. Additionally, in past actions, the Commission has also required new development to be sited to conform to the natural topography.

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 Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinated to the character of its setting.

The subject site is located on the west side of Corral Canyon Road, just north of the El Nido small-lot subdivision. Corral Canyon Road runs along the ridge between Corral Canyon and Dry Canyon in this area. The project site descends steeply from the west side of the road into Dry Canyon Creek and extends up the canyon slopes on the other side.

While no development of structures is proposed as part of the subject application, the proposed parcels would presumably be developed with residential uses. As described above, Stoney Heights LLC has submitted an application (4-04-028) for the development of a single-family residence on one of the reconfigured parcels proposed in the subject application. Additionally, the applicants have submitted draft plans for another house directly north of the house on the second lot that would be reconfigured and have identified potential development areas for each proposed parcel adjacent to Corral Canyon Road. The Commission concludes that if the reconfigured lots were

approved through this application, residential development would eventually be approved, with conditions to restrict development siting and design as well as to provide adequate mitigation of impacts, on each new lot. In order to evaluate the potential impacts of the proposed lot line adjustment, it is necessary to look at the impacts that are likely to result from the ultimate development of the proposed parcels.

Future residences on the parcels proposed to be created in the subject application will be visible from parkland owned by the Santa Monica Mountains Conservancy to the southeast of the site. There is a public trail within this parkland that extends along the west-facing slope of Corral Canyon. Any future structures, given their location on the ridge, will be visible from this trail. Additionally, there is a road extending north from Puerco Canyon Road from which future structures will be visible. While this road is not a dedicated trail, it is used extensively by the public for riding and hiking, particularly for mountain biking.

The structures proposed in Permit Application 4-04-028 and in draft plans submitted by the applicant for development on the proposed parcels would be two-story in height. Such structures would be visible across the Corral Canyon to the east, from parklands and trails. The effect of the proposed redivision would be allow for two residences rather than one to be sited on the ridge of Corral Canyon adjacent to the road. Development of two residences on the existing parcels would allow for one structure on the ridge and one in the canyon on the 0.16-acre lot. A second structure on this small lot would be much smaller in size and would not be visible from any public viewing area. The cumulative impact of two residences instead of one would not minimize impacts to visual resources. As such, the Commission finds that the proposed redivision will not minimize impacts to visual resources, as required by Section 30251 of the Coastal Act.

There are alternatives to the proposed redivision. Obviously, the lots can be maintained in their existing configuration. Only one residence would then be visible from parklands or trails. A home built on the existing 0.16-acre parcel would be located in the canyon and would not be visible from any public area. Additionally, the potential impacts of developing the two lots in their existing configuration could be further reduced. As provided by the Commission in past permit decisions, the smaller lot (0.16-acre) could be combined with one or more adjacent vacant lots in order to increase the maximum GSA and construct one larger residence rather than several small homes. In this way, development would be clustered, vegetation removal reduced and the number of cars and traffic trips to the area kept to the minimum. Alternatively, the small lot could be retired in exchange for a larger development on a lot or multiple lots elsewhere in the small lot subdivision (the Commission has also approved retirement of lots for extra square footage in another small lot subdivision within the same watershed). Therefore, the Commission finds that there are feasible alternatives to the proposed project that would not result in significant adverse effects on the environment and would be consistent with the Chapter 3 policies of the Coastal Act.

G. Unpermitted Development

Unpermitted development occurred on the subject parcel prior to submission of this permit amendment application including removal of vegetation and construction of a horse corral. The applicant has not proposed this development as part of this application. This development is not directly related to the proposed project. The applicant has proposed removal of all horse corral structures and restoration of the area in Application 4-04-028 that will be reviewed at the September Commission hearing. The Commission's enforcement division will evaluate further actions to address this matter.

Although construction has taken place prior to submission of this permit application, consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Review of this permit does not constitute a waiver of any legal action with regard to the alleged violation nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit.

H. Local Coastal Program

Section 30604(a) of the Coastal Act states:

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).

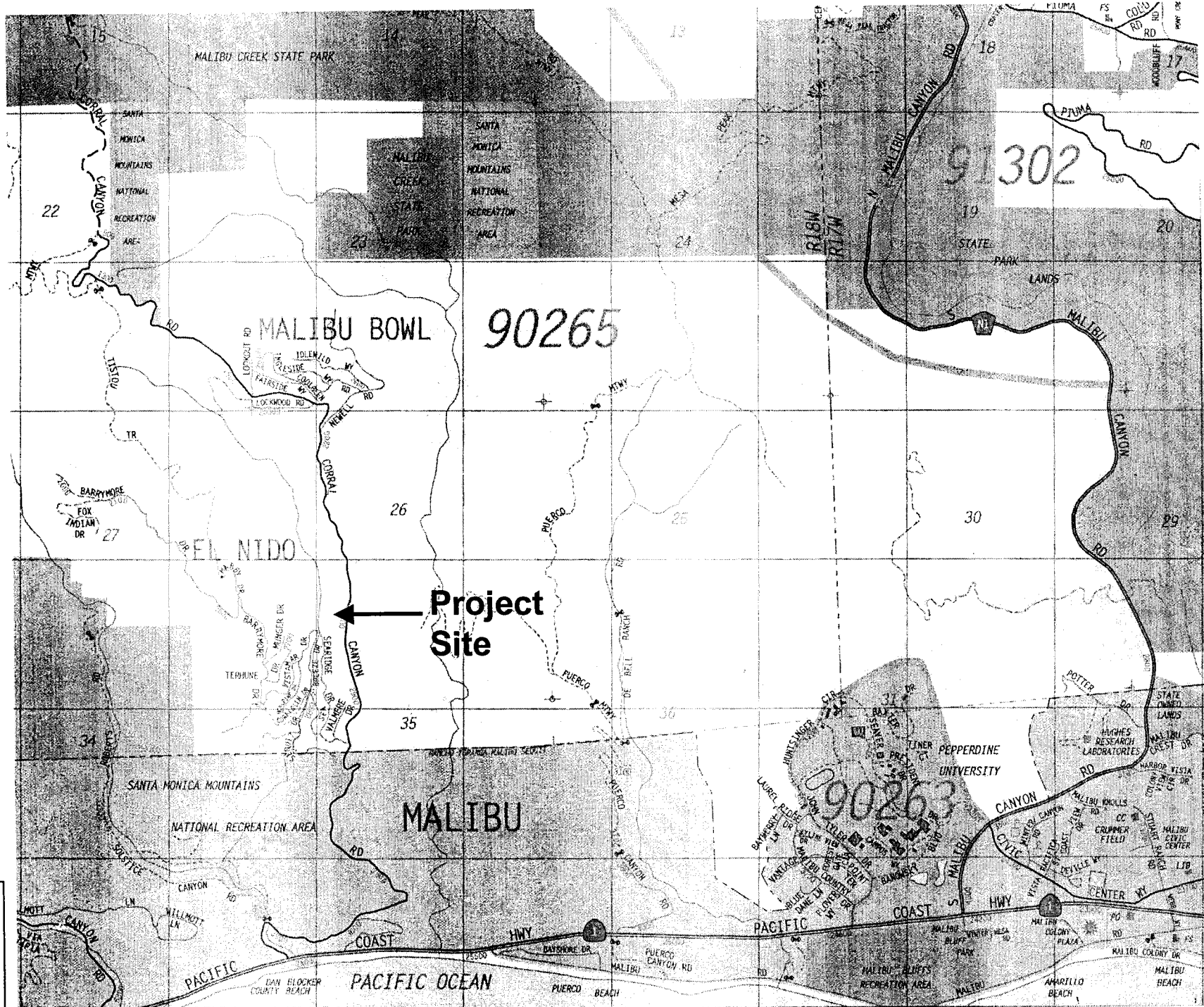
Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program, which conforms to Chapter 3 policies of the Coastal Act. The preceding sections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

I. 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 finds that the proposed project will have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project is determined to be inconsistent with CEQA and the policies of the Coastal Act.



Source: The Thomas Guide. Los Angeles County. Thomas Bros. Maps. 2001.

ZONING, A-2-5

VICINITY MAP
SCALE 1" = 1000'

ZONING

PARCEL 1: A-2-5
PARCEL 2: R-1-7500

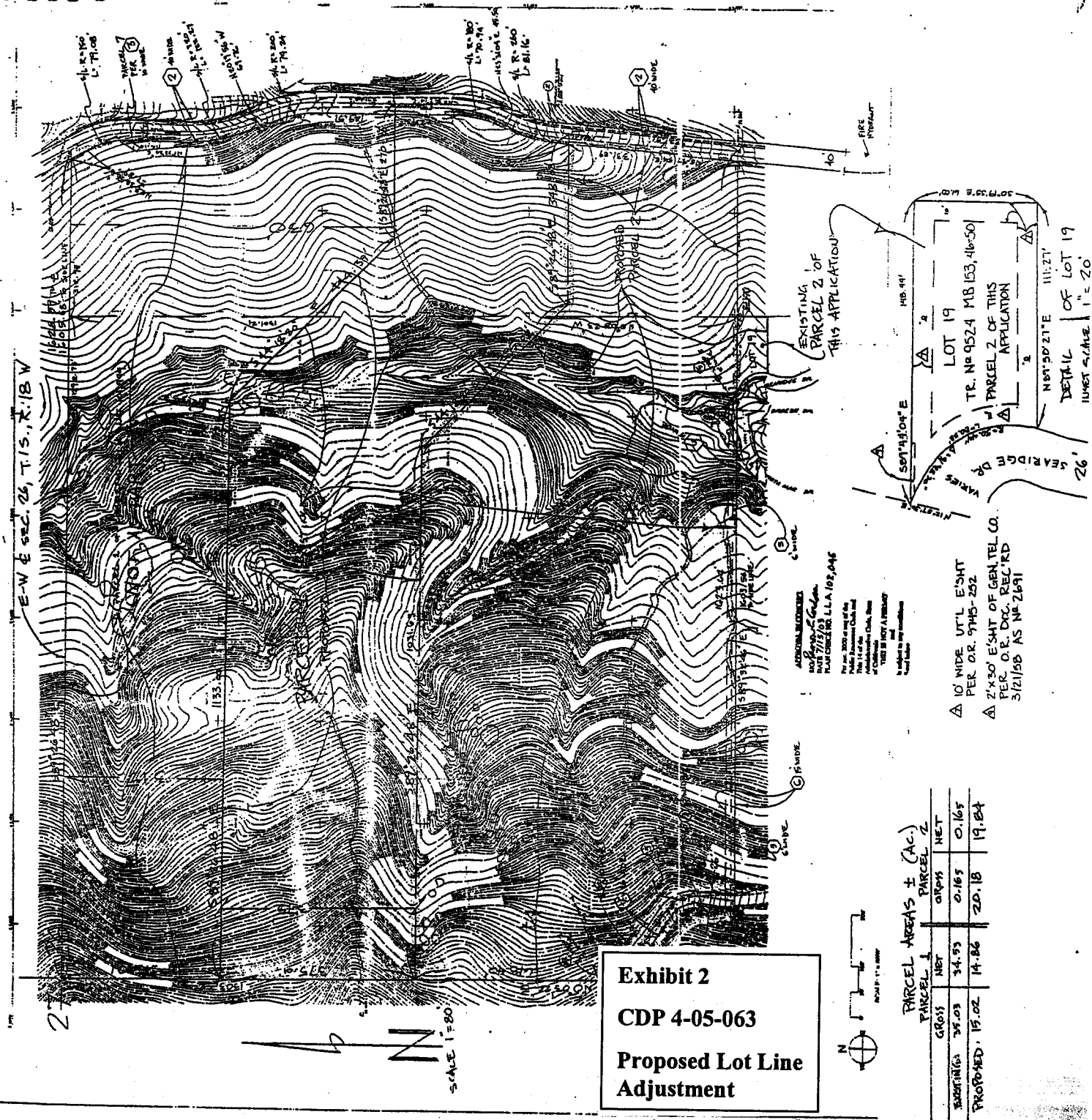
DERIVATIVE LOT LINE ADJUSTMENT MAP NO.
BEING A PORTION OF THE MAP 1/2, OF THE SOUTHWEST 1/4,
OF SECTION 26, T. 1 S., R. 18 W., S. 11 N.,
MILBURN, UNINCORP., LOS ANGELES COUNTY, CA

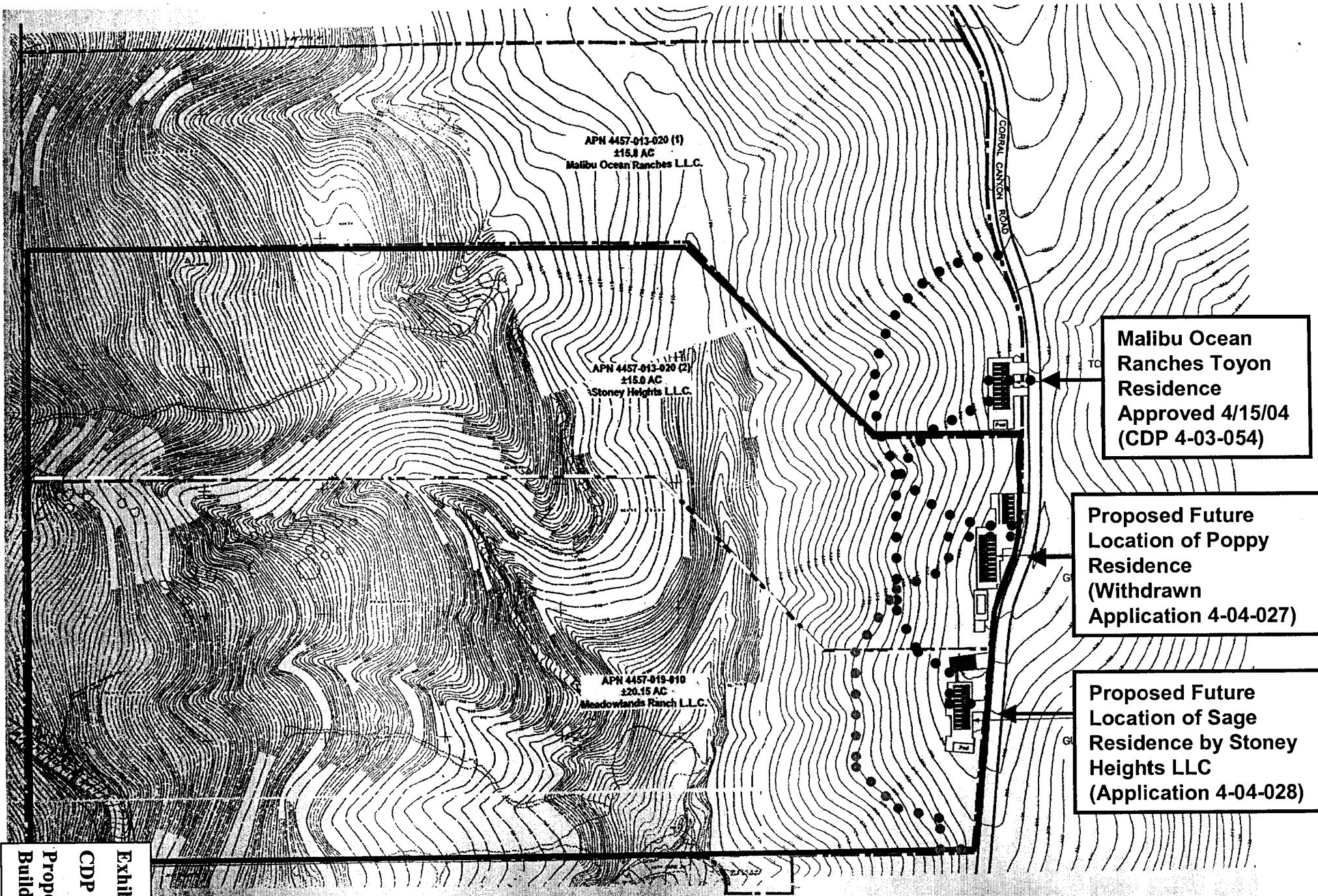
PREPARED IN OCT. 2002

BY: QUIROS SURVEYING
22299 PCM MALIBU CA 90265 310 456-8072

NOTES:
TOPOGRAPHY SHOWN IS FROM OTHERS OUTSIDE THIS OFFICE
WHILE ASKING FOR THE PURPOSE OF THIS MAP, FIELD
CHECK OF THIS TOWN WAS MADE IN OUTDOOR SETTING.
FUTURE RESSAS ARE CAUTIONED THAT SAID TOWN MAY NOT BE SUITABLE
FOR THE PURPOSES OF ARCHITECTURAL OR ENGINEERING DESIGN.
MEASUREMENTS SHOWN HEREON ARE BASED ON CA STATE PLANE COORD SYSTEM.

DATE: OCT. 7, 2002

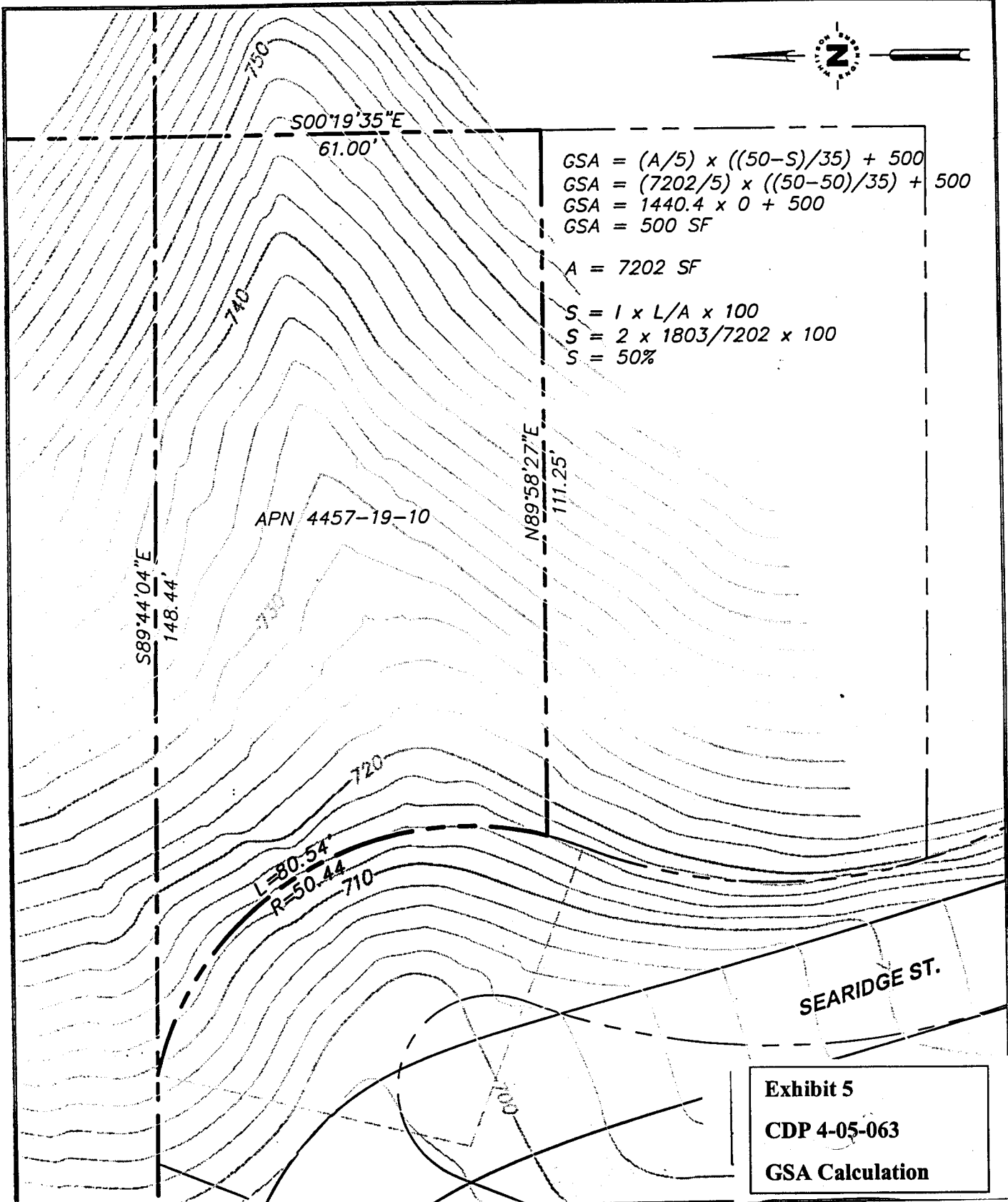
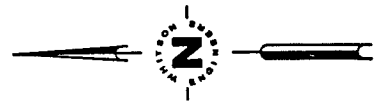




Source: bau10, LLC. Corral Canyon West Road Development. In Gold Coastal Geoservices "California Coastal Commission Review Letter for Application No. 4-03-086," 11/19/03.

- Current Lot Configuration
- - - -** Lot Line Adjustment Denied 8/13/04 (Application 4-03-086) and Proposed Again in Application 4-05-063
-** Required Fuel Modification Zone for Residential Structures

Exhibit 4
CDP 4-05-063
Proposed
Building Sites



$$\begin{aligned} \text{GSA} &= (A/5) \times ((50-S)/35) + 500 \\ \text{GSA} &= (7202/5) \times ((50-50)/35) + 500 \\ \text{GSA} &= 1440.4 \times 0 + 500 \\ \text{GSA} &= 500 \text{ SF} \end{aligned}$$

$$A = 7202 \text{ SF}$$

$$S = I \times L/A \times 100$$

$$S = 2 \times 1803/7202 \times 100$$

$$S = 50\%$$

APN 4457-19-10

SEARIDGE ST.

Exhibit 5
CDP 4-05-063
GSA Calculation



MONTEREY

CORRAL CANYON WEST

CALIFORNIA

GSA CALCULATIONS

DRAWING PATH: T:\DWG\1039\Corral Canyon\Corral West\CCC-calculations.dwg

DATE: OCT. 24, 2003 SHEET

SCALE: 1" = 20'

DRAWN: RPW

CHECKED: KMW

PROJECT No.: 1039.00

1

OF 1

Melissa Hetrick

From: Charles Santos [csantos@schmitzandassociates.net]
Sent: Friday, August 12, 2005 4:48 PM
To: Melissa Hetrick
Cc: Charles Santos; Don Schmitz; Matthew Jewett; Thomas Rainey
Subject: CDPs 4-05-063 & 4-04028 (Corral Canyon Road) - Fuel Modification Comparison Exhibit

Dear Melissa,

On July 7, 2005 our office submitted to the CCC revised fuel modification plans approved by the LA County Fire Department for the 2 proposed building sites (Poppy & Sage Residences) under CDP 4-05-063 as requested in your letter dated June 3, 2005 (see attached). As you know, 2 fire walls have been proposed and approved by the Fire Dept. for the Poppy and Sage Residences, which allow for a reduction in fuel modification. Attached, please find a fuel modification calculation exhibit which graphically compares the required fuel modification for development on the existing small lot and the proposed development off of Corral Canyon Road.

Development on the existing small lot and possible future development on 2 adjacent vacant lots would require 2.84 acres of fuel modification – the pink hatch mark excludes 3 possible future house pads and existing disturbed area. Development off of Corral Canyon Road would require 1.59 acres of fuel modification – the pink hatch mark excludes the proposed Poppy & Sage residence pads, existing disturbed areas, a section east of Corral Canyon Road not required for fuel mod per Fire Dept.*, and the approved Toyon Residence overlapping fuel modification per CDP 4-03-054.

*I recently conducted a site inspection with Fire Dept. Deputy Forester Keith Condon who advised that the existing fuel modification along the east side of Corral Canyon Road is acceptable and sufficient for the protection of the Toyon, Poppy & Sage residences. According to Mr. Condon, the Fire Dept. will not require any additional fuel modification outside the existing cleared area on the east side of Corral Canyon Road to the full 200 ft. extent. Pursuant to this assessment, the area east of Corral Canyon Rd. outside the existing cleared area has been excluded from the fuel modification calculation. Mr. Condon offered his phone number to answer any questions that staff may have regarding his site inspection:

Keith Condon
Deputy Forester
Fuel Modification Unit
605 N. Angelino Avenue
Azusa, Ca 91702
Ph: 626-969-5205

I received your voice message yesterday confirming that the Lot Line Adjustment (CDP 4-05-063) and the Sage Residence (CDP 4-04-028) will be heard concurrently at the September CCC hearing – thanks for the update. In addition, my associate Matthew Jewett will be submitting a full size color copy of the Fuel Mod Comparison Exhibit which is easier to read.

Thanks again for your time and assistance on this project and please feel free to contact me at (310) 589-0773 with any questions or comments.

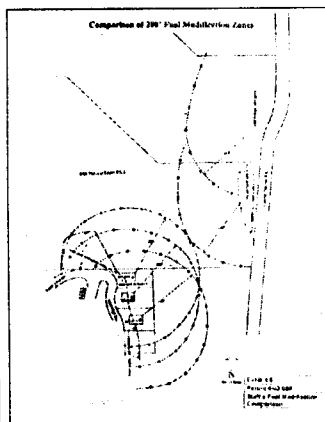
Sincerely,

Charles Santos

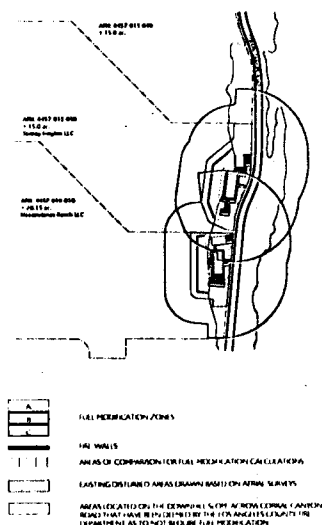
Exhibit 6a
CDP 4-05-063
Applicant's
Comments on
Fuel Modification

8/19/2005

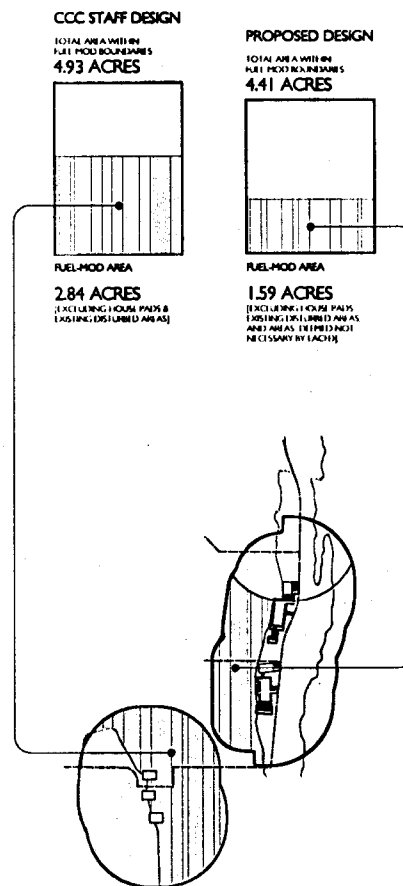
Exhibit 6b
CDP 4-05-063
Applicant's Comparison
of Fuel Modification



CCC STAFF FUEL-MOD RECOMMENDATION VERSUS
ORIGINAL PROPOSED FUEL-MOD PLANS WITHOUT
FIRE-WALLS
(THIS SHEET PREPARED BY CCC STAFF)



FINAL FIRE DEPARTMENT APPROVED FUEL-MOD
PLANS INCLUDING FIRE-WALLS



COMPARISON BETWEEN CCC DESIGN AND THE
LACFD APPROVED SAGE AND POPPY FUEL-MOD
PLANS

(AREAS ENCOMPASSED BY THE CCC APPROVED TOTAL FUEL MOD PLANS ARE
EXCLUDED)

PROJECT CORRAL CANYON LOT LINE ADJUSTMENT CDP: 4-05-063	
OWNER HEALTHY HAVEN RANCH, LLC 4001 GLENVIEW AVE., #10 SAN ANTONIO, TEXAS 78218 PHONE: (214) 822-1000 FAX: (214) 822-1001	
DESIGNER bau10, LLC 4001 GLENVIEW AVE., #10 SAN ANTONIO, TEXAS 78218 PHONE: (214) 822-1000 FAX: (214) 822-1001	
CONTRACT NO. 	
REVISIONS 	
DATE 	
SCALE 	
PROJECT TITLE 	
FUEL MODIFICATION COMPARISON 	
PROJECT NO. 	
NOT FOR CONSTRUCTION 	
SCALE 	
DATE 	
BY 	



August 15, 2005

Via Hand Delivery

RECEIVED

AUG 15 2005

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

California Coastal Commission
South Central Coast Area
89 South California St., 2nd Floor
Ventura, CA 93001

Attn: Ms. Melissa Hetrick, Coastal Program Analyst

**Re: Coastal Development Permit 4-05-063
Fuel Modification Slope Analysis Comparison**

Dear Ms. Hetrick:

On August 5, 2005 our office sent you a fuel modification comparison exhibit for CDP 4-05-063 via email (*Attachment 1*). To supplement this submittal, please find a full size copy of that exhibit enclosed (*Attachment 2*). In addition, please find enclosed a Fuel Modification Slope Analysis Exhibit for slopes over 50% (*Attachment 3*) and slopes over 40% (*Attachment 4*).

Section P150 of the Los Angeles County/Malibu LUP states that:

"Grading and/or development-related vegetation clearance shall be prohibited where the slope exceeds 2:1, except that driveways and/or utilities may be located on such slopes where there is no less environmentally damaging feasible alternative means of providing access to home sites located on slopes of less than 50%, where no alternative home sites exist on the property, and where maximum feasible mitigation measures are taken." (Emphasis added)

The subject parcels are located within unincorporated Los Angeles County and are under the jurisdiction of the Los Angeles County/Malibu LUP. Policy 150 prohibits development on slopes greater than 50% except where no alternative home sites exist on the property. As demonstrated in the enclosed exhibit (*Attachment 3*), fuel modification for the existing small lot would require 82,100 sq. ft. of development-related vegetation clearance on slopes greater than 50%. The proposed Lot Line Adjustment would establish an alternative home site on the property that would minimize development-related vegetation clearance on slopes greater than 50% by locating the proposed building site in a relatively flat location. Only 46,500 sq. ft. of brush clearance would be required for the proposed building site on slopes greater than 50%, reducing vegetation clearance by 35,600 sq. ft. The proposed Lot Line Adjustment is in greater conformity with the Los Angeles County/Malibu LUP than the existing parcel configuration because

Exhibit 6c

CDP 4-05-063

Applicant's Comments
on Slope Intensity

feasible mitigation measure to reduce development-related vegetation clearance on slopes greater than 50%.

Section 4.8 of the City of Malibu LCP Land Use Plan, which was adopted by the California Coastal Commission (CCC) on September 13, 2002, states that:

"Grading and/or development-related vegetation clearance shall be prohibited where the slope exceeds 40 percent (2.5:1), except that driveways and/or utilities may be located on such slopes, where there is no less environmentally damaging feasible alternative means of providing access to a building site, provided that the building site is determined to be the preferred alternative and consistent with all other policies of the LCP." (Emphasis added)

Although the subject parcels are located within Los Angeles County, the Malibu LCP may be used for comparison purposes. The Malibu LCP prohibits grading and/or development-related vegetation clearance on slopes greater than 40% except where there is no less environmentally damaging feasible alternative. As demonstrated in the enclosed exhibit (Attachment 4), fuel modification for the existing small lot would require 99,400 sq. ft. of development-related vegetation clearance on slopes greater than 40%. The proposed Lot Line Adjustment would establish an alternative building site on the property that would minimize development-related vegetation clearance on slopes greater than 40% by locating the proposed building site in a relatively flat location. Only 61,200 sq. ft. of brush clearance would be required for the proposed building site on slopes greater than 40%, reducing vegetation clearance by 38,200 sq. ft. The proposed Lot Line Adjustment is in greater conformity with the CCC certified Malibu LCP than the existing parcel configuration because it offers a less environmentally damaging feasible alternative to reduce development-related vegetation clearance on slopes greater than 40%.

In addition to minimizing vegetation clearance, the proposed Lot Line Adjustment would also minimize grading on slopes greater than 40-50% because the proposed building site is located on much flatter terrain than the existing parcel configuration would allow. As demonstrated in the enclosed exhibits, the majority of the existing parcel contains slopes greater than 40%, while the proposed Lot Line Adjustment would allow for an alternative building site located on a much flatter portion of the parcel adjacent to Corral Canyon Rd.

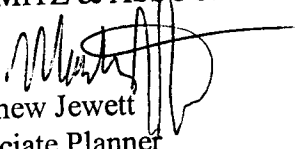
Please note that my associate Charles Santos recently conducted a site inspection with Fire Dept. Deputy Forester Keith Condon who advised that the existing fuel modification along the east side of Corral Canyon Road is acceptable and sufficient for the protection of the Toyon, Poppy & Sage residences. According to Mr. Condon, the Fire Dept. will not require any additional fuel modification outside the existing cleared area on the east side of Corral Canyon Road to the full 200 ft. extent. Pursuant to this assessment, the area east of Corral Canyon Rd. outside the existing cleared area has been excluded from the Fuel Modification Slope Analysis calculations. Mr. Condon has

offered his phone number to answer any questions that staff may have regarding his site inspection:

Keith Condon
Deputy Forester
Fuel Modification unit
605 N Angelino Avenue
Azusa, CA 91702
Ph: (626) 969-5205

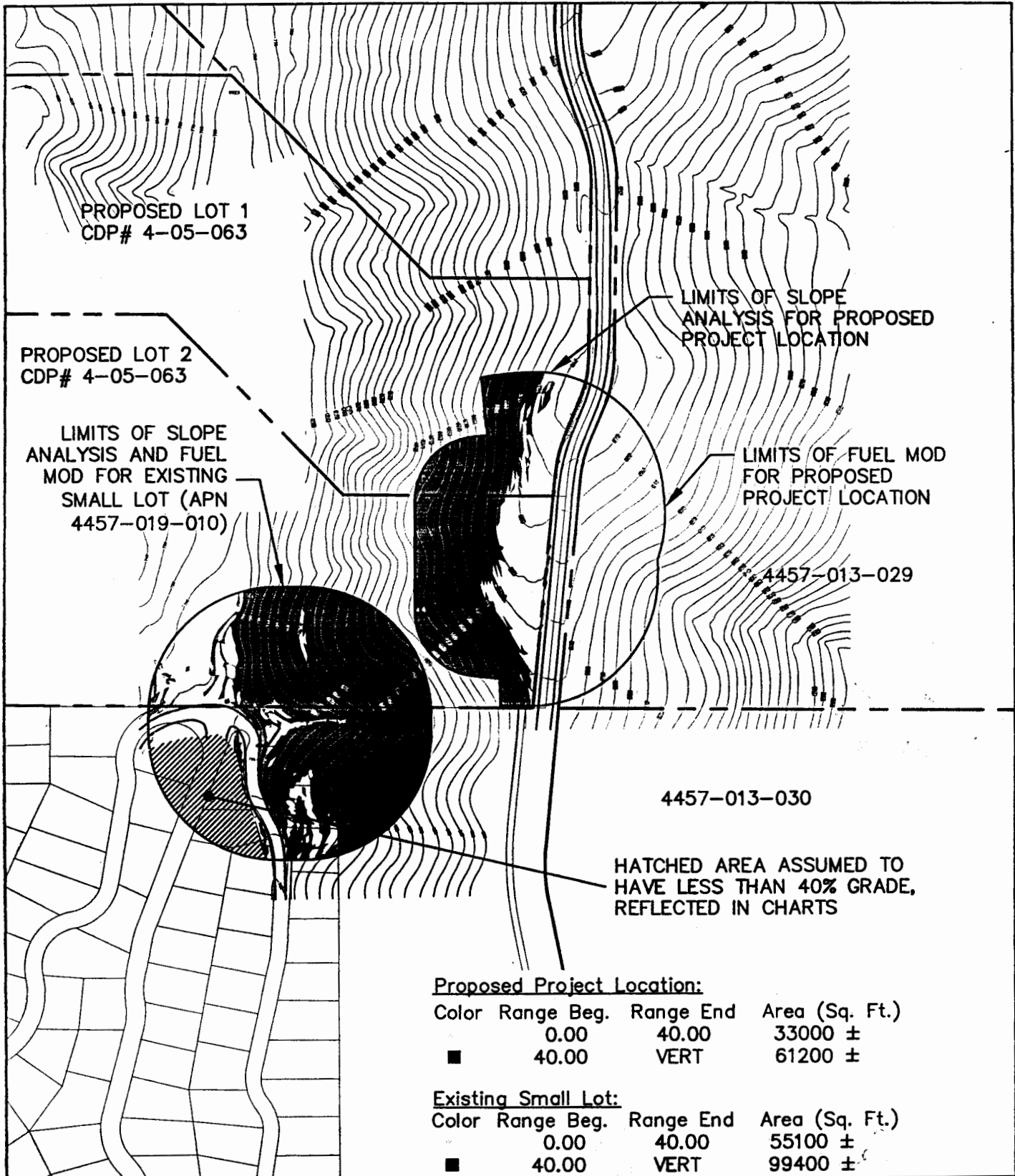
Thank you for your time and consideration regarding this matter. If you have any questions or comments, please feel free to contact me at (310) 589-0773

Sincerely,
SCHMITZ & ASSOCIATES, Inc.



Matthew Jewett
Associate Planner

cc: Stoney Heights, LLC
Meadowlands Ranch, LLC



Proposed Project Location:

Color	Range Beg.	Range End	Area (Sq. Ft.)
■	0.00	40.00	33000 ±
■	40.00	VERT	61200 ±

Existing Small Lot:

Color	Range Beg.	Range End	Area (Sq. Ft.)
■	0.00	40.00	55100 ±
■	40.00	VERT	99400 ±



CORRAL CANYON WEST

LOS ANGELES COUNTY

CALIFORNIA

FUEL MOD SLOPE ANALYSIS - 40 PERCENT

DRAWING PATH: CCW Fuel Mod Slope Analysis 40 percent.dwg

DATE: AUG. 9 2005 SHEET

SCALE

DRAW

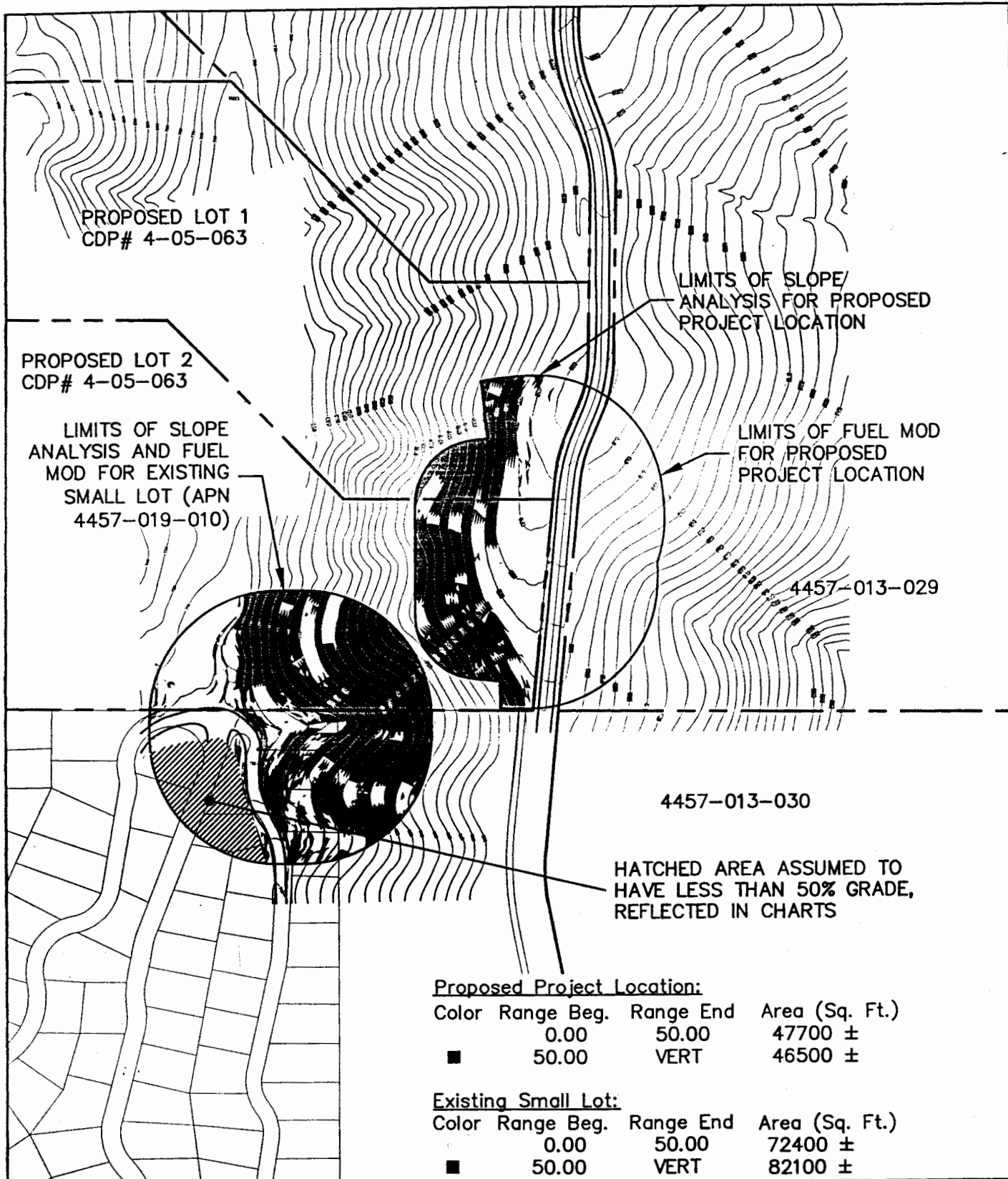
CHEC

PROJ

Exhibit 6d

CDP 4-05-063

**Applicant's Comparison
of Slope Intensity**



CORRAL CANYON WEST

LOS ANGELES COUNTY

CALIFORNIA

FUEL MOD SLOPE ANALYSIS - 50 PERCENT

DRAWING PATH: CCW Fuel Mod Slope Analysis 50 percent.dwg

DATE: AUG. 9 2005 SHEET

SCA

DRA

CHE

PRC

Exhibit 6e

CDP 4-05-063

Applicant's Comparison
of Slope Intensity



Provider of Land Use Planning
for a Better Community

August 25, 2005

Via Hand Delivery

RECEIVED

AUG 25 2005

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

California Coastal Commission
South Central Coast Area
89 South California St., 2nd Floor
Ventura, CA 93001

Attn: Mr. Jack Ainsworth, South Central Coast Deputy Director
Mr. Steve Hudson, Supervisor of Permits and Regulations

Re: **Proposed Lot Line Adjustment, CDP 4-05-063 (Stoney Heights, LLC &
Meadowlands Ranch, LLC);
Additional Information**

Dear Mr. Ainsworth and Mr. Hudson:

In follow up to your meeting with Don Schmitz of Schmitz & Associates, Inc. on August 23, 2005 regarding CDP 4-05-063, please find attached a copy of the exhibits discussed during the meeting. The exhibits include 1) GSA Exhibit Map for the lots located to the south of the 7,202 sq. ft. lot, and 2) a revised fuel modification comparison exhibit that includes the revisions discussed in your meeting with Mr. Schmitz.

As you are aware, Coastal Commission (CCC) Staff has previously argued that the proposed Lot Line Adjustment would require a greater amount of additional fuel modification than the existing lot configuration. This finding is predicated on an assumption that the vacant parcels to the south of the existing 7,202 sq. ft. lot will be developed at some point in the future. Page 18 of the Staff Report for the original Lot Line Adjustment proposal (CDP Application No. 4-03-086) states that:

"It is true that the area identified for potential fuel modification around a home on the 7,202 sq. ft. parcel is more than would be required for the reconfigured parcels given the overlap of fuel modification zones that would result from creating two development areas adjacent to each other. However... There are three lots adjacent to the 7,202 sq. ft. lot to the south on Searidge Road... All three lots are held in the same ownership. It is reasonable to assume that at least one residence will be proposed on these lots in the future (lots could be combined for the construction of one larger home under the GSA provisions). In that case, there would be a substantial overlap of fuel modification areas, significantly reducing the amount of vegetation removal necessary for a residence on the 7,202 sq. ft. parcel. Furthermore, given the fact that the three adjacent vacant lots

Exhibit 6f

CDP 4-05-063

Applicant's 8/25/05
Comments and Exhibits
(7 pages)

could be developed with one or more residences, the reduction in impacts to ESHA that the applicant asserts will result from the proposed redivision will not be realized because the fuel modification resulting from the development of one or more of the adjacent lots would be much the same as that required for development of the 7,202 sq. ft. lot that is part of the subject application.

(Emphasis Added)

The Staff Report states that "it is reasonable to assume that at least one residence will be proposed on these [adjacent] lots in the future." However, the Staff Report does not fully discuss the location of the assumed future development. In order to accurately determine the potential "ESHA" impacts that may result from development on the 7,202 sq. ft. lot, it is useful to determine the most appropriate location for a potential residence on the adjacent parcels.

GSA/Slope Analysis

Based upon the Los Angeles County/Malibu LUP, Whitson Engineers has calculated the GSA (Gross Structural Area) for the three adjacent lots (**Attachment 1**). According to GSA provisions, the largest residence that could be constructed on each of the adjacent parcels is 500 sq. ft. Therefore, if one house were built upon the three contiguous parcels, the maximum allowable area for the residence would grow to 1,500 sq. ft.

The slope analysis exhibits previously submitted to the CCC on August 15, 2005 clearly demonstrate that the adjacent parcels are characterized by extremely steep slopes, which are frequently greater than 50%, especially in the northernmost parcel. Building on any of these lots would require significant amounts of grading and landform alteration as well as extensive drainage devices across the hillside to prevent additional erosion. However, as demonstrated in the GSA Exhibit Map (**Attachment 1**), there is a relatively flat area located in the center of the middle lot that offers the most suitable location for a potential residence.

The GSA Exhibit Map delineates a 1,500 sq. ft. residence in conjunction with a 500 sq. ft. garage, which is not subject to GSA provisions. The residence is located on the flattest portion of the three parcels to minimize grading and landform alteration. After taking a closer look at the intervening topography of the adjacent lots, it is clear that Exhibit 5 of the previous Staff Report (**Attachment 2**) presents an unlikely scenario due to the extremely steep slopes located to the north. Alternatively, the GSA Exhibit Map and the accompanying Fuel Modification Comparison Exhibit (**Attachment 3**) present a far more likely development scenario further demonstrating that the proposed Lot Line Adjustment would effectively reduce additional fuel modification and minimize potential impacts to the surrounding habitat.

Fuel Modification Analysis

Pursuant to Staff's request, the revised Fuel Modification Comparison exhibit incorporates fuel modification required for the existing "Pace" residence situated to the west of the 7,202 sq. ft. lot. In addition, the revised Fuel Modification Comparison Exhibit provides a few points of correction and clarification regarding the "corral area" located on the existing 34.5 acre lot (APN 4457-013-020). According to a 2004 aerial, it appears that exhibit 5 of the original Staff Report (referenced above) does not accurately depict the precise size and location of the corral area. The revised exhibit, which is based upon the aerial photograph, more accurately depicts the corral area, and the calculations have been adjusted accordingly.

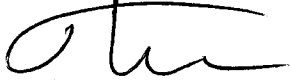
In addition, the corral area is not excluded from the fuel modification calculations because Staff has indicated that approval of CDP 4-04-028 (Proposed Single-Family Residence) will require a Revegetation/Restoration plan for the corral area. Thus, if the corral area is revegetated, it will not be considered disturbed in the future, and the additional fuel modification required for the 7,202 sq. ft. lot would consequently disturb this revegetated area.

Finally, the revised Fuel Modification Comparison exhibit considers the distinction between fuel modification zones A/B and zone C. As you know, the Los Angeles County Fire Department typically requires A/B fuel modification zones to extend up to 100 ft. from the residence. This area involves intensive vegetation clearance and irrigation whereas zone C requires only selective thinning of the natural vegetation. Given the differing requirements for zone A/B fuel modification and zone C fuel modification, it is important to demonstrate this distinction when comparing potential habitat impacts from fuel modification. The revised Fuel Modification Comparison exhibit delineates the new fuel modification required for development on the 7,202 sq. ft. lot and the new fuel modification required for development of the proposed Sage Residence (after the Lot Line Adjustment). The exhibit also delineates the "intensified" A/B fuel modification zones that would be required in an area that would otherwise be designated as zone C for the adjacent development(s).

Based upon the above revisions, the new and intensified (total/additional) fuel modification that would be required for development on the existing 7,202 sq. ft. parcel is 1.14 acres. The additional fuel modification that would be required for the proposed building site pursuant to the proposed Lot Line Adjustment is 0.98 acres. Therefore, the proposed Lot Line Adjustment would appropriately relocate the building site and reduce additional fuel modification by 0.16 acres (or 6,970 sq. ft.) thereby effectively minimizing potential impacts to the surrounding habitat as mandated by Section 30240 of the California Coastal Act.

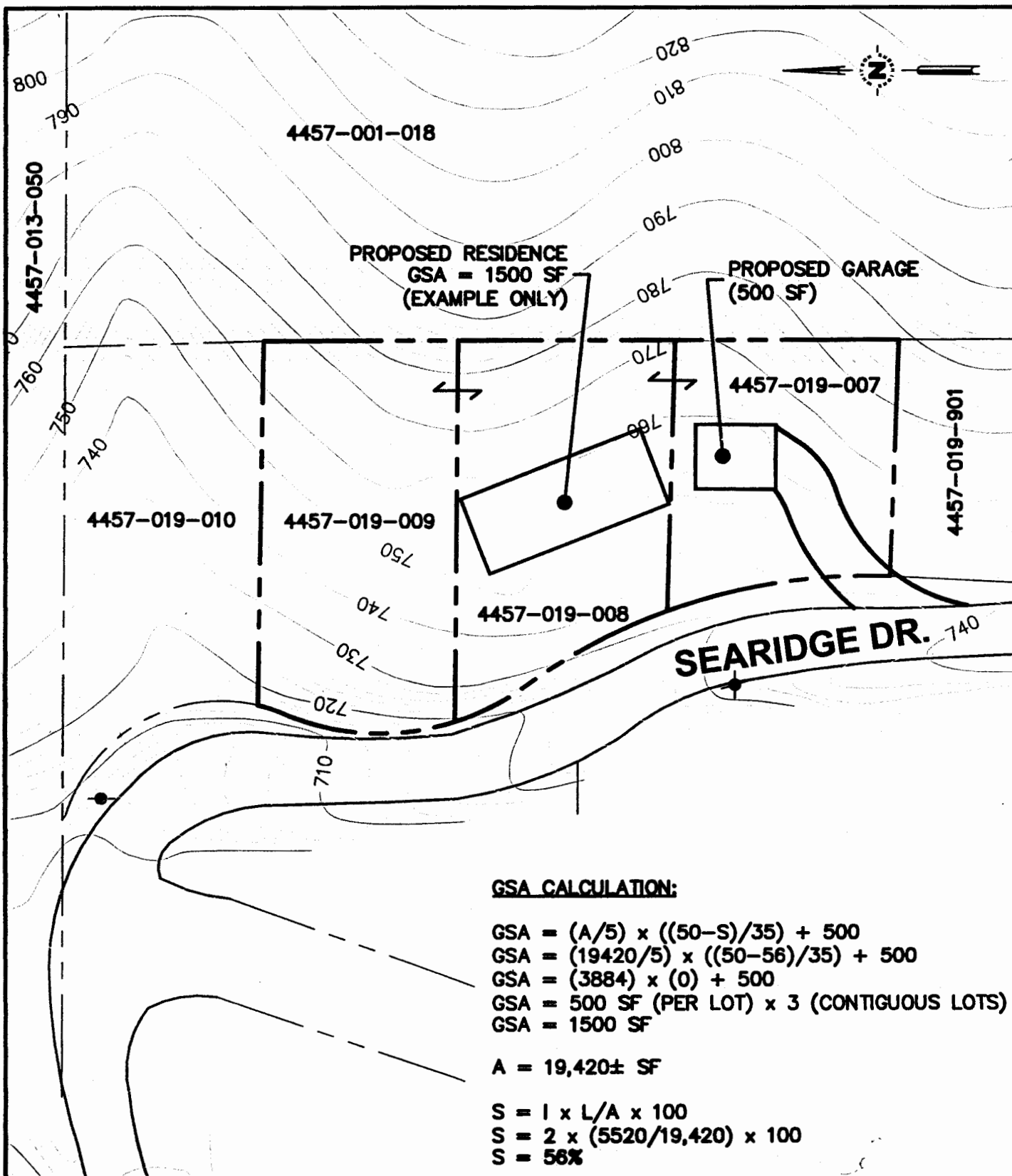
Thank you very much for your time and careful consideration of this application. We hope that the above and enclosed will address your concerns and enable Staff to offer a recommendation of approval. If you have any other questions or require further information, please feel free to contact our office at (310) 589-0773.

Sincerely,
SCHMITZ & ASSOCIATES, Inc.



Thomas Rainey
Project Team Manager

cc: Melissa Hetrick, Coastal Program Analyst
Stoney Heights, LLC
Meadowlands Ranch, LLC



CORRAL CANYON WEST

LOS ANGELES COUNTY

CALIFORNIA

GSA EXHIBIT MAP

DRAWING PATH: GSA study-3 lots to South.dwg

DATE: 8/22/05

SCALE: 1" = 40'

DRAWN: B.H.

CHECKED: M.S.

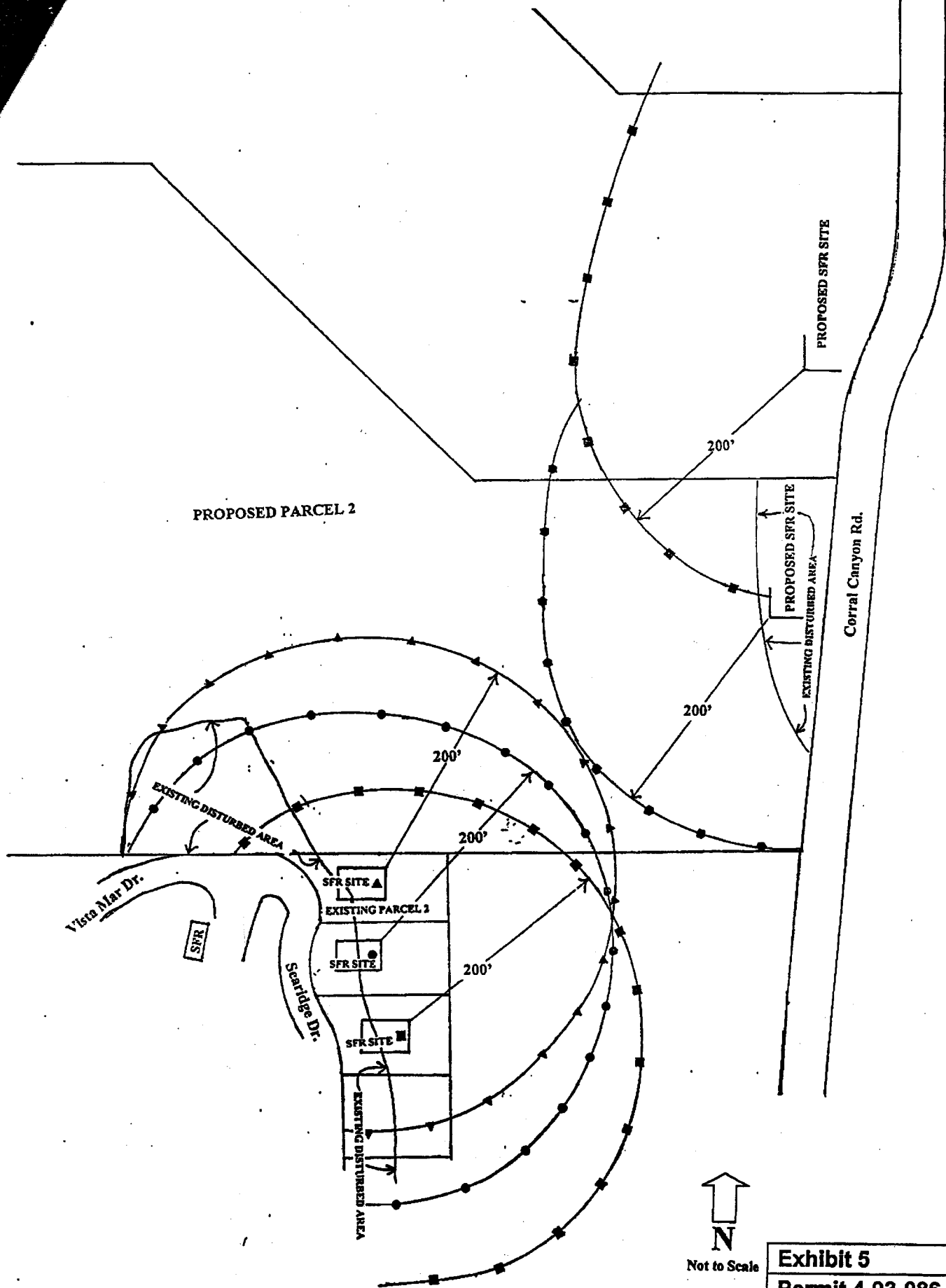
PROJECT #: 1039.00

SHEET

1

OF 1

Comparison of 200' Fuel Modification Zones



Not to Scale

Exhibit 5
Permit 4-03-086
Staff's Fuel Modification Comparison

CURRENT PARCEL CONFIGURATION

PROPOSED PARCEL CONFIGURATION

NEW FUEL MOD is occurring on previously undisturbed land

INTENSIFIED FUEL MOD is zone A and B fuel mod occurring on areas that are also zone C fuel-mod areas for other residences

COMPARISON BASED ON GSA CALCULATIONS, SLOPE ASPECT, AND PACE HOUSE FUEL-MOD

NEW FUEL-MOD: 0.72 AC.

INTENSIFIED FUEL-MOD: 0.42 AC.

TOTAL FUEL-MOD: 1.14 AC.

PROPOSED SAGE RESIDENCE LOCATION AFTER LOT-LINE ADJUSTMENT

NEW FUEL-MOD: 0.89 AC.

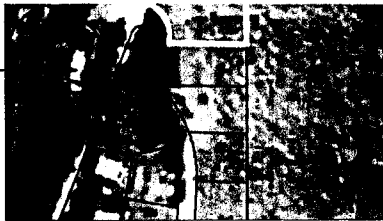
INTENSIFIED FUEL-MOD: 0.09 AC.

TOTAL FUEL-MOD: 0.98 AC.

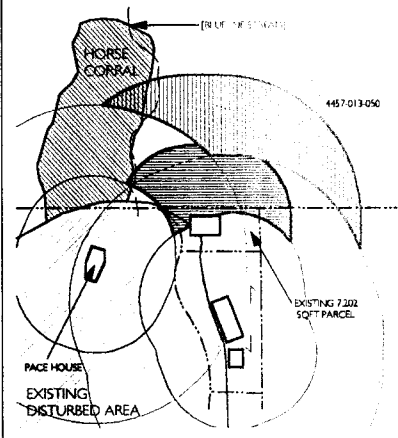
HORSE CORRAL



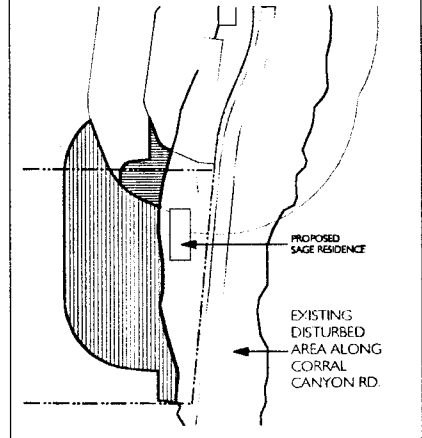
PACE HOUSE



[aerial photo from Whitson Engineers]



[The slopes on parcels 4457-019-007 & 4457-019-009 face West-Northwest; the slope on 4457-019-008 faces West-Southwest]



prepared by:

bau10, LLC

4051 GLENCOE AVE., #12
MARINA DEL REY, CA 90292
PHONE: (310) 822 8800
FAX: (310) 822 8838

AUGUST 24, 2008

CORRAL CANYON WEST LOT LINE ADJUSTMENT
CDP 04-05-063

FUEL-MODIFICATION COMPARISONS



County Of Los Angeles
Fire Department

RECEIVED

AUG 04 2004

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

RECEIVED

Date: June 10, 2004

JUL 22 2004

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

To: Meadowlands Ranch, LLC
c/o Schmitz & Associates, Inc.

From: Cptn. Dennis Cusino

Subject: Proposed Lot Line Adjustment (CDP No. 4-03-086)

Dear Meadowlands Ranch, LLC:

At your request, this letter is provided to document the local Fire Station's support of your proposed development. On December 24, 2002, the Los Angeles County Fire Department reviewed your proposed residential development (Lot 2) in connection with the above-captioned proposed lot line adjustment. The proposed development was found to be feasible in concept and consistent with the LA County Fire Code (Title 32). Coastal Commission approval was consequently granted. Stoney Heights, LLC's proposed residential development (Lot 1) was also reviewed and approved for Coastal Commission purposes by the Fire Department on December 24, 2002.

Existing Lot 1 is accessed directly off of Corral Canyon Road, thus promoting safe and direct emergency access to effectively protect a residence on this lot against fire hazards. Existing Lot 2, however, is located in the crowded and overburdened El Nido small lot subdivision, at the end of Searidge Drive and more than 1,500 feet from the El Nido entrance off of Corral Canyon Road. The roads in the El Nido community are narrow, steep and curvy, thus restricting emergency vehicular access, mobility and staging areas. Alternatively, Corral Canyon Road is currently 40 feet wide and, as it does for Lot 1, promotes safe and direct emergency access for proposed Lot 2. After the lot line adjustment, the Lot 2 building site will therefore be significantly improved with respect to emergency access and fire safety. The relocated building site will also reduce the amount of future development in the already highly developed El Nido subdivision, thus reducing the potential for greater property loss and fatalities from fires in this area.

For public safety and emergency access purposes, therefore, we are in support of the lot line adjustment to accommodate a house next to Corral Canyon Road as opposed to the bottom of El Nido.

Sincerely,

Dennis Cusino

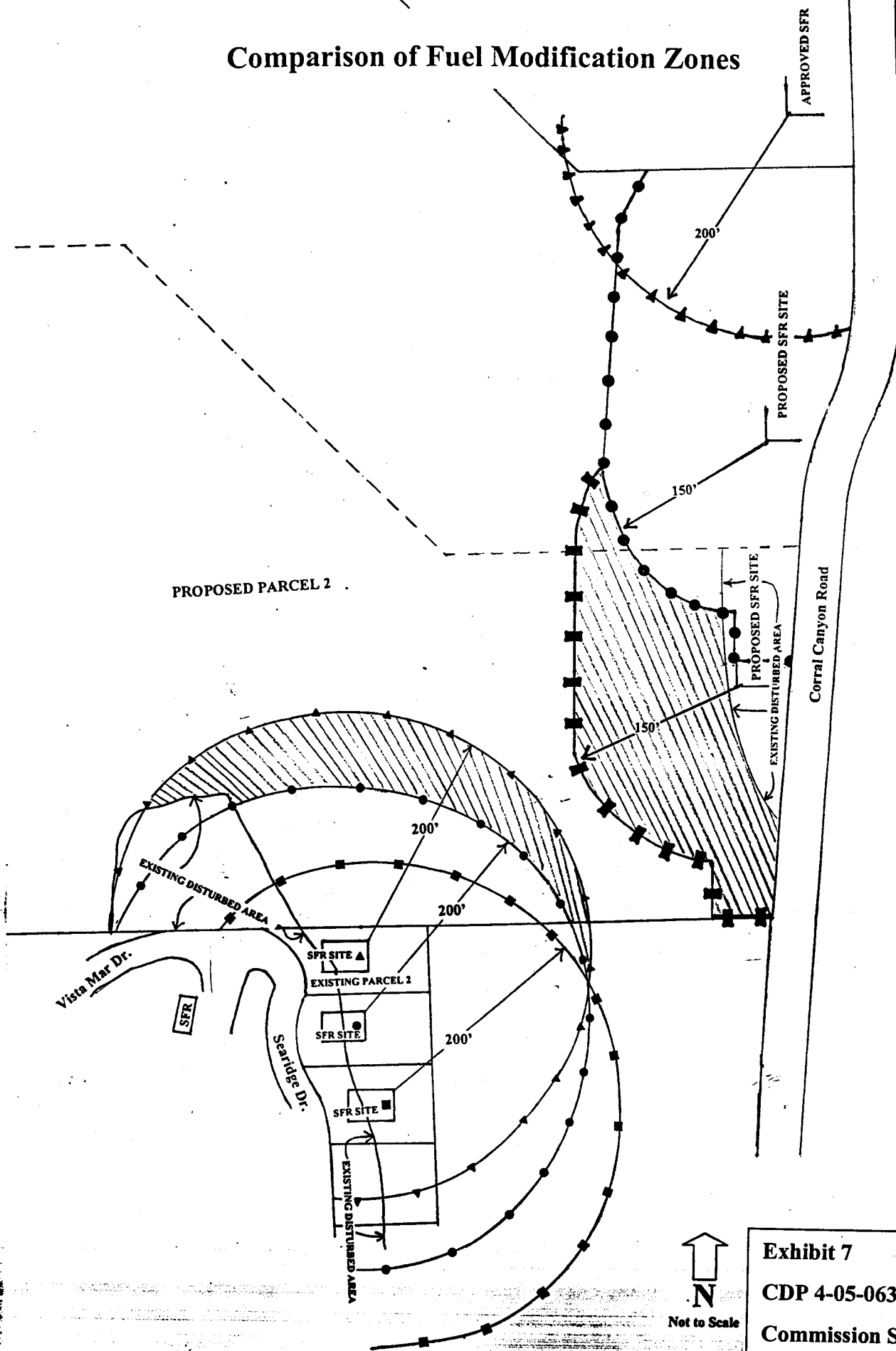
Captain Dennis Cusino
LA County Fire Department, Fire Station 71

Exhibit 6g

CDP 4-05-063

Fire Department Letter

Comparison of Fuel Modification Zones



Not to Scale

Exhibit 7

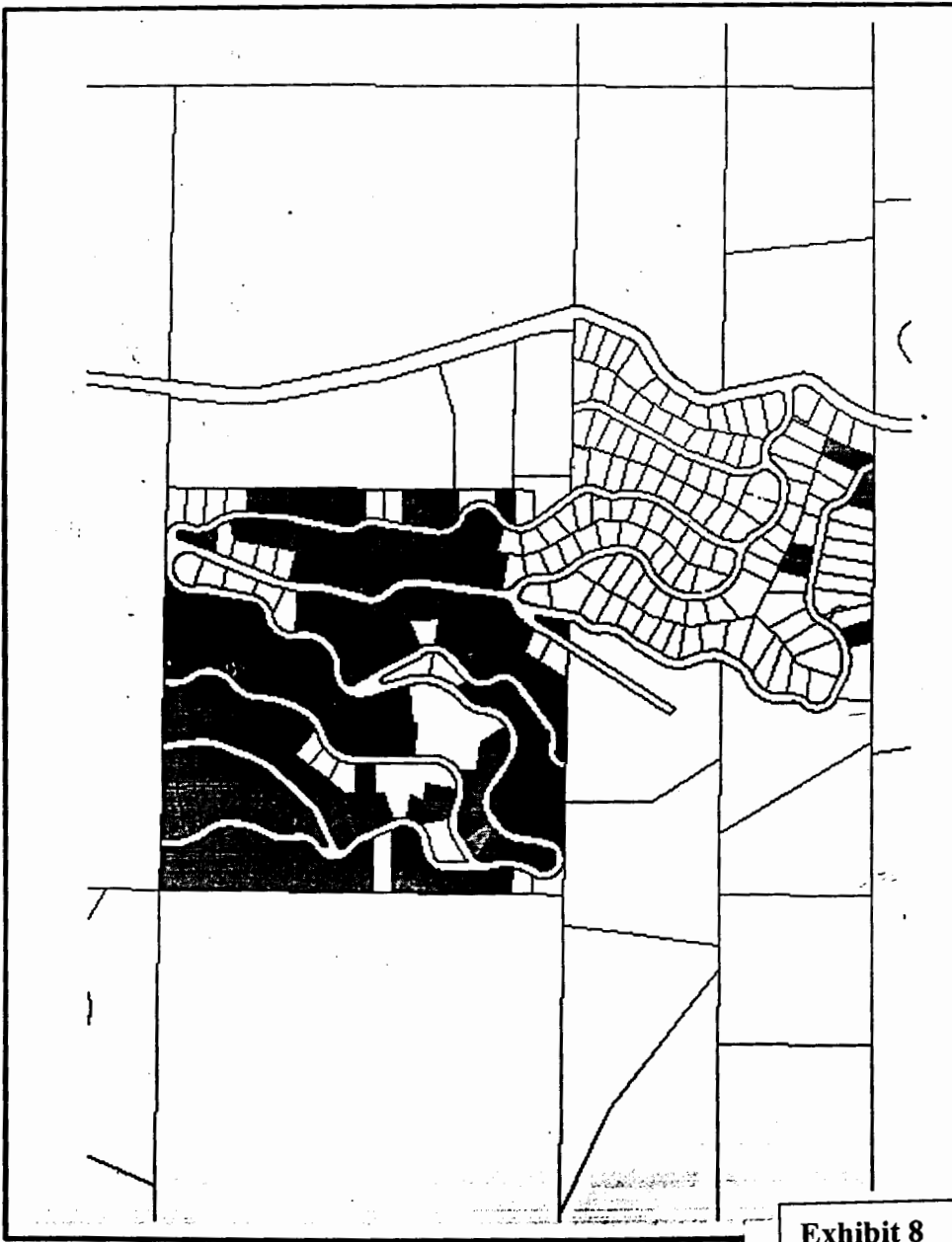
CDP 4-05-063

Commission Staff's
Comparison of Fuel
Modification

ESRI ArcExplorer 2.0

El Nido Small Lot Subdivision

laprcls
tdcs (RETIRED)
Recombined
Retired



Tuesday, May 18 2004

Exhibit 8
CDP 4-05-063
Retired Lots

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 9

CDP 4-05-063

ESHA Findings

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. Soric 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. Bosséma, 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. Sorice 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, Branton'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.

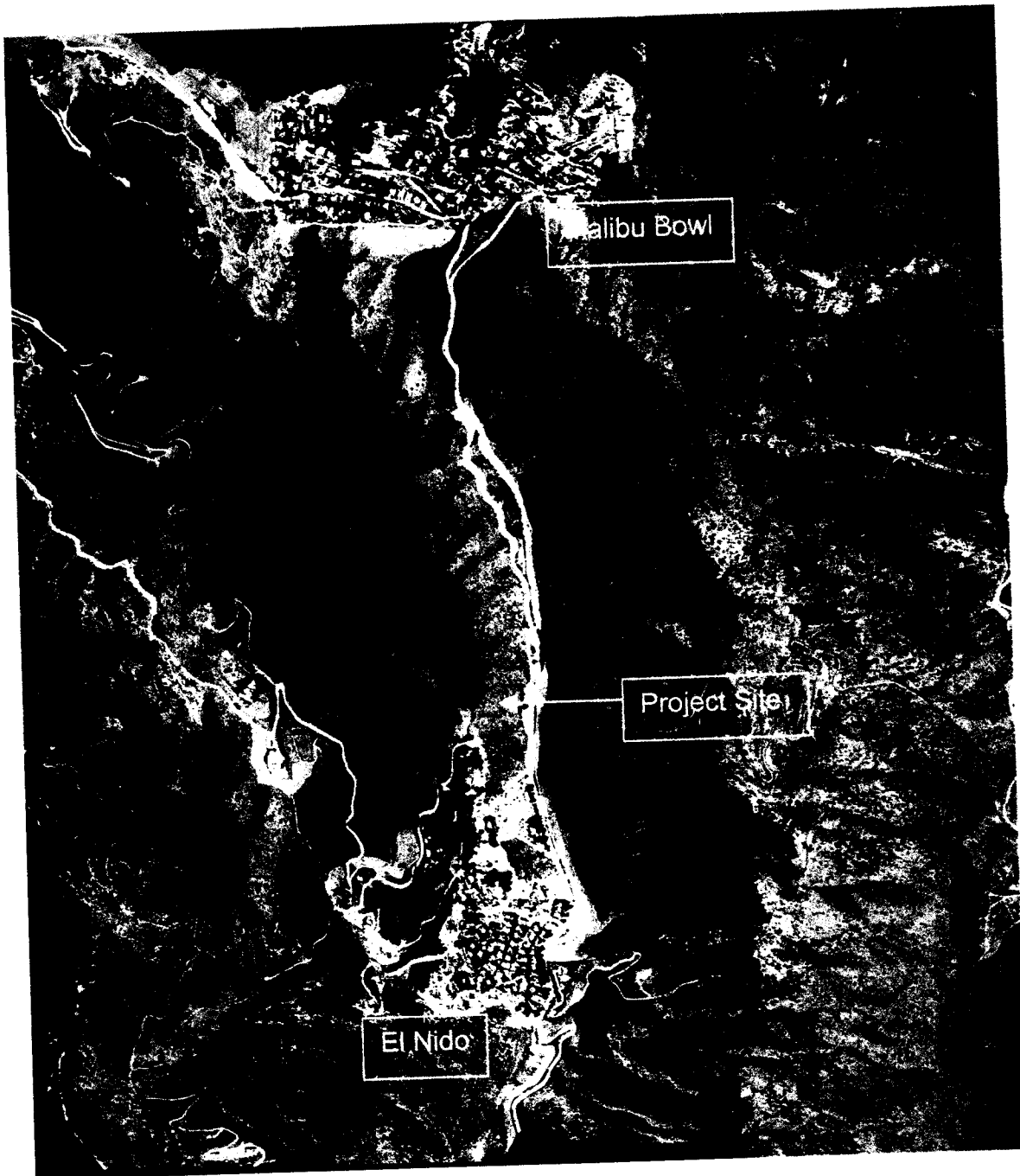
The importance the native habitats in the Santa Monica Mountains was emphasized nearly 20 years ago by the California Department of Fish and Game¹⁰³. Commenting on a Draft Land Use Plan for the City of Malibu, the Regional Manager wrote that, "It is essential that large areas of land be reclassified 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.



Source: Dept. of Water Resources June 2001

Exhibit 10
CDP 4-05-063
2001 Aerial
Photo of Site

Existing 34.5-acre lot

Existing 7,202 sq. ft. lot



Dry Canyon Creek



Horse Corral

Existing 34.5-acre parcel as seen from Searidge Drive

