



**BIOLOGICAL ASSESSMENT  
BUILDING SITES AT  
GOREN-LIVE OAK SITE, LOTS 6, 7 & 8  
THE OAKS AT TRABUCO, ORANGE COUNTY**

UTM: 11-S: 444,500 mE; 3,726,000 mN

Prepared for

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9 September 2021

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Certified Wetland Delineator #1697

9 September 2021

PSBS # W567

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**SUMMARY**

A biological survey of three development sites on parcels 6, 7, & 8 along Summit Trail Road at The Oaks at Trabuco, Goren property off Live Oak Canyon Road revealed a diverse mix of Oak Woodland and Scrub Oak on north-facing slopes with Sage Scrub dominated by Cismontane Nolina, Mixed Chaparral and Coastal Sagebrush. Seven sensitive animals were noted on region of the site in prior site assessments: Turkey Vulture, Coopers Hawk, Red-shouldered Hawk, Red-tailed Hawk, Coastal Cactus Wren, Coastal Rufous-crowned Sparrow, and Mule Deer.

**INTRODUCTION**

A biological survey of the three building sites was performed by Pacific Southwest Biological Services, Inc., (Pacific Southwest) at the request of Mr. Bruce Goren and Gilbert Leach of Goren Financial Services, Inc., Orange County, California. The purpose of the survey was to identify sensitive biological resources and constraints in the lot grading and construction of single-family residences within the approved nine-lot subdivision.

**METHODS**

The botanical portion of the survey was conducted by R. Mitchel Beauchamp on 2 August 2021, from 8:20am to 10:00am with clear skies and a temperature of 78°F. The on-foot survey covered all slope aspects, and soil types of the parcels. Particular attention was given to the Sage Scrub and Chaparral. Vegetation and sensitive plant locations were delineated on a 1" = 100' topographic map.

The zoological survey was performed during the same visit to the site by Beauchamp. All habitat types present within the study area were surveyed for wildlife. The survey included a focused survey for the Coastal California Gnatcatcher (*Polioptila californica californica*). The small size of the parcels made it possible to cover the entire area and the adjacent sites during the visit. The sites were also examined by a prior assessment in 1999 (PSBS 1999).

“Pishing”, a technique commonly employed to arouse the interest of passerines, was used to call out birds. Binoculars (8.5 x 44 power) were used to assist in detection and identification.

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Prior biological surveys of the immediate region were examined to assess sensitive resources known from the vicinity of the site (Pacific Southwest 1989, 1990a, 1990b, 1991, 1992, 1999).

Scientific nomenclature used in this report is from the following references: vegetation, Holland (1986); flora, Hickman (1993); birds, American Ornithologists' Union (1983, 1989); reptiles and amphibians, Collins (1990); and mammals, Jameson and Peeters (1988). Wildlife habitat delineations generally follow Mayer and Laudenslayer (1988).

## LOCATION

The property and proposed development areas are situated in the south half of Section 3, Range 7 West, Township 6 South of the San Bernardino Base and Meridian; USGS 7.5' Santiago Peak, California Quadrangle in southern Orange County (Figure 1). The site is accessed from the west with Live Oak Canyon Road providing the western boundary of the subdivision. Surrounding land use is primarily rural homesites or undeveloped. The intersection of Live Oak Canyon Road and Canyon Creek Drive lies just off-site to the northwest. The building sites lie along both sides of Summit Trail Road.

Figure 1. Regional Location of Site

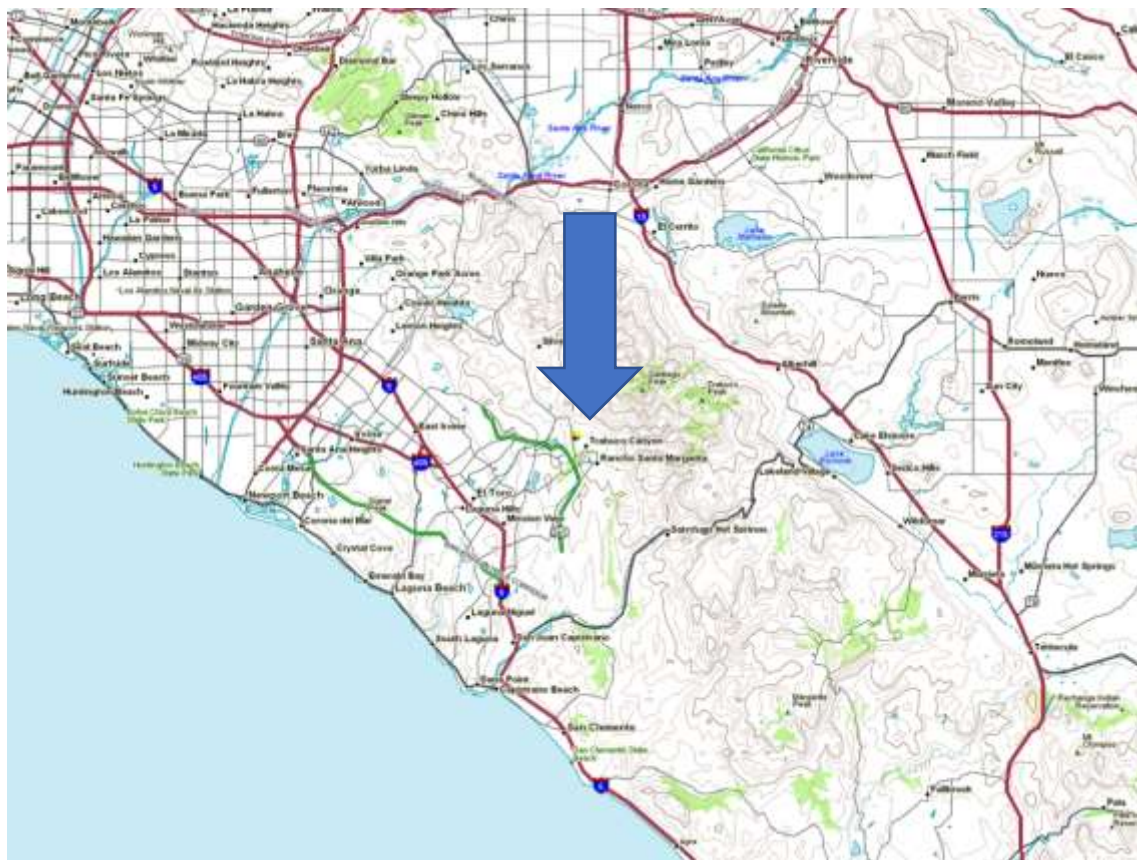
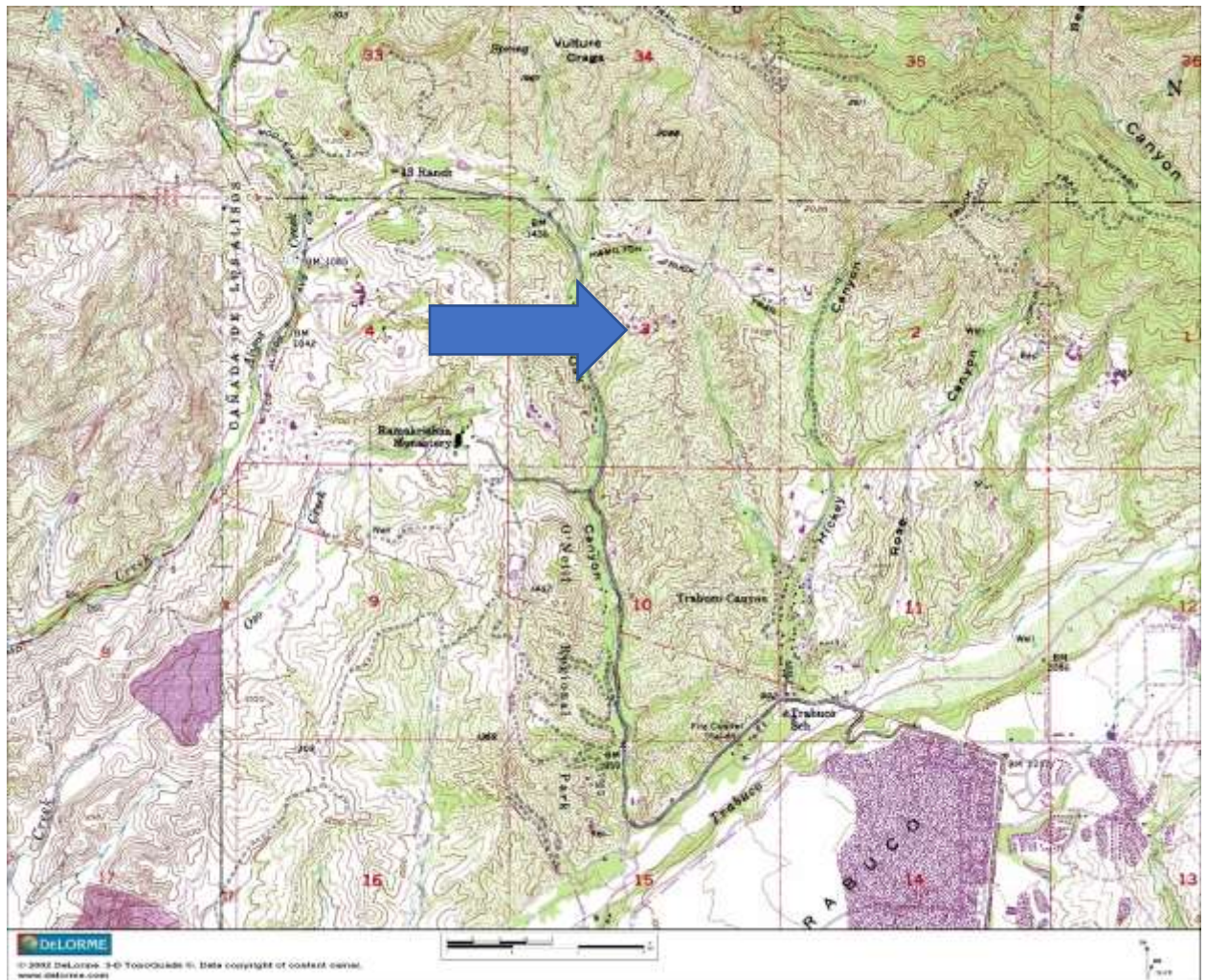




Figure 2. Vicinity Location of Site



## GENERAL PHYSIOGRAPHY

The properties are positioned on both sides of the ridgeline along Summit Trail Road, and consist of the slopes draining variously to the west, north and south, involving secondary finger ridges. The highpoint of the three lots is at hill 1380' at the southwestern area of Lot 6, with a low elevation of 1170 feet at the north side of lot 8, by the main entrance to the subdivision. No jurisdictional wetlands or permanent watercourse occur on-sites. The north-facing slope of the lots is dominated by Chaparral, while the limited, south-facing slope of Lot 6 gives way to Sage Scrub elements.

Soils for the site are mapped as Cieneba sandy loams in the uplands with Botella clay loams along the major drainages (Wachtell 1978). The underlying geology consists of an Oligocene nonmarine formation (Rogers 1973).

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Figure 3-Lot 6. Aerial Imagery Location of Sites



Figure 3-Lot 7. Aerial Imagery Location of Sites





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Figure 3-Lot 8. Aerial Imagery Location of Sites



## BOTANICAL RESOURCES

### VEGETATION

Three primary vegetation types were delineated on the sites: Disturbed Habitat, Scrub Oak Chaparral, and Diegan Sage Scrub (Figure 3). The last mentioned has an unusual component of Cismontane Nolina (*Nolina cismontana*) intermixed and includes some ecotonal chaparral elements. The Disturbed Habitat occurs as a prior access and drainage control culvert at Lot 8. In general, Scrub Oak Chaparral predominates on all north-facing slopes while Sage Scrub occurs on the drier, south- and west-facing slopes.

#### SCRUB OAK CHAPARRAL (0.68 Acre)

Dense concentrations of Scrub Oak (*Quercus berberidifolia*) are clustered on north-facing slopes of Lot 6 where water resources tend to be greater through reduced insolation and evaporation. Interspersed with these shrubby oaks is Mountain-Mahogany (*Cercocarpus betuloides*), easily identified during summer by its "feathered achenes," Holly-leaf Redberry (*Endotropis ilicifolia*), Monkey (*Diplacus aurantiacus*) in the more open locales, Toyon (*Heteromeles arbutifolia*), and Chamise (*Adenostoma fasciculatum*), which occurs in larger numbers near the ridges. Erosion at the upper elevations facilitates Sage Scrub as pioneering elements over Chaparral; at numerous locales an ecotonal habitat prevails.

In many areas the Chaparral has reached a "climax stage," or senescence, with the vegetation almost impenetrable and little evidence of prior burning. Understory in such situations is minimal, but includes occasional Indian Pink (*Silene laciniata*) with its showy red petals and Filago (*Filago californica*). Sapphire Woolly Star (*Eriastrum sapphirinum* ssp. *dasyanthum*) grows in a few barren openings. Quality of the Chaparral on-site is of a standard typical of similar habitat throughout the Santa Ana foothills.

#### DIEGAN COASTAL SAGE SCRUB ( 5.38 Acres)

The constituents of the Sage Scrub are primarily Coastal Sagebrush (*Artemisia californica*), Mohave Yucca (*Hesperoyucca whipplei*), and as an unusual regional element, Cismontane Nolina. This Nolina occurs in some of the highest concentrations known for this species in the Live Oak Road area. Elsewhere in southern California it is usually quite uncommon.

Coast Prickly Pear (*Opuntia occidentalis*) occurs in sporadic patches with Coast Honeysuckle (*Lonicera subspicata*) scrambling over low-growing shrubs in some areas and Bindweed (*Calystegia macrostegia* ssp. *arida*) mimicking this growth pattern over low herbaceous shrubs and annuals. Among the latter were found Stinging Lupine (*Lupinus hirsutissimus*), Cobweb Thistle (*Cirsium occidentale*), and Parry Phacelia (*Phacelia parryi*); all are beginning to decompose following an early spring bloom.

Bulbous perennials such as Golden Stars (*Bloomeria crocea*) with its bright umbel of yellow flowers, Santa Ana Mountain Mariposa Lily (*Calochortus weedii* var. *intermedius*) with its striking purplish/white petals, and Soap Plant (*Chlorogalum pomeridianum*) are uncommon on-site and typically bloom later than the annual elements.

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Subshrubs in the understory include the pungent Odora (*Porophyllum gracile*), a diminutive form of Coast Goldenbush (*Isocoma menziesii* ssp. *vernonioides*) with a dense growth of branches and leaves, as well as Peony (*Paeonia californica*).

An interesting floristic addition is the presence of Turkish Rugging (*Chorizanthe staticoides* ssp. *staticoides*) with its clustered involucre and bright pink flowers. This entity is a smaller form in its floristic parts than subspecies *chrysacantha*, listed as sensitive for coastal Orange County.

Typically, the Sage Scrub on-site is of relatively high habitat quality, and is more diverse than seen to the southwest in areas such as Chiquita Canyon.

SOUTHERN COAST LIVE OAK WOODLAND ( 1.6 Acres)

Coast Live Oak (*Quercus agrifolia*) and Poison-Oak (*Toxicodendron diversilobum*) are the principal constituents of the Oak Woodland, largely limited to north-facing slopes.

DISTURBED HABITAT ( 0.15 Acre)

A very limited area of disturbance occurs along a prior access on Lots 6 & 8 and the drainage brow ditch constructed there, as well as an overgrown dirt roadway.

URBAN DEVELOPED (0.01 Acre)

Roadways and the trespass from the neighbor to the east of Lot 6 constitute this land cover.



Figure 4-Lot 6. Vegetation and Nolina Locations about Project Sites

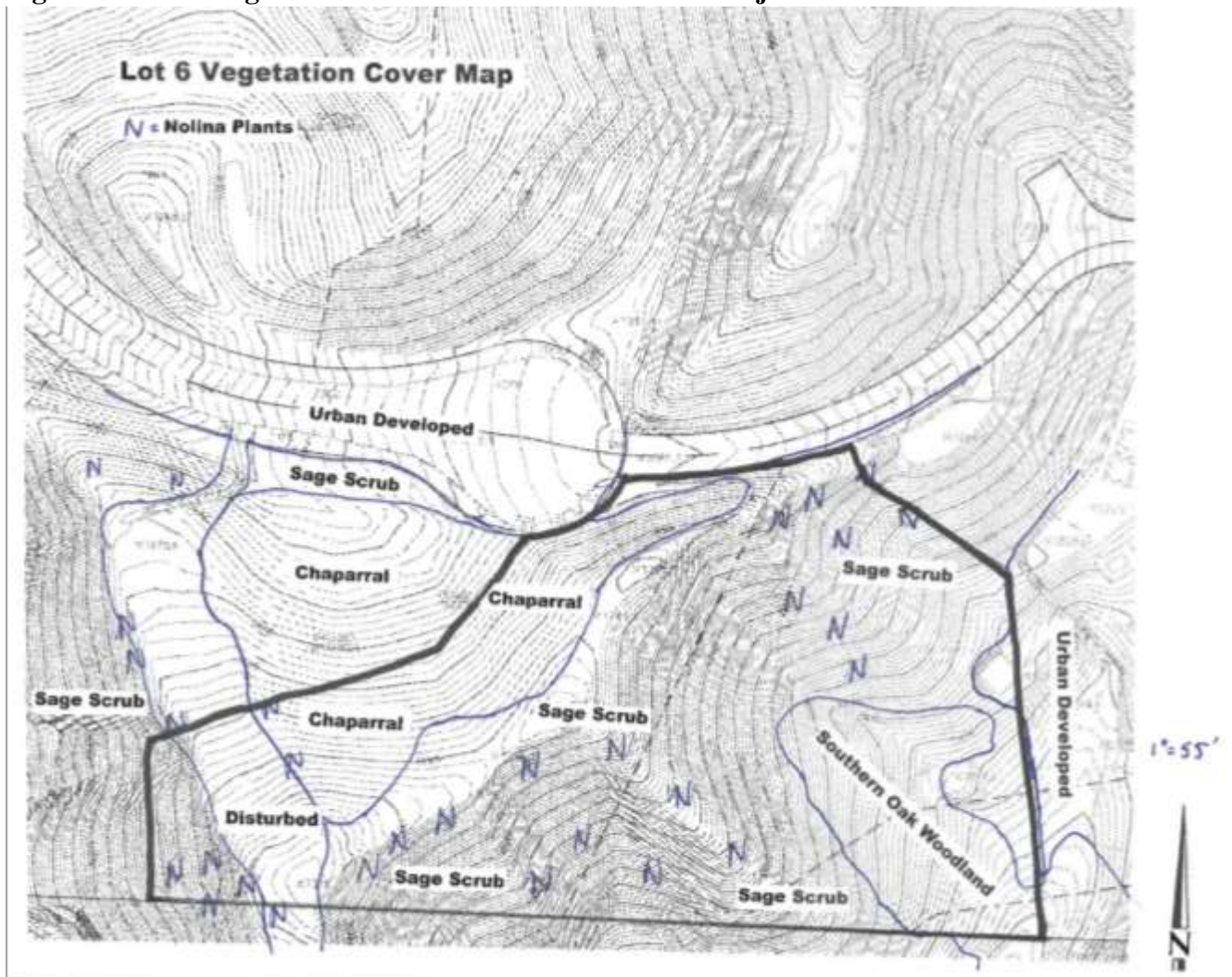


Figure 4-Lot 7. Vegetation and Nolina Locations about Project Sites

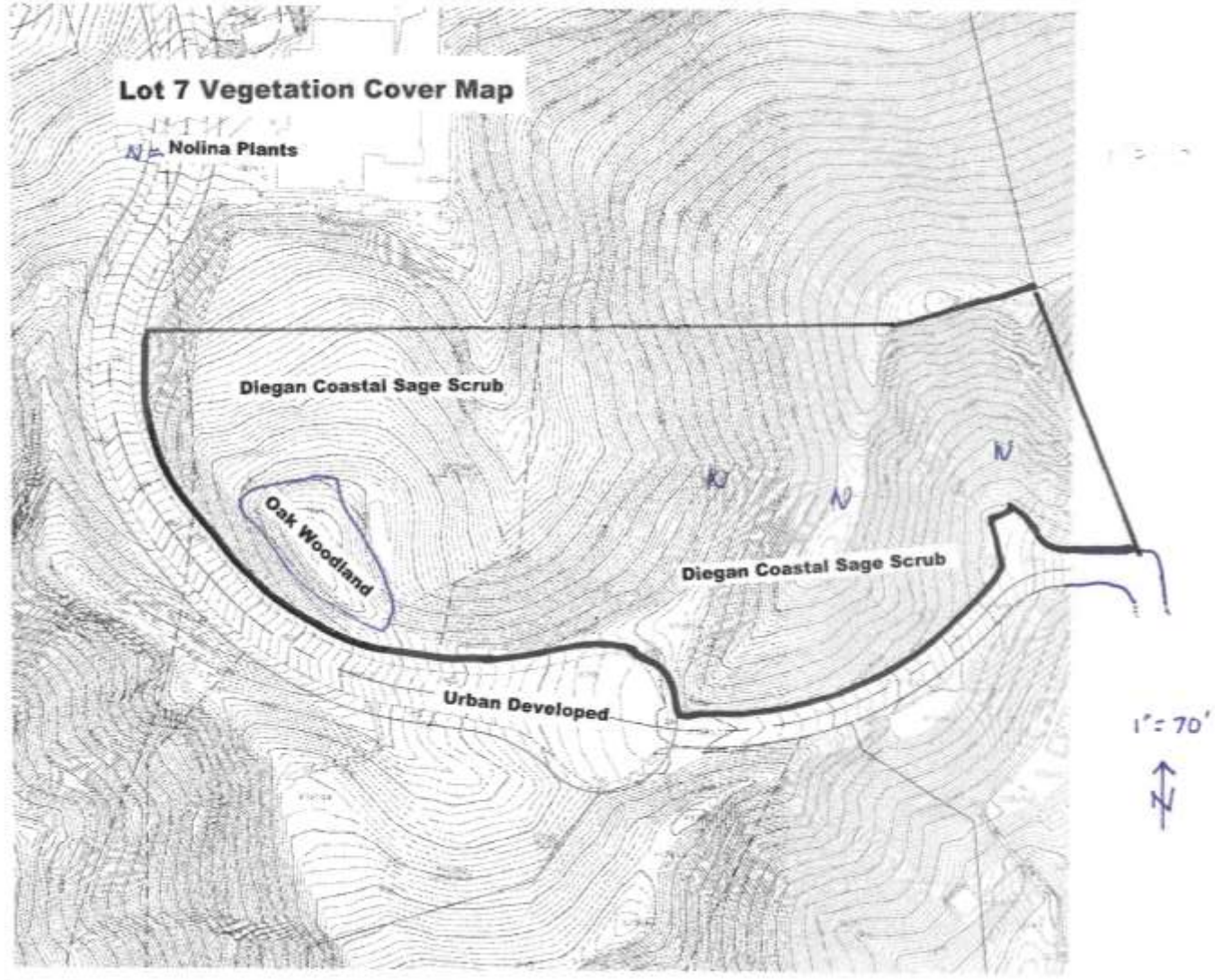
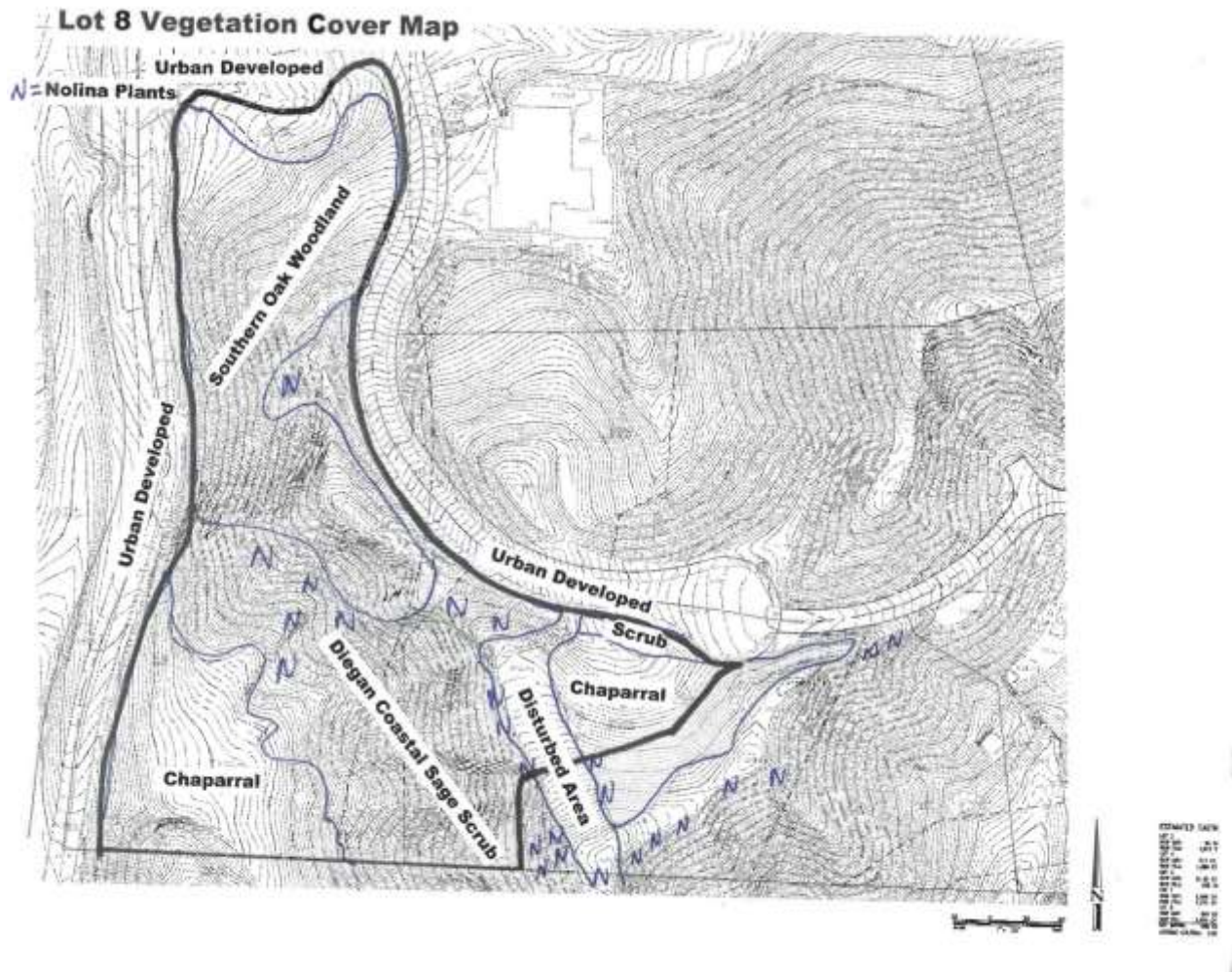




Figure 4-Lot 8. Vegetation and Nolina Locations about Project Sites



## Flora

One hundred six species of plants were noted on the entire property in 1999, of which twenty-four are non-native, invasive elements. The current listing, with less site habitat diversity, is indicated in **Bold** font on the original listing as Appendix 1. As mentioned, the Chaparral is typical of the region, and the Sage Scrub is considered of high quality. The density of the Cismontane Nolina is a significant factor in this estimation of quality of the Sage Scrub. This species has a high density in the open space areas of the development.

Initially, floras of the region listed this species as *Nolina parryi*, still an appropriate name for plants growing in the desert foothills of Southern California. Plants in the Peninsular Ranges now described as a separate species of a more limited range and are best referred to as *Nolina cismontana*. Many dozens of flowering specimens of the Nolina occur in Sage Scrub habitat of the open space of the three Lots to be developed.

## ZOOLOGICAL RESOURCES

### GENERAL WILDLIFE HABITAT

Two wildlife habitats are found on these building sites in the Goren property: Scrub Oak Chaparral and Diegan Sage Scrub.

#### SCRUB OAK CHAPARRAL

Mixed Chaparral covers a majority of the north-facing slopes of the sites and contains a strong Scrub Oak and Toyon component. Canopy coverage is very dense and of moderate height, with access generally limited to the dirt roads. Rock outcrops are not present; consequently, open pockets within the vegetation are limited to dirt roads and areas of steep slopes where erosion is evident. Due to the density of the foliage, birds are the more easily detected vertebrates, with characteristic species being the Western Scrub Jay (*Aphelocoma coerulescens*), Bewick's Wren (*Thryomanes bewickii*), California Thrasher (*Toxostoma redivivum*), Wrentit (*Chamaea fasciata*), and Spotted Towhee (*Pipilo maculatus*).

#### DIEGAN COASTAL SAGE SCRUB

This vegetation is composed primarily of shrubs such as Coastal Sagebrush, Flat-top Buckwheat (*Eriogonum fasciculatum*), and Cismontane *Nolina* mixed with occasional Chaparral elements and annual grasses. These areas display a lower profile canopy and often a more open ground coverage. In general, such habitat is utilized by species also found in Chaparral vegetation. The greater amount of sunlight penetration enhances such areas for basking by reptiles. Two noted regional sensitive bird species are sometimes specifically associated with scrub locales as opposed to Chaparral. These are the Coastal California Gnatcatcher (*Poliophtila californica californica*) and Cactus Wren (*Campylorhynchus brunneicapillus*). These, however, were not encountered in the subject lots or adjacent areas.

Most of the on-site scrub lacks features characteristic of Gnatcatcher habitat (lack of extensive Coastal Sagebrush stands, dominance of *Nolina*, etc.), and the site's elevation generally exceeds that consistent with Gnatcatcher occurrence in Orange County (Atwood 1990). Vegetation marginally suited for the Gnatcatcher is found along a south-facing slope where a small stand of Coastal Sagebrush occurs. Detracting from its suitability is that the density of shrubs at this locale perhaps exceeds that preferred by the species, and the general density of surrounding Chaparral vegetation does not enhance the possibility of Gnatcatcher utilization.

Scattered stands of Prickly Pear Cactus are moderately suited to the presence of the Cactus Wren, and this species has been identified on adjacent parcels to the north (Pacific Southwest 1990b, 1991). On-site habitat is of comparable quality of that to the north where this species has been recently detected, and in fact the Cactus Wren was observed in each of the two major canyons on the site during the survey.



## **AMPHIBIANS**

No amphibians were observed. Species which may occur on-site include the Pacific Chorus Frog (*Pseudacris regilla*), which may inhabit either the woodlands or dense areas of Chaparral, as well as other habitats. Both the Black-bellied Slender Salamander (*Batrachoseps nigriventris*) and Garden Slender Salamander (*Batrachoseps major*) are known from the region and could occur in any of the on-site habitats. Also, the Ensatina (*Ensatina eschscholtzi*) is frequently found living within the stick nests of the Dusky-footed Woodrat (*Neotoma fuscipes*), which were noted beneath large Chaparral shrubbery.

## **REPTILES**

The Western Fence Lizard (*Sceloporus occidentalis*) was the only reptile observed during the survey (Appendix 2); however, the Side-blotched Lizard (*Uta stansburiana*) was noted in adjacent habitat (Pacific Southwest 1990b, 1991). Other relatively common lizards of the region which may occur on-site are the Western Skink (*Eumeces skiltonianus*) and Southern Alligator Lizard (*Elgaria multicarinata*). The San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*) may also reside on-site but was not observed despite suitable season and weather conditions and the presence of its principal prey item, the Harvester Ant.

The San Diego Horned Lizard was not noted during any surveys of the site or of adjacent, similar quality habitats.

The native ant population, which is the prey species of this lizard, was not prominent in the area assessed. Several regionally common snake species may inhabit the sites or occasionally move through the property. These include the Gopher Snake (*Pituophis catenifer*), Common Kingsnake (*Lampropeltis getulus*), California Striped Racer (*Masticophis lateralis*), Coachwhip (*Masticophis flagellum*), and Southern Pacific Rattlesnake (*Crotalus viridis helleri*).

## **BIRDS**

Thirty-six species of birds were observed on the property in 1999, with eleven additional species having been observed on-site in the immediate vicinity. Several additional species are expected to occur as winter visitors to the site. More common among these are the Hermit Thrush (*Catharus guttatus*), Ruby-crowned Kinglet (*Regulus calendula*), and Dark-eyed Junco (*Junco hyemalis*). Others, such as the Western Kingbird (*Tyrannus verticalis*), may occur as summer breeding species. Those avian species observed in the June 2021 assessment are indicated in Appendix 2.

Typical scrub/chaparral species which were detected were the California Quail (*Callipepla californica*), Anna's Hummingbird (*Calypte anna*), Western Scrub-Jay, Bushtit (*Psaltiriparus minimus*), Bewick's Wren, Wrentit, California Thrasher, Phainopepla (*Phainopepla nitens*), California Towhee (*Pipilo crissalis*), Spotted Towhee, and House Finch (*Carpodacus mexicanus*). Noted on nearby parcels and expected on-site are the Greater Roadrunner (*Geococcyx californianus*), Costa's Hummingbird (*Calypte costae*), and Northern Mockingbird

(*Mimus polyglottos*). The Fox Sparrow (*Passerella iliaca*) is a possible winter visitor to this habitat.

The Red-tailed Hawk (*Buteo jamaicensis*), Red-shouldered Hawk (*Buteo lineatus*), and Cooper's Hawk were the raptors observed on the site. The American Kestrel (*Falco sparverius*) has been noted in the immediate vicinity (Pacific Southwest 1990b) and is expected to occasionally forage on the subject property. The Golden Eagle (*Aquila chrysaetos*) is known from the southern Santa Ana Mountains and could forage over the site; however, the dense Chaparral and oaks offer poor foraging potential for this large bird. Also noted flying over the site was the Turkey Vulture (*Cathartes aura*), which may nest in rugged mountainous areas of rock outcrop to the north.

## MAMMALS

Six species of mammals were detected on the site and three additional species were noted on nearby property (Appendix 2). Droppings of the Brush Rabbit (*Sylvilagus bachmani*) were common throughout the sites and burrows of Botta's Pocket Gopher (*Thomomys bottae*) were most common in softer soils of scrublands. California Ground Squirrels (*Spermophilus beecheyi*) were observed around rural residences and pastures nearby, but were not detected on-site. Conspicuous stick nests of the Dusky-footed Woodrat were noted in dense Chaparral in adjacent lots. Several additional small rodent species are expected to be present on-site; however, their detection generally requires a nocturnal trapping program. As none of these expected species are considered sensitive, a trapping regime was not conducted.

Larger mammals detected included two predators, the Coyote (*Canis latrans*) and the Gray Fox (*Urocyon cinereoargenteus*). Also expected in the area are the Striped Skunk (*Mephitis mephitis*), Virginia Opossum (*Didelphis virginiana*), and possibly Raccoon (*Procyon lotor*). Mule Deer (*Odocoileus hemionus*) tracks were only infrequently observed but were more plentiful on off-site trails to the north and are regularly viewed by area residents (Pacific Southwest 1991). The Bobcat (*Lynx rufus*) was noted on the properties to the north (Pacific Southwest 1990b, 1991) but no sign of its presence was observed on the subject parcel. The species is nonetheless likely to occasionally move through the property. The most formidable predator of the region is the Mountain Lion (*Felis concolor*), which has been observed by local residents (Pacific Southwest 1991). The subject property is unlikely to serve as a major use area due to the relatively low use of the site by Mule Deer, or as an important movement corridor due to the lack of a defined trail or riparian corridor connecting through to other major blocks of wild lands.

## SENSITIVE PLANTS

The only sensitive plant identified on the building site was the Cismontane Nolina (*Nolina cismontana*). Several additional species are known from the region; however, the sites lack features consistent with their presence. Vernal pool species, such as Thread-leaved Brodiaea (*Brodiaea filifolia*) lack appropriate habitat on the Goren site. Sticky Dudleya (*Dudleya viscida*) occurs on metavolcanic rock in steep canyon locales such as at San Juan Hot Springs, but it lacks

appropriate substrate on-site and has never been recorded this far north. Laguna Beach Dudleya (*Dudleya stolonifera*), seen in the Laguna Hills, is only known from a localized proximity to the coast and has not been collected this far inland. Many-stemmed Dudleya (*Dudleya multicaulis*) has been collected in clay soils on the Starr Ranch and has the potential for occurring on-site; it grows from a small corm and is usually only detectable during late spring when in flower.

A number of sensitive species occur at higher elevations on Santiago Peak in the Santa Ana Mountains and are not expected to occur in the foothills. These include Braunton's Milkvetch (*Astragalus brauntonii*), and Santiago Peak Phacelia (*Phacelia suaveolens* ssp. *heckii*). Catalina Mariposa Lily (*Calochortus catalinae*) prefers grassland locales not well developed on the property. Prostrate Spineflower (*Chorizanthe procumbens* var. *albiflora*) has been recently collected in the region, but was not noted at the Goren sites. Recently, a new taxonomic treatment of the genus has merged this entity into synonymy with other varieties, lowering its presumed sensitivity from a botanical standpoint.

### SENSITIVE VERTEBRATES

Seven sensitive vertebrate species were observed on or flying over the Goren property in 1999 but were not observed on the sites during the 2021 assessment. These are Turkey Vulture (*Cathartes aura*), Golden Eagle (*Aquila chrysaetos*), Cooper's Hawk (*Accipiter cooperi*), Red-shouldered Hawk (*Buteo lineatus*), Sharp-shinned Hawk (*Accipiter striatus*), Red-tailed Hawk (*Buteo jamaicensis*), Cactus Wren (*Campylorhynchus brunneicapillus couesi*) - coastal population, Coastal Rufous-crowned Sparrow (*Aimophila ruficeps canescens*), San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*), and Mountain Lion (*Felis concolor*).

### EXPECTED BIOLOGICAL IMPACTS

**TABLE 1. SUMMARY OF IMPACTS**

LOT 6

VEGETATION TYPE	TOTAL LOT AREA (ACRES)	PROPOSED DEVELOPMENT AREA ACREAGE /REVISED OPEN SPACE	EXPECTED LOSS (ACRES)	REMAINING IN RESOURCE PRESERVATION AREA/ REVISED OSE
Chaparral	0.20	0.20	0.20	0
Diegan Coastal Sage Scrub	1.13	0.5/0.05	0.5/0.05	0.63/1.08
Disturbed Area	0.06	0.06	0.06	0
Urban Developed	0.01	0	0	0.01

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Southern Oak Woodland	0.15	0	0	0.15
TOTAL	1.55	0.76//0.31	1.34/0.89	0.79/ 1.24

Lot 7

VEGETATION TYPE	TOTAL LOT AREA (ACRES)	PROPOSED DEVELOPMENT AREA ACREAGE	EXPECTED LOSS (ACRES)	REMAINING IN RESOURCE PRESERVATION AREA
Diegan Coastal Sage Scrub	2.34	0.71	0.71	1.63
Southern Oak Woodland	0.12	0.12	0.12	0
TOTAL	2.46	0.83	0.83	1.63

Lot 8

VEGETATION TYPE	TOTAL LOT AREA (ACRES)	PROPOSED DEVELOPMENT AREA ACREAGE	EXPECTED LOSS (ACRES)	REMAINING IN RESOURCE PRESERVATION AREA
Chaparral	0.48	0.16	0.16	0.32
Diegan Coastal Sage Scrub	1.91	0.66	0.66	1.25
Southern Oak Woodland	1.33	0	0	1.33



Disturbed Area	0.09	0.09	0.09	0
TOTAL	3.81	0.91	0.91	2.9

## Aggregate Totals

VEGETATION TYPE	TOTAL LOT AREA (ACRES)	PROPOSED DEVELOPMENT AREA ACREAGE /REVISED OPEN SPACE	EXPECTED LOSS (ACRES)	REMAINING IN RESOURCE PRESERVATION AREA/ REVISED OSE
Chaparral	0.68	0.36	0.36	0.32
Diegan Coastal Sage Scrub	5.38	1.87/1.42	1.87/1.42	3.51/3.96
Disturbed Area	0.15	0.15	0.15	0
Urban Developed	0.01	0	0	0.01
Southern Oak Woodland	1.6	0.12	0.12	1.48
TOTAL	7.82	2.5//2.05	2.5/2.05	5.532 5.77

**Significant Impacts**

The significant biotic aspect of the Goren development is the presence of the Cismontane Nolina population. Most of the lots will impact or impacted this plant in the development of the building sites as well as fuel clearance zones.

For the present assessment, Lot 6 has a major impact if the western half of the lot is available for development. For this reason, the preserve boundary line should be relocated to the ridge line at the west half of the lot, leaving the north-facing slope of Chaparral to be graded in concert with the potential building site on Lot 8.

Lot 6 is further impacted by an incursion by the eastern property owner by the construction of a structure.

Lot 7 has its population of *Nolina* on the far eastern area of the parcel, involving impact to mostly Mixed Chaparral vegetation.

Lot 8 is constrained by the setback distance from Live Oak Canyon Road. A majority of the *Nolina* population on this lot lies within that setback and the scenic easement open space zone.

The loss of 1.87 to 1.42 acres of Diegan Sage Scrub is considered a significant impact due to the regionally declining nature of the vegetation, and its potential to support such species as the Coastal California Gnatcatcher and Coastal Cactus Wren. Habitat of marginal or better suitability is present. Since the 1991 survey, the Coastal California Gnatcatcher has become listed as a federally Threatened Species, and impacts to Diegan Sage Scrub are generally viewed more harshly than before as this habitat becomes a focus of a requisite Habitat Conservation Plan for the species.

Approximately 10% of the sensitive *Nolina cismontana* population will be directly impacted by grading and fill for proposed pads on the lots. Revision of the Lot 6 preserve line would reduce this impact significantly.

### **Non-Significant Impacts**

The loss of 0.36 acre of diverse Scrub Oak Chaparral vegetation is not considered significant due to the absence of sensitive species associated with this habitat. Although this loss is considered an incremental impact at this time, it is noteworthy in light of the regional developments underway and proposed in the Trabuco Hills area. It should also be noted that such incremental losses lead to further habitat fragmentation and decreased value to wildlife both on-site and in surrounding areas.

The site does not contain wetland vegetation and lacks bed and bank characteristics. Due to this lack of jurisdiction, no U.S. Army Corps of Engineers 404 permit, California Department of Fish and Wildlife Section 1603 Streambed Alteration Permit, nor Regional Water Quality Control Board 401 certification are required.

### **RECOMMENDATIONS TO REDUCE BIOLOGICAL IMPACTS**

The recommendations concerning the mitigation of impacts on the entire, multi-lot project in the preceding report have been largely implemented in the present design of this parcel and the open space allocation.

1. For the present assessment, Lot 6 has a major impact if all of the western half of the lot is available for development. For this reason, **the preserve boundary line should be relocated to the ridge line in the west half of the lot, leaving the north-facing slope of Chaparral to be graded in concert with the potential building site on Lot 8.**

2. The vast majority of lands located outside of pad sites and fill slopes have been placed into Open Space Scenic Preservation Easements to ensure protection of these areas from clearing of native vegetation and future development. This incorporates concentrations of Diegan Coastal Sage Scrub and the heavily eroded eastern ridgeline. A 50-foot buffer

of vegetation clearing to reduce fire-fuel loading would be allowed from home sites and associated structures. **Selected removal during fuel reduction is to be done near oak trees and *Nolina* colonies or individual plants.**

3. Although preservation easements may include uses such as hiking and horseback riding trails by local residents, domestic pets should be maintained on leashes or restricted altogether from these areas. **Hunting should be prohibited in preservation easements. Similarly, no grazing of horses or livestock should be allowed in these areas.**

4. While direct impacts to *Nolina cismontana* are estimated at no greater than 15-20% of the population in these three lots, additional precautions could preclude secondary or future impacts. **A fuel modification plan within the undeveloped native vegetation should have a provision that the easily-identifiable Nolinias not be grubbed or removed (they lack spine-tipped leaves). The Open Space Scenic Preservation Easement is assumed to include all native vegetation remaining on the site.**

5. **Nolinias in the area to be graded are to be salvaged for replanting on-site or offered for horticultural use.**

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**Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Sites.**

Bold entries indicate referenced Lots 6, 7 &amp; 8 building sites

Habitat C = Scrub Oak Chaparral W = Coast Live Oak Riparian Woodland

D = Diegan Sage Scrub

CRYPTOGAMS	Habitats	
Spike-Mosses		
Selaginellaceae-Spike-Moss Family		
<i>Selaginella bigelovii</i> Underw. Common Spike-Moss	C	
GYMNOSPERMS		
Pinaceae		
* <i>Pinus halepensis</i> Aleppo Pine	D	
DICOTYLEDONS		
Aizoaceae - Carpet-weed Family		
* <i>Aptenia cordifolia</i> (L.) Schwant	W	
Anacardiaceae - Sumac Family		
<i>Malosma laurina</i> (Nutt.) Nutt. ex Abrams Laurel-Leaf Sumac	D	
<b><i>Rhus integrifolia</i> (Nutt.) Benth. &amp; Hook. Lemonade Berry</b>	D	
<b><i>Toxicodendron radicans</i> ssp. <i>diversilobum</i> (T. &amp; G.) Thorne Poison-Oak</b>		W
Apiaceae - Carrot Family		
<i>Apiastrum angustifolium</i> Nutt. Mock Parsley	W	
<i>Daucus pusillus</i> Michx. Rattlesnake Weed	D	
* <i>Foeniculum vulgare</i> Mill. Fennel	W	
<b><i>Yabea macrocarpa</i> (Hook. &amp; Arn.) Koso-Polj.</b>	C	
Asclepiadaceae - Milkweed Family		
<i>Asclepias eriocarpa</i> Benth. Indian Milkweed	W	
Asteraceae - Sunflower Family		
* <i>Lactuca serriola</i> L. Wild Lettuce	C	
<b><i>Acourtia microcephala</i> DC. Sacapellote, Purpleheads</b>	C	
<i>Ambrosia psilostachya</i> DC. var. <i>californica</i> (Rydb.) Blake Western Ragweed		W
<b><i>Artemisia californica</i> Less. California Sagebrush</b>		D
<i>Artemisia douglasiana</i> Bess. in Hook. Mugwort	W	
<i>Artemisia dracunculus</i> L. Dragon Sagewort	W	
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i> (DC.) C.B. Wolf Coyote Brush	W	
<i>Baccharis salicifolia</i> (R. & P.) Pers. Mule-fat	W	
* <i>Carduus pycnocephalus</i> L. Italian Thistle	C, W	
<b>*<i>Centaurea melitensis</i> L. Tocalote</b>		D
<i>Chaenactis artemisiaefolia</i> (Harv. & Gray) Gray Pincushion	D	
<i>Cirsium occidentale</i> (Nutt.) Jeps. Cobweb Thistle	D	
<i>Encelia californica</i> Nutt. California Encelia		D
<i>Erigeron foliosus</i> var. <i>foliosus</i> Leaf Daisy		D
<b><i>Eriophyllum confertiflorum</i> (DC.) Gray var. <i>confertiflorum</i> Golden-Yarrow</b>		C,D
<i>Filago californica</i> Nutt. California Filago	C,D	
Asteraceae- Daisy Family (continued)		
* <i>Filago gallica</i> L. Narrow-leaf Filago	D	
<i>Gnaphalium beneolens</i> Davids. Fragrant Everlasting	D	
<b><i>Gnaphalium (Pseudognaphalium) californicum</i> DC. California Everlasting</b>		C
<i>Gnaphalium microcephalum</i> Nutt. White Everlasting	D	

**Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Sites (continued)**

<i>Hazardia squarrosa</i> ssp. <i>grindelioides</i> (DC.) Clarke	Sawtooth Goldenbush	D,S
* <i>Hedypnois cretica</i> (L.) Willd.	Crete Hedypnois	D
<i>Hemizonia fasciculata</i> (DC.) Torrey & Gray	Fascicled Tarplant	D
<i>Heterotheca grandiflora</i> Nutt.	Telegraph Weed	D
* <i>Hypochoeris glabra</i> L.	Smooth Cat's-ear	D
* <i>Lactuca serriola</i> L.	Wild Lettuce	D
<i>Isocoma menziesii</i> var. <i>vernonioides</i> (Nutt.) Nesom	Coastal Goldenbush	D
<i>Lessingia filaginifolia</i> (Hook. & Arn.) M.A. Lane var. <i>filaginifolia</i>	Cudweed Aster	C
<i>Porophyllum gracile</i> Benth.	Odora	D
<i>Solidago californica</i> Nutt.	California Goldenrod	W
* <i>Sonchus oleraceus</i> L.	Common Sow-Thistle	D
<i>Stebbinoseris heterocarpa</i> (Nutt.) Chambers		C
<i>Stephanomeria diegensis</i> Gottlieb	San Diego Wreath-Plant	D
<i>Stephanomeria virgata</i> Benth. ssp. <i>virgata</i>	Virgate Wreath-plant	D
<i>Stylocline gnaphalioides</i> Nutt.	Everlasting Nest Straw	D
Boraginaceae - Borage Family		
<i>Cryptantha intermedia</i> (Gray) Greene	Nievitias	D
Brassicaceae - Mustard Family		
* <i>Hirschfeldia incana</i> (L.) Lagr.-Fossat	Short-pod Mustard	D
* <i>Sisymbrium irio</i> L.	London Rocket	D
Cactaceae - Cactus Family		
<i>Opuntia littoralis</i> (Engelm.) Ckll. var. <i>littoralis</i>	Coast Prickly-Pear	D
<i>Opuntia occidentalis</i> Engelm. & Bigel.	Western Prickly-Pear, Thicket Tuna	D
<i>Opuntia vaseyi</i> (J. Coulter) Britt & Rose		D
Caprifoliaceae - Honeysuckle Family		
<i>Lonicera subspicata</i> var. <i>denudata</i> Rehd.	San Diego Honeysuckle	D
Caryophyllaceae - Pink Family		
<i>Silene laciniata</i> ssp. <i>major</i> Hitchc. & Maguire	Southern Pink	D
Chenopodiaceae - Goosefoot Family		
* <i>Chenopodium ambrosioides</i> L.	Mexican-Tea	W
Convolvulaceae - Morning-Glory Family		
<i>Calystegia macrostegia</i> ssp. <i>arida</i> (Greene) Brumm.	Finger-leaf Morning-Glory	D
<i>Cuscuta californica</i> H. & A.	Witch's Hair	D
Crassulaceae - Stonecrop Family		
<i>Dudleya pulverulenta</i> (Nutt.) Britt. & Rose	Chalk-lettuce	D
Cucurbitaceae - Gourd Family		
<i>Marah macrocarpus</i> (Greene) Greene	Manroot, Wild-Cucumber	C
Euphorbiaceae - Spurge Family		
<i>Eremocarpus setigerus</i> (Hook.) Benth.	Doveweed	D
Fabaceae - Pea Family		
<i>Lathyrus laetiflorus</i> ssp. <i>alefeldii</i> (White) Brads.	Sweetpea	D
<i>Lotus purshianus</i> (Benth.) Clem. & Clem.	Spanish-Clover	D
<i>Lotus scoparius</i> (Nutt. in T. & G.) Ottley ssp. <i>scoparius</i> ( <i>Acmispon glaber</i> )	Deerweed	D
<i>Lupinus hirsutissimus</i> Benth.	Stinging Lupine	D
* <i>Medicago polymorpha</i> L.	California Bur-Clover	D
<i>Trifolium tridentatum</i> Lindl. var. <i>tridentatum</i>	Tomcat Clover	C

**Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Sites (continued)**

Fagaceae - Oak Family

***Quercus agrifolia* Neé var. *agrifolia* Coast Live Oak** W

***Quercus berberidifolia* Liebm. Scrub Oak** C

Geraniaceae - Geranium Family

*\*Erodium cicutarium* (L.)L'Hér. Red-stem Filaree D

Hydrophyllaceae - Waterleaf Family

***Eucrypta chrysanthemifolia* (Benth.) Greene var. *chrysanthemifolia*** D

*Phacelia parryi* Torr. D

*Phacelia suffrutescens* (Parry) Const. D

Lamiaceae - Mint Family

***Salvia apiana* Jeps. White Sage** D

***Salvia mellifera* Greene Black Sage** C,D

Myrtaceae - Myrtle Family

*\*Eucalyptus* sp. W

Nyctaginaceae - Four-O'Clock Family

*Mirabilis californica* Gray Wishbone Plant D

Oxalidaceae - Wood-Sorrel Family

*Oxalis albicans* ssp. *californica* (Abrams)Eiten California Wood-Sorrel D

Paeoniaceae - Peony Family

*Paeonia californica* Nutt. in T. & G. California Peony C

Plantaginaceae - Plantain Family

*\*Plantago lanceolata* L. English Plantain W

Platanaceae - Sycamore Family

*Platanus racemosa* Nutt. Western Sycamore W

Polemoniaceae

*Eriastrum sapphirinum* ssp. *dasyanthum* (Brand)Mason Woolly-Star C

*Leptodactylon californicum* H. & A. Prickly Phlox C,D

Polygonaceae - Buckwheat Family

*Chorizanthe staticoides* Benth. ssp. *staticoides* Turkish Rugging D

***Eriogonum fasciculatum* Benth. Flat-top Buckwheat** D

*\*Rumex crispus* L. Curly Dock W

Rhamnaceae - Buckthorn Family

*Ceanothus crassifolius* Torr. Thick-leaf Ceanothus C

***Rhamnus (Endotropis) ilicifolia* Kell. Hollyleaf Redberry** C

Rosaceae - Rose Family

*Adenostoma fasciculatum* H. & A. Common Chamise C

*Cercocarpus betuloides* Nutt. ex T. & G. Mountain-Mahogany C

***Heteromeles arbutifolia* (Ait.) M. Roem. Hollywood, Toyon** C,D

Rubiaceae - Madder Family

*Galium angustifolium* Nutt., T. & G. ssp. *angustifolium* Narrow-leaf BedstrawD

Scrophulariaceae - Figwort Family

*Cordylanthus rigidus* Nutt. ex Benth. Dark-tip Bird's-Beak C,D

***Diplacus aurantiacus* ssp. *australis* (McMinn) R.M. Beeks ex Thorne** C

***Keckiella cordifolia* (Benth.) Straw Climbing Penstemon** C

Solanaceae - Nightshade Family

*\*Nicotiana glauca* Grah. Tree Tobacco D

**Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Site (continued)**

MONOCOTYLEDONS      Habitat

Agavaceae - Agave Family

***Nolina cismontana* Dice.** D

***Yucca (Hesperoyucca) whipplei* Torr. Our Lord's Candle** C,D

Alliaceae - Onion Family

*Bloomeria crocea* (Torr.) Cov. ssp. *crocea* Common Golden-Stars D

*Dichelostemma pulchellum* (Salisb.) Heller Wild-Hyacinth D

Iridaceae - Iris Family

*Sisyrinchium bellum* Wats. Blue-eyed-Grass D

Juncaceae - Rush Family

*Juncus dubius* Engelm. Mariposa Rush W

Liliaceae - Lily Family

*Calochortus weedii* Wood var. *intermedius* Weed's Mariposa-Lily D

*Chlorogalum parviflorum* Wats. Small-Flower Soap-Plant D

*Chlorogalum pomeridianum* (DC.) Kunth Wavy-Leaf Soap-Plant D

Poaceae - Grass Family

*Agropyron parishii* var. *laeve* Scribn. & Sm. California Wheatgrass C

**\**Avena barbata* L. Slender Oat** C,D

*Bothriochloa barbinodis* (Lag.) Herter Plumed Beardgrass D

**\**Bromus diandrus* Roth. Ripgut Grass** C,D

\**Bromus mollis* L. Soft Chess C,D

\**Bromus rubens* L. Red Brome C,D

\**Cynodon dactylon* (L.) Pers. Bermuda Grass D

\**Festuca myuros* L. C,D

\**Hordeum murinum* ssp. *glaucum* (Steud.) Tzvel. Glaucous Barley D

\**Lamarckia aurea* (L.) Moench Goldentop D

*Leymus condensatus* (Presl) A. Love Giant Wild Rye D,W

*Melica imperfecta* Trin. Coast Range Melic D, C

*Nassella lepida* (A.S. Hitchcock) Barkworth Foothill Needlegrass D

\**Piptatherum miliaceum* (L.) Cosson. Smilo Grass W

\**Polypogon monspeliensis* (L.) Desf. Annual Beardgrass W

\* - Denotes non-native plant taxa

**Appendix 2. Animals Observed or Detected on the Goren-Trabuco Oaks Sites.**

Habitat: C = Coastal Scrub F = Flyover M = Mixed Chaparral O = Oak Woodland

p = Present on adjacent property (Pacific Southwest 1990, 1991), may occur on subject property as well

Common Name	Scientific Name	Number/Means of Detection	Habitat
<b>Reptiles</b>			
<b>Phrynosomatidae</b>			
Western Fence Lizard	<i>Sceloporus occidentalis</i>		C
Side-blotched Lizard	<i>Uta stansburiana</i>		
Orange-throat Whiptail	<i>Cnemidophorus hyperythrus beldingi</i>		C
<b>Colubridae (Colubrids)</b>			
Gopher Snake	<i>Pituophis catenifer</i>		p
<b>Viperidae (Vipers)</b>			
Southern Pacific Rattlesnake	<i>Crotalus viridis helleri</i>		p
<b>Birds</b>			
<b>Cathartidae (American Vultures)</b>			
Turkey Vulture	<i>Cathartes aura</i>		F
<b>Accipitridae (Hawks, Old World Vultures, and Harriers)</b>			
Cooper's Hawk	<i>Accipiter cooperi</i>		M
Red-tailed Hawk	<i>Buteo jamaicensis</i>		F
Red-shouldered Hawk	<i>Buteo lineatus</i>		p
<b>Falconidae (Caracaras and Falcons)</b>			
American Kestrel	<i>Falco sparverius</i>		p
<b>Phasianidae (Quails, Pheasants, and Relatives)</b>			
California Quail	<i>Callipepla californica</i>		M
<b>Columbidae (Pigeons and Doves)</b>			
Mourning Dove	<i>Zenaida macroura</i>		O



**Appendix 2. Animals Observed or Detected on the Goren-Trabuco Oaks Sites**

Common Name	Scientific Name	Number/Mean of Detection	Habitat
<b>Apodidae (Swifts)</b>			
White-throated Swift	<i>Aeronautes saxatalis</i>		p
<b>Trochilidae (Hummingbirds)</b>			
Anna's Hummingbird	<i>Calypte anna</i>		C
Costa's Hummingbird	<i>Calypte costae</i>		p
<b>Picidae (Woodpeckers and Wrynecks)</b>			
Acorn Woodpecker	<i>Melanerpes formicivorus</i>		O
Nuttall's Woodpecker	<i>Picoides nuttallii</i>		O
Northern Flicker	<i>Colaptes auratus</i>		O
<b>Tyrannidae (Tyrant Flycatchers)</b>			
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>		p
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>		C
Western Kingbird	<i>Tyrannus verticalis</i>		M
<b>Hirundinidae (Swallows)</b>			
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>		F
Cliff Swallow	<i>Hirundo pyrrhonota</i>		p
<b>Corvidae (Jays, Magpies, and Crows)</b>			
Western Scrub Jay	<i>Aphelocoma coerulescens</i>		M,O
American Crow	<i>Corvus brachyrhynchos</i>		F
Common Raven	<i>Corvus corax</i>		F
<b>Paridae (Titmice)</b>			
Oak Titmouse	<i>Parus inornatus</i>		O
<b>Aegithalidae (Bushtit)</b>			
Bushtit	<i>Psaltiriparus minimus</i>		M,O

**Appendix 2. Animals Observed or Detected on the Goren-Trabuco Oaks Sites**

Common Name	Scientific Name	Number/Mean of Detection	Habitat
<b>Troglodytidae</b> (Wrens)			
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>		p
Bewick's Wren	<i>Thryomanes bewickii</i>		C,M
House Wren	<i>Troglodytes aedon</i>		O
<b>Muscicapidae</b> (Old World Warblers, Gnatcatchers, Kinglets, Thrushes, Bluebirds, and Wrentit)			
Wrentit	<i>Chamaea fasciata</i>		C,M,O
<b>Mimidae</b> (Mockingbirds and Thrashers)			
Northern Mockingbird	<i>Mimus polyglottos</i>		p
California Thrasher	<i>Toxostoma redivivum</i>		M
<b>Ptilonotidae</b> (Silky Flycatchers)			
Phainopepla	<i>Phainopepla nitens</i>		M
<b>Sturnidae</b> (Starlings)			
European Starling	<i>Sturnus vulgaris</i>		p
<b>Vireonidae</b> (Typical Vireos)			
Hutton's Vireo	<i>Vireo huttoni</i>		p
<b>Emberizidae</b> (Warblers, Sparrows, Blackbirds and Relatives)			
Coastal Rufous-crowned Sparrow	<i>Aimophila ruficeps canescens</i>		C
Song Sparrow	<i>Melospiza melodia</i>		O
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>		O
Yellow-rumped Warbler	<i>Dendroica coronata</i>		O
Orange-crowned Warbler	<i>Vermivora celata</i>		O
California Towhee	<i>Pipilo crissalis</i>		C,M,O
Spotted Towhee	<i>Pipilo maculatus</i>		M,O

**Appendix 2. Animals Observed or Detected on the Goren-Trabuco Oaks Sites**

Common Name	Scientific Name	Number/Means of Detection	Habitat
<b>Fringillidae</b> (Finches)			
House Finch	<i>Carpodacus mexicanus</i>		F,M
Lesser Goldfinch	<i>Carduelis psaltria</i>		M,O
American Goldfinch	<i>Carduelis tristis</i>		p
Mammals			
<b>Leporidae</b> (Rabbits and Hares)			
Brush Rabbit	<i>Sylvilagus bachmani</i>		C,M
<b>Sciuridae</b> (Squirrels, Chipmunks, and Marmots)			
California Ground Squirrel	<i>Spermophilus beecheyi</i>		p
<b>Geomyidae</b> (Pocket Gophers)			
Botta's Pocket Gopher	<i>Thomomys bottae</i>		C,O
<b>Muridae</b> (Rats, mice, and voles)			
Dusky-footed Woodrat	<i>Neotoma fuscipes</i>		M,O
<b>Canidae</b> (Foxes, Wolves, and Relatives)			
Coyote	<i>Canis latrans</i>		C,M
Gray Fox	<i>Urocyon cinereoargenteus</i>		C,M
<b>Felidae</b> (Cats)			
Mountain Lion	<i>Felis concolor</i>		p
Bobcat	<i>Lynx rufus</i>		p
<b>Cervidae</b> (Deer, Elk, and Relatives)			
Mule Deer	<i>Odocoileus hemionus</i>		M

PSBS #W567

**Trabuco Lots 6,7,8 - 2 August 2021**



Nolinas on cusp of cut slope of E side of Lot 6



E-facing slope of Lot 6



PSBS #W567



E-face of ridge of Lot 6



E-face of ridge of Lot 6

PSBS #W567



E-face of ridge of Lot 6



E-face of ridge of Lot 6



PSBS #W567



View N of Sage Scrub in Lot 7



Sage Scrub in Lot 6



PSBS #W567



Edge of main road at Lot 8



Chaparral in Lot 6/8 boundary



Nolinas at Lot 8



Lot 7 vegetation, looking N

PSBS #W567



Along old road connecting lots 6& 8



Drainage ditch on lot 8



Nolina on W-facing slope of Lot 8





PSBS #W567



Nolina on W-facing slope of Lot 8



Lot 8 along Summit Trail Road



Sage Scrub on Lot 8



PSBS #W567



Area between Lots 6 Y 8



Area between Lots 6 & 8

PSBS #W567



Road Cut at Cul de Sac



Irrigation at Cul de Sac



Landscaping along main drive at Lots 7 & 8

