

CALIFORNIA COASTAL COMMISSION

SOUTH COAST DISTRICT OFFICE
301 E. OCEAN BLVD, SUITE 300
LONG BEACH, CA 90802
PHONE: (562) 590-5071
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Th15a

REMAND

5-18-0930 (GRAHAM PROPERTY MANAGEMENT, LLC)

FEBRUARY 8, 2024

EXHIBITS

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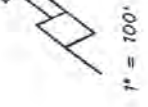
**Exhibit 17 – Memoranda: 217 Vista Marina Canyon Edge Determination dated
11/29/23**

THIS MAP WAS PREPARED FOR ORANGE COUNTY ASSESSOR DEPT. PURPOSES ONLY. THE ASSESSOR MAKES NO GUARANTEE AS TO ITS ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED. © COPYRIGHT ORANGE COUNTY ASSESSOR 1993

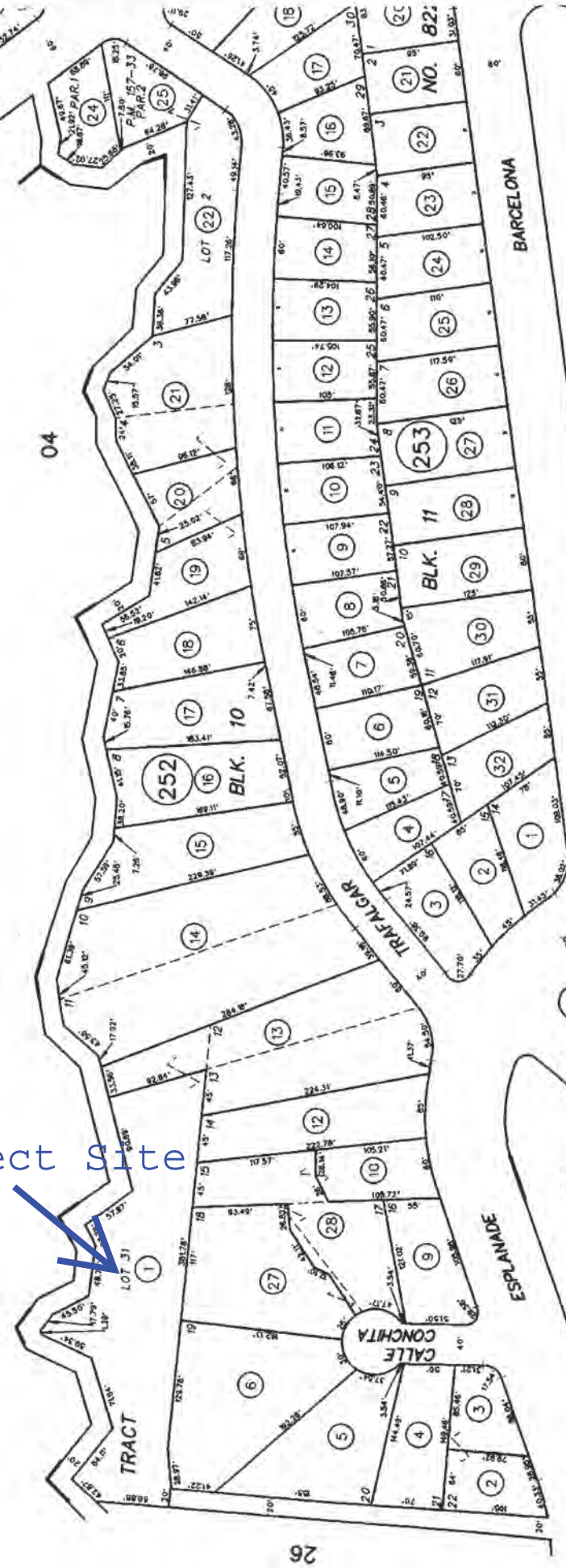
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Subject site

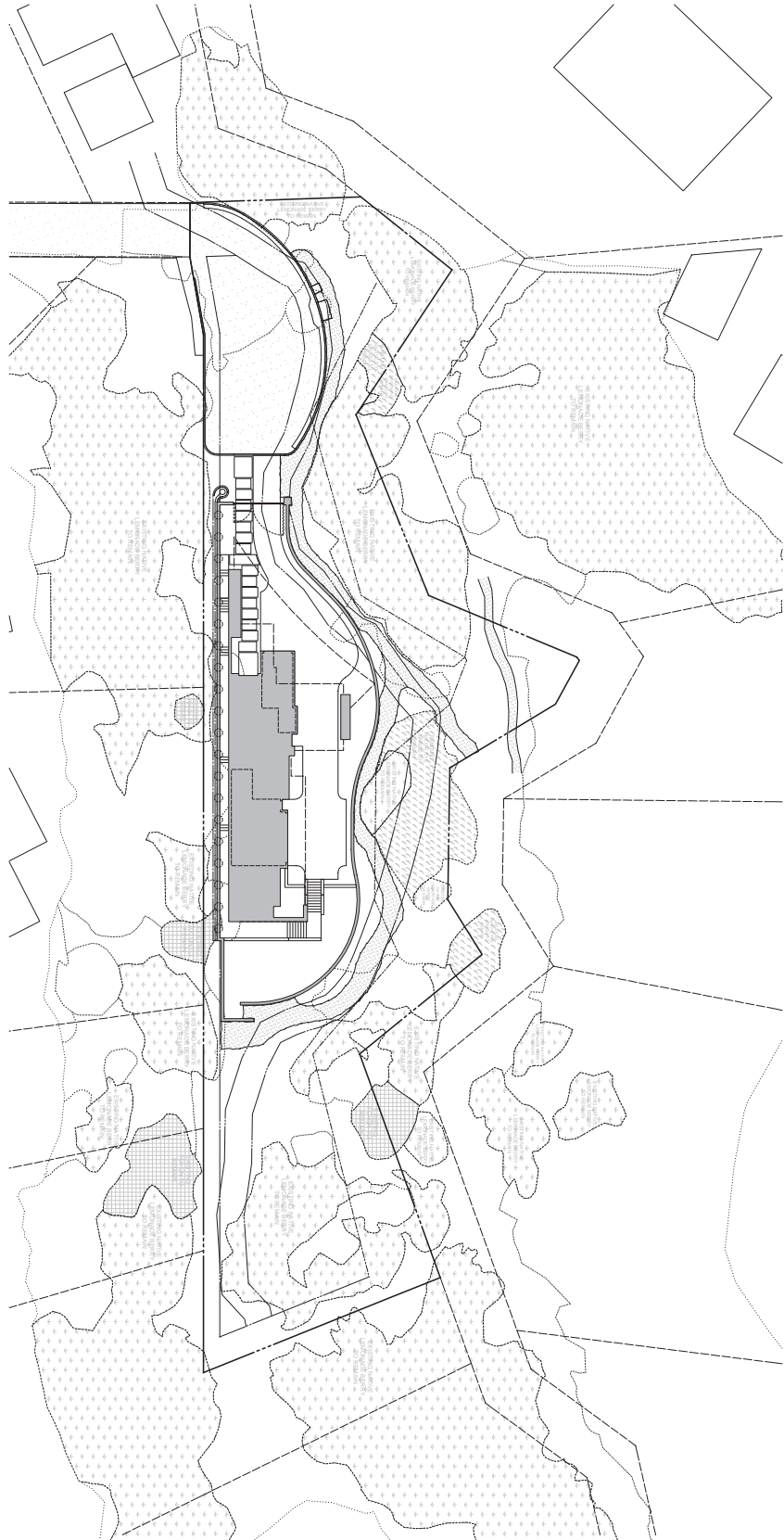


ASSESSOR'S MAP
BOOK 692 PAGE 25
COUNTY OF ORANGE

NOTE - ASSESSOR'S BLOCK &
PARCEL NUMBERS
SHOWN IN CIRCLES

TRACT NO. 822 M.M. 25-21 TO 26 INC.
PARCEL MAP P.M. 157-33

MARCH 1979



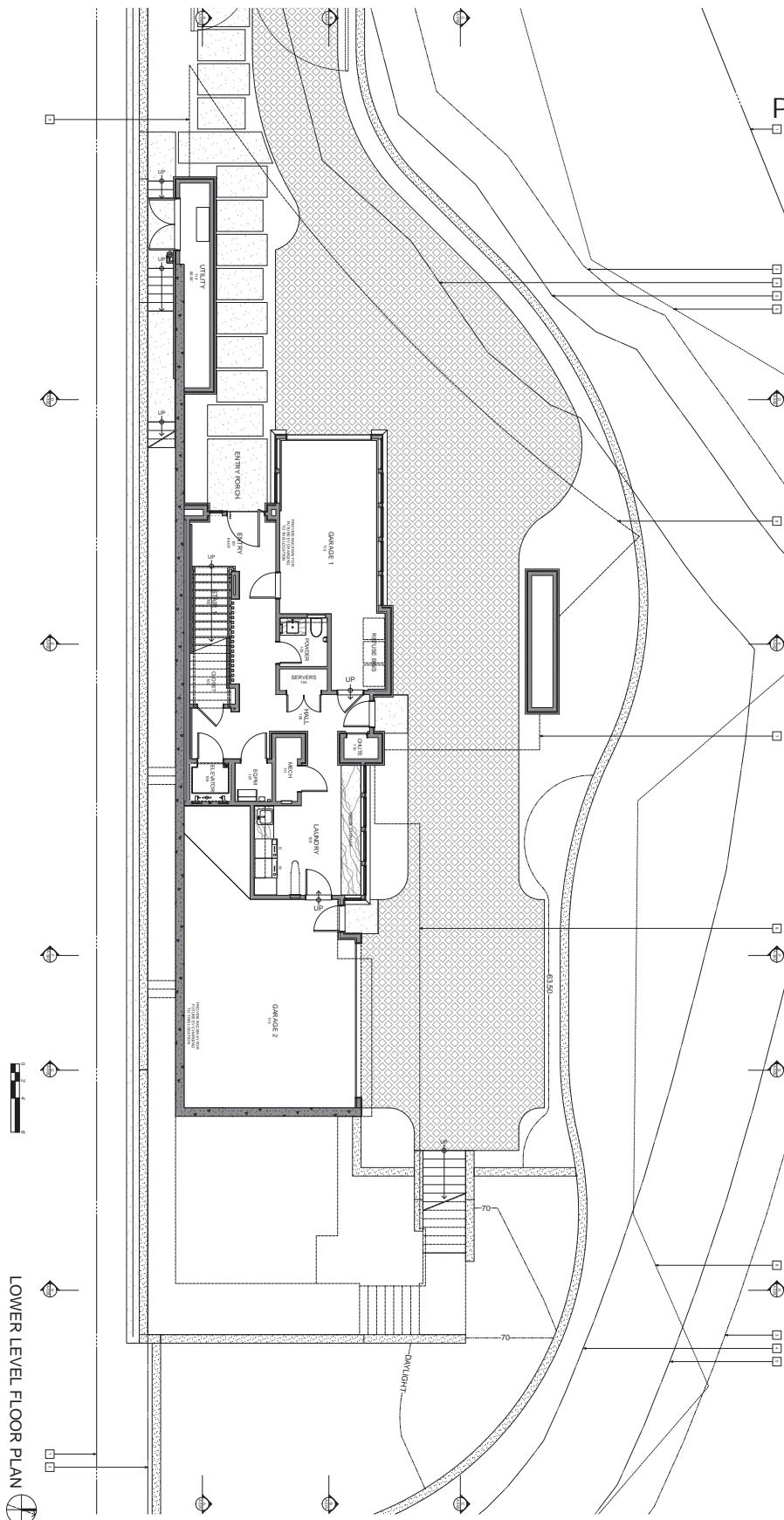
SITE ANALYSIS

SITE AREA	34,794 SQ.FT.
BUILDING FOOTPRINT	4,171 SQ.FT.
BUILDING SITE COVERAGE	12.00 %
AREA WITHIN PERMITTED WALL	6,761 SQ.FT.
AREA WITHIN PERMITTED WALL SITE COVERAGE	25.19 %
OPEN TOPGAL. CT. TRAIL AREA	2,441 SQ.FT.
BIOTOPES AND OTHER SOAK AREA	1,465 SQ.FT.
ADDITION TOPGAL. CT. TRAIL AREA	2,205 SQ.FT.
NEW TOTAL PAVED OR O.C. SOAK AREA	2,680 SQ.FT.
ORANGE AREA	875 SQ.FT.
LOWER LEVEL FLOOR AREA	726 SQ.FT.
MAIN LEVEL FLOOR AREA	2,465 SQ.FT.
UPPER LEVEL FLOOR AREA	1,312 SQ.FT.
TOTAL FLOOR AREA	4,527 SQ.FT.

PROPOSED SITE PLAN



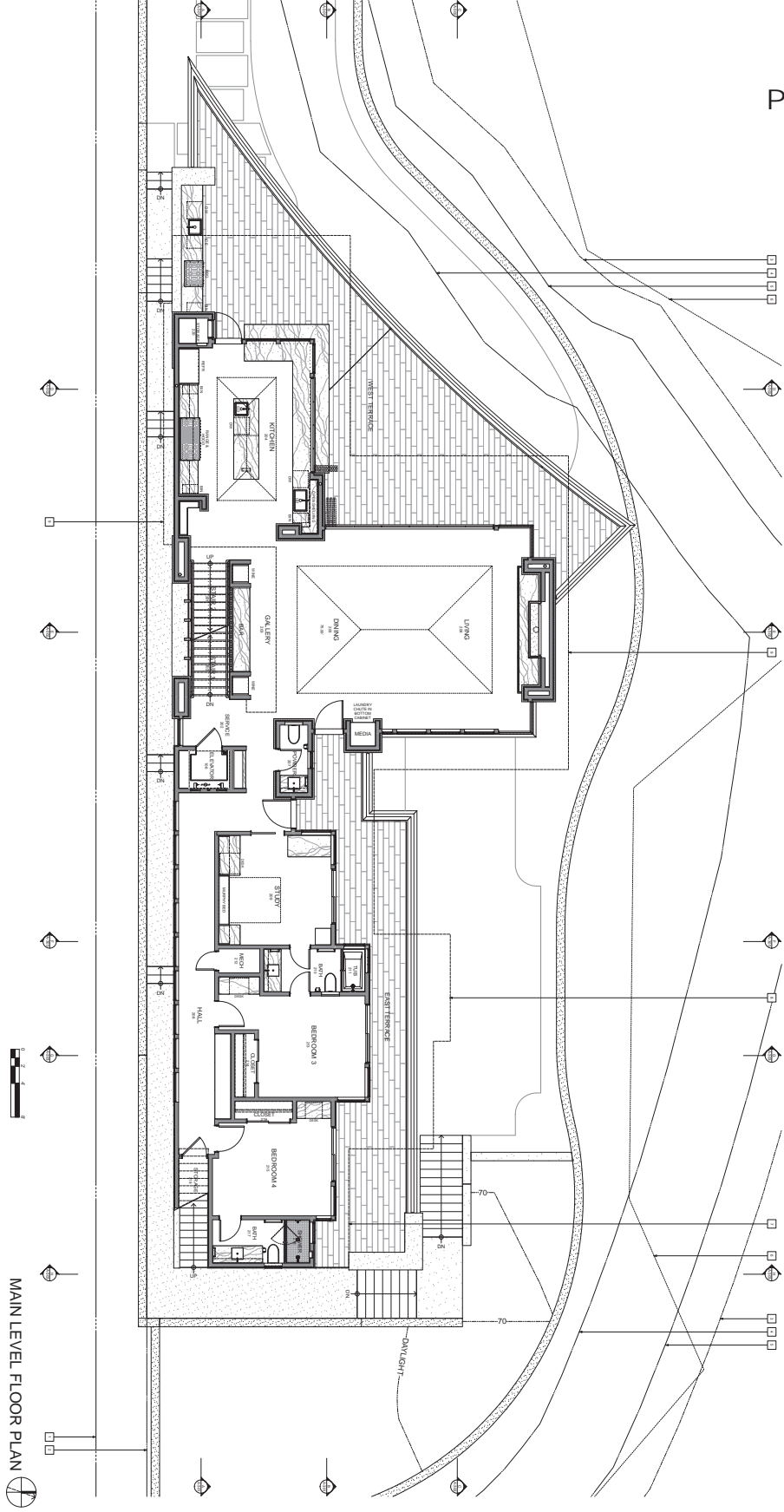
<p>REVISIONS:</p>	<p>217 VISTA MARINA RESIDENCE 217 VISTA MARINA, SAN CLEMENTE, CALIFORNIA 92672</p>		<p>David M. Sanders, Architect Residential and Commercial Design 3D Modeling / Digital Visualization Project Management Planning Analysis</p> <p>15455 Camino El Marino Capistrano Beach, CA 92624 (949) 544-1247 www.dmsdesign.com</p>
	<p>DATE: _____</p> <p>BY: _____</p> <p>SCALE: 1/8" = 1'-0"</p> <p>TITLE: PROPOSED SITE PLAN</p> <p>SHEET NO: V-101</p>		



LOWER LEVEL FLOOR PLAN

- FLOOR PLAN NOTES**
- 1. ALL DIMENSIONS ARE IN FEET AND INCHES.
 - 2. FINISHES ARE AS SHOWN ON THE FINISH SCHEDULE.
 - 3. SEE ARCHITECTURAL SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 4. SEE MECHANICAL AND ELECTRICAL SPECIFICATIONS FOR SYSTEMS AND EQUIPMENT.
 - 5. SEE STRUCTURAL SPECIFICATIONS FOR FOUNDATIONS AND CONCRETE.
 - 6. SEE CIVIL SPECIFICATIONS FOR SITEWORK AND UTILITIES.
 - 7. SEE LANDSCAPE ARCHITECTURE SPECIFICATIONS FOR PLANTING AND HARDSCAPE.
 - 8. SEE INTERIOR DESIGN SPECIFICATIONS FOR FURNITURE AND FIXTURES.
 - 9. SEE PAINT SPECIFICATIONS FOR WALLS AND CEILING.
 - 10. SEE TILE SPECIFICATIONS FOR FLOORS AND BATHS.
 - 11. SEE STAIR SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 12. SEE WINDOW AND DOOR SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 13. SEE LIGHTING SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 14. SEE SOUNDTREATMENT SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 15. SEE SPECIALTIES SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 16. SEE FINISHES SPECIFICATIONS FOR MATERIALS AND METHODS.
 - 17. SEE GENERAL NOTES FOR MATERIALS AND METHODS.
 - 18. SEE NOTES FOR MATERIALS AND METHODS.
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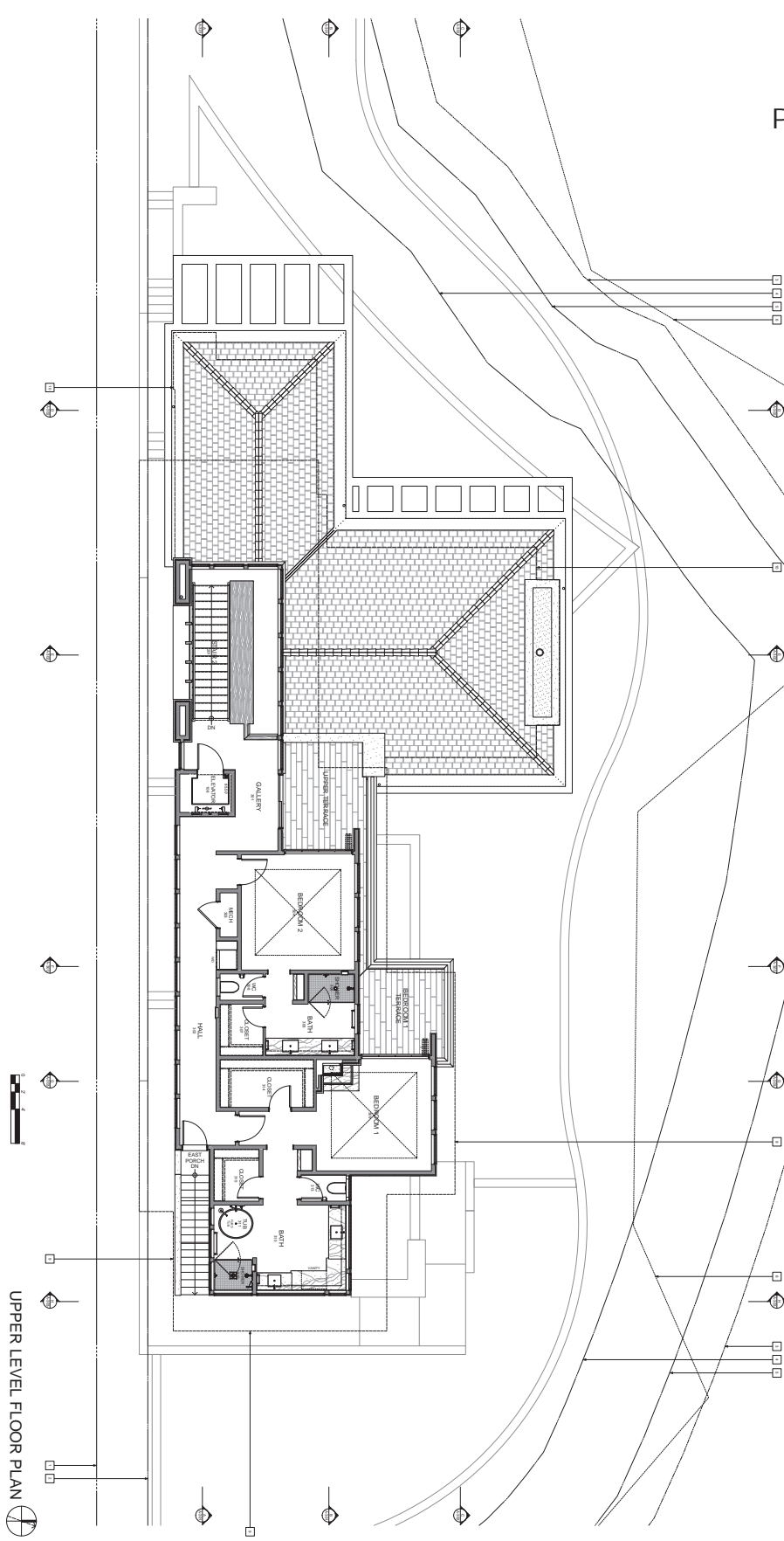
<p>217 VISTA MARINA RESIDENCE 217 VISTA MARINA, SAN CLEMENTE, CALIFORNIA 92672</p>		<p>DATE: 08/15/2018 DRAWN BY: [Name] CHECKED BY: [Name] PROJECT NO.: [Number]</p>	<p>SCALE: 1/8" = 1'-0"</p>						
<p>REVISIONS:</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	DATE	DESCRIPTION				<p>PROJECT LOCATION:</p> <p>OWNER:</p> <p>ARCHITECT:</p> <p>DATE:</p>	<p>PROJECT NO.:</p> <p>DATE:</p>
NO.	DATE	DESCRIPTION							
<p>A-102</p>		<p>LOWER LEVEL FLOOR PLAN</p>	<p>DATE: 08/15/2018</p>						



MAIN LEVEL FLOOR PLAN

- FLOOR PLAN NOTES**
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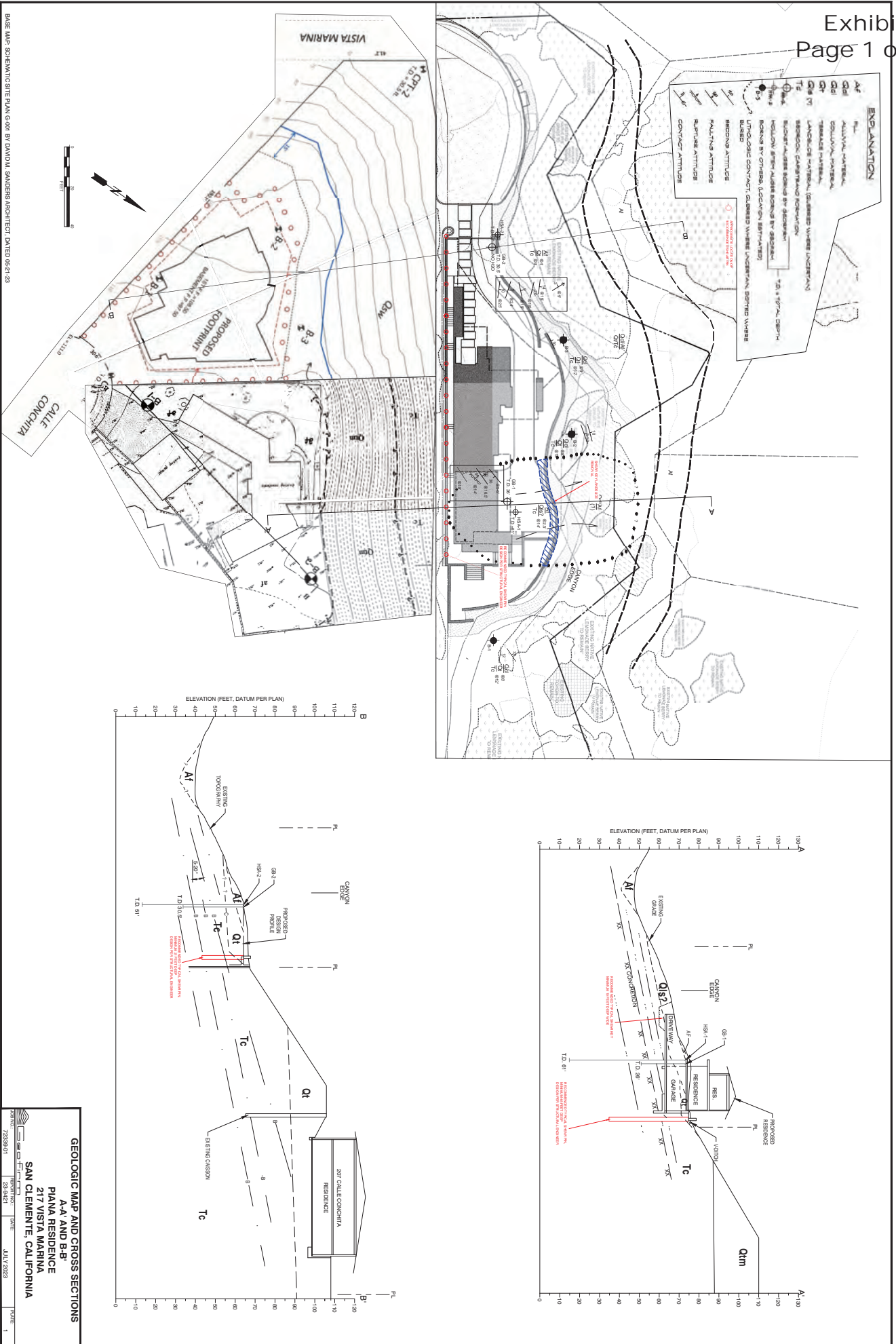
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UPPER LEVEL FLOOR PLAN

- FLOOR PLAN NOTES**
- 1. SEE ARCHITECTURAL SPECIFICATIONS.
 - 2. SEE ARCHITECTURAL SPECIFICATIONS.
 - 3. SEE ARCHITECTURAL SPECIFICATIONS.
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 - 20. SEE ARCHITECTURAL SPECIFICATIONS.

<p>217 VISTA MARINA RESIDENCE 217 VISTA MARINA, SAN CLEMENTE, CALIFORNIA 92672</p>		<p>REV. NO. 1 DATE 10/15/10</p>	<p>REV. NO. 2 DATE 10/15/10</p>	<p>REV. NO. 3 DATE 10/15/10</p>	<p>REV. NO. 4 DATE 10/15/10</p>	<p>REV. NO. 5 DATE 10/15/10</p>	<p>REV. NO. 6 DATE 10/15/10</p>	<p>REV. NO. 7 DATE 10/15/10</p>	<p>REV. NO. 8 DATE 10/15/10</p>	<p>REV. NO. 9 DATE 10/15/10</p>	<p>REV. NO. 10 DATE 10/15/10</p>
<p>A-104</p>		<p>UPPER LEVEL FLOOR PLAN</p>									



- Parcel Boundary
- Limits of Impact
- Aloe
- Disturbed/Developed
- Disturbed/Ruderal
- Fennel
- Hibiscus
- Iceplant
- Lemonade Berry
- Myoporium
- Nasturtium
- Ornamental
- Palm
- Rye Grass
- Toyon
- Yucca



1 inch = 60 feet

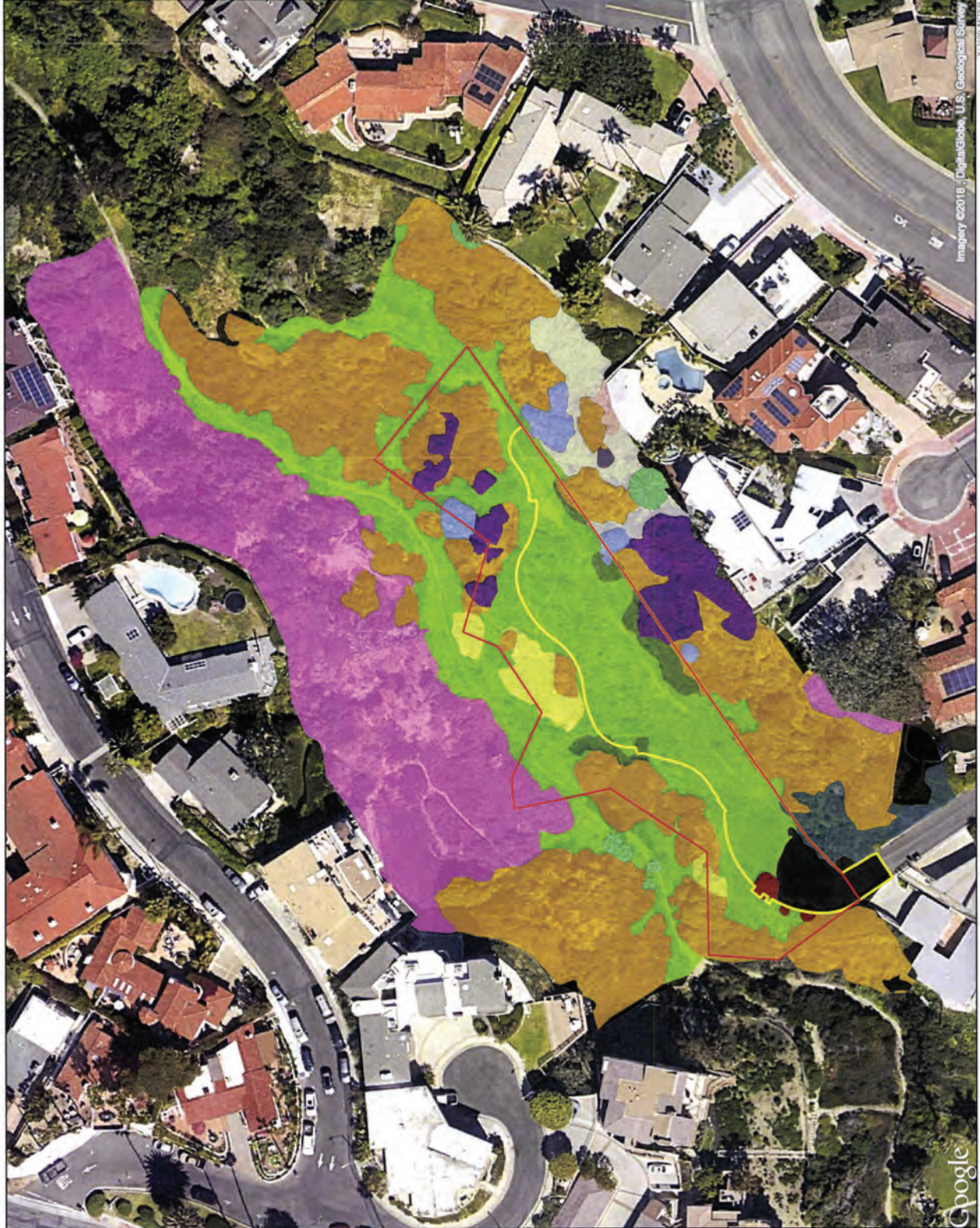
Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Drawn by: C. Lukos, GLA
 Date Prepared: May 24, 2018

217 VISTA MARINA

Vegetation/Impact Map

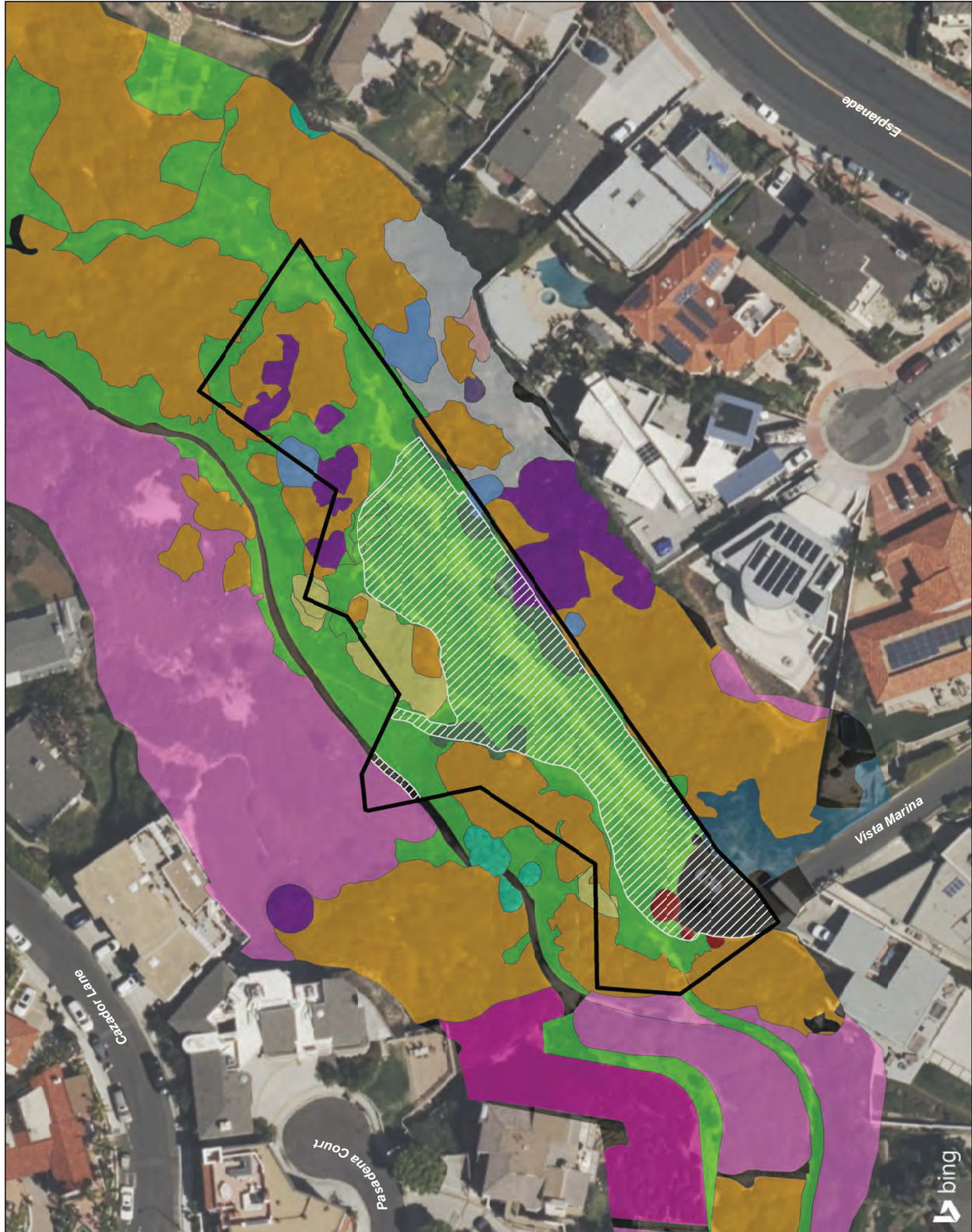
GLENN LUKOS ASSOCIATES

Exhibit 3



Imagery ©2018 - DigitalGlobe, U.S. Geological Survey

X:\1000\PROJECTS\1307-01\1307-01_VISTA_MARINA_Vegetation\Map\217_Vista_Marina_Vegetation_Impact_Map.mxd



- Project Site
- Impact Limits
- Acacia
- Aloe
- Disturbed/Ruderal
- Fennel
- Hibiscus
- Iceplant
- Lemonade Berry
- Myoporium
- Nasturtium
- Ornamental
- Palm
- Rye Grass
- Toyon
- Yucca
- Disturbed/Developed



1 inch = 50 feet



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD 1983 2011
 Map Prepared by: B. Gale, GLA
 Date Prepared: June 30, 2023

217 VISTA MARINA

Vegetation Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 1

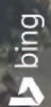


Figure 4-2-A Potential Habitat Study Areas



FIGURE 4-2-A
Potential Habitat Study Areas - Map A

Local Coastal Program - Land Use Plan
March 2018

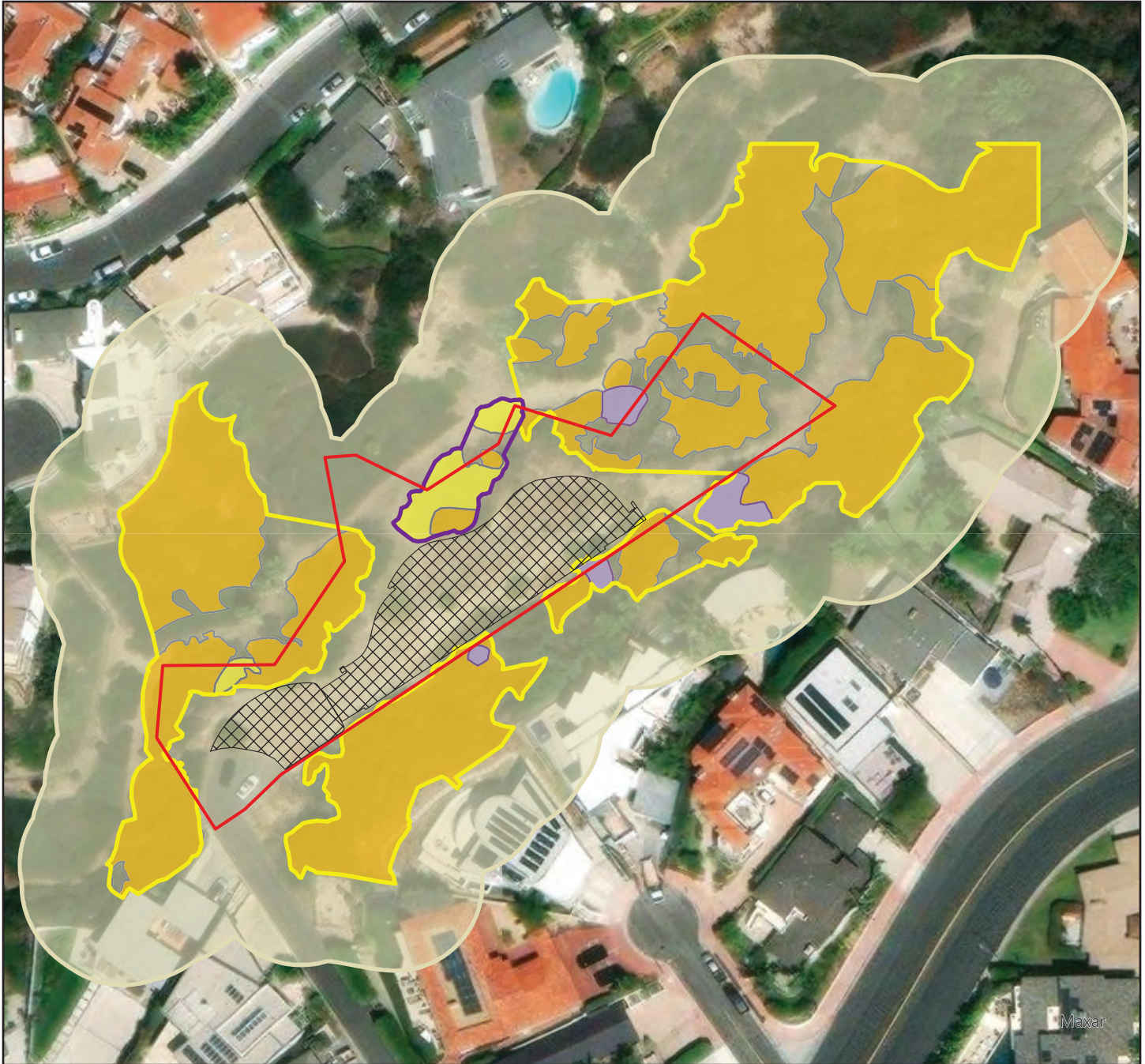


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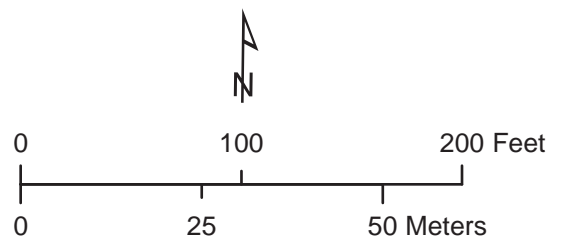
SOURCE: Google Earth Maps 2015

Biological Inventory Report for San Clemente LCP

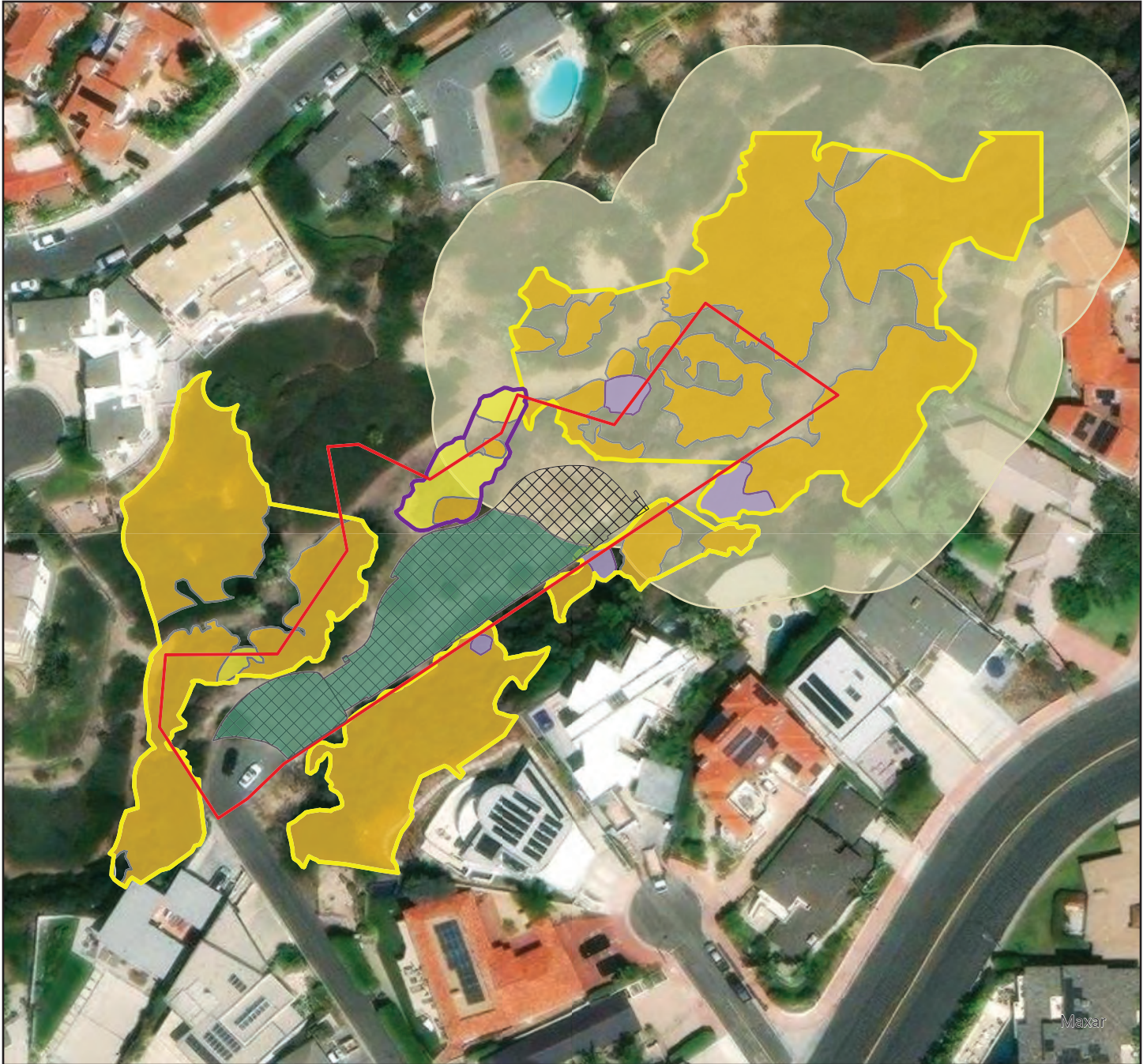
50-foot ESHA Buffer at 217 Vista Marina, San Clemente












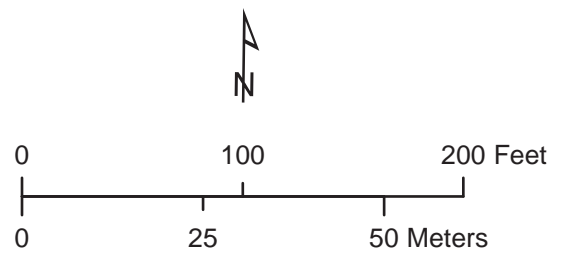
- ▣ Proposed Development Footprint
- ▣ Parcel 06059-692-252-01
- ▣ Giant Wild Rye Grassland ESHA
- ▣ Lemonade Berry Scrub ESHA Stand
- ▣ Toyon
- ▣ Giant Wild Rye Grass
- ▣ Lemonade Berry Scrub
- ▣ 50-foot ESHA Buffer



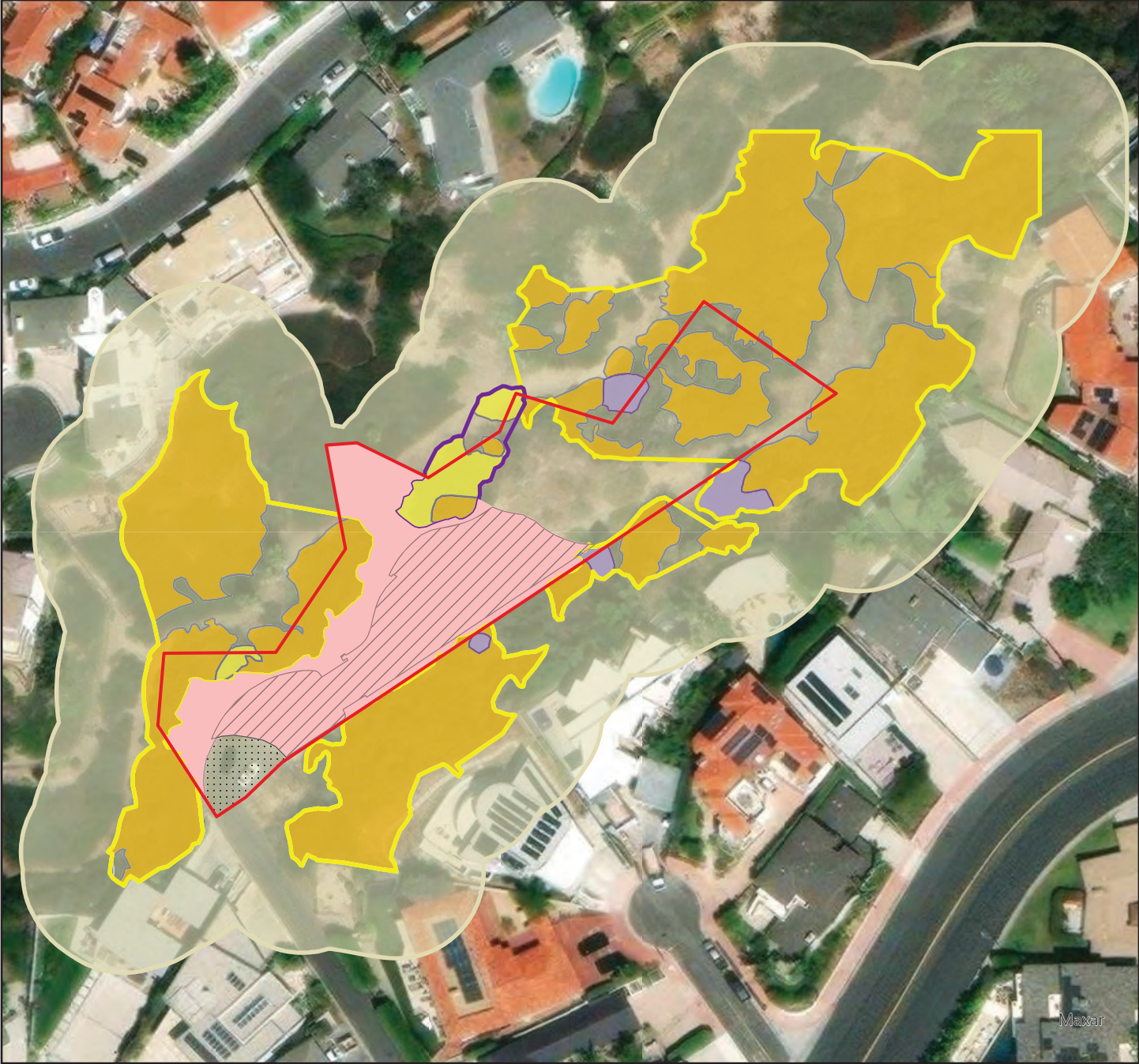
Allowable Development Footprint at 217 Vista Marina, San Clemente













-  Allowable Development Footprint Outside of 50-foot Buffer of Largest Lemonade Berry Scrub ESHA Stand
-  Proposed Development Footprint
-  Parcel 06059-692-252-01
-  Giant Wild Rye Grassland ESHA
-  Lemonade Berry Scrub ESHA Stand
-  Toyon
-  Giant Wild Rye Grass
-  Lemonade Berry Scrub
-  50-foot Buffer of Largest Lemonade Berry Scrub Stand



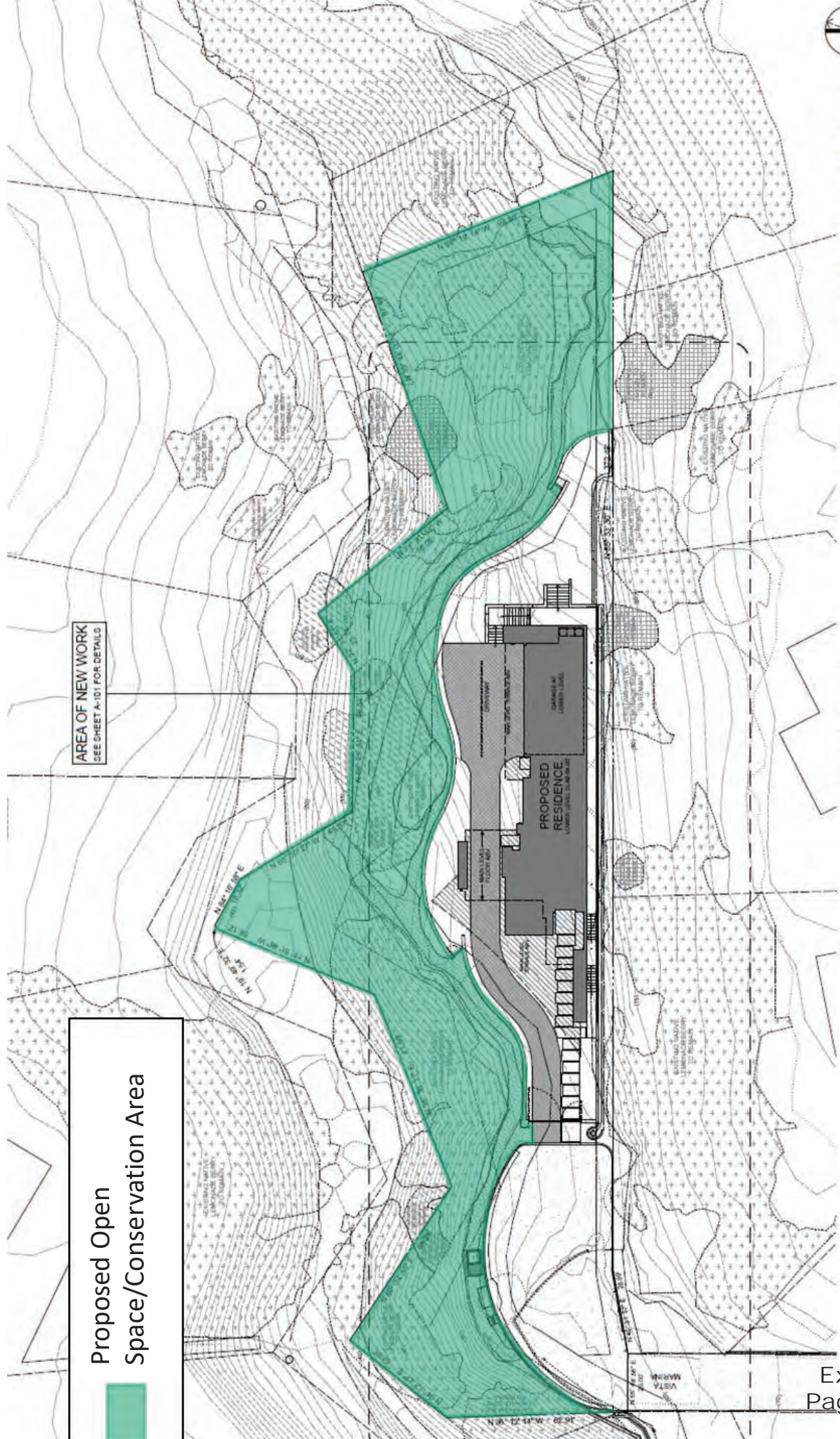
Buffer Mitigation Area within 50-feet of ESHA at 217 Vista Marina, San Clemente



-  Allowable Development Footprint Outside of 50-foot Buffer of Largest Lemonade Berry Scrub ESHA Stand
-  Existing Development
-  Parcel 06059-692-252-01
-  Giant Wild Rye Grassland ESHA
-  Lemonade Berry Scrub ESHA Stand
-  Toyon
-  Giant Wild Rye Grass
-  Lemonade Berry Scrub
-  50-foot ESHA Buffer
-  BufferMitigationArea_NoCuldeSac

Approximate location of proposed trail





OVERALL SITE PLAN

Proposed Open Space/Conservation Area

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST DISTRICT OFFICE
89 SOUTH CALIFORNIA STREET, SUITE 200
VENTURA, CA 93001-2801
VOICE (805) 585-1800
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WWW.COASTAL.CA.GOV



MEMORANDUM

FROM: Jonna D. Engel, Ph.D., Environmental Program Manager/Ecology Group
Lead Ecologist

TO: Liliana Roman, Coastal Program Resilience Analyst

SUBJECT: Updated ESHA Determination for 217 Vista Marina, San Clemente
(Orange County)

DATE: January 23, 2024

Documents Reviewed:

Bomkamp, T. (Glenn Lukos Associates). December 20, 2023. Further Considerations Regarding Vegetation Alliance Mapping and Buffer Requirements for 217 Vista Marina, San Clemente, California (Piana Residence). Letter report prepared for Dr. Jonna Engel, California Coastal Commission.

Engel, J. November 30, 2023. Updated ESHA Determination for 217 Vista Marina, San Clemente (Orange County). Memorandum to Liliana Roman.

Glenn Lukos Associates. October 23, 2023. Additional Considerations Regarding Vegetation Alliances at 217 Vista Marina, San Clemente. Project #: 13070002UPDA. Prepared for Mark McGuire.

Glenn Lukos Associates. June 29, 2023. Status of Biological Resources Associated with 217 Vista Marina, San Clemente, Orange County. Project #: 13070002UPDA. Prepared for Tony Piana.

Engel, J. May 29, 2019. 217 Vista Marina, San Clemente (Orange County) ESHA Determination. Memorandum to Liliana Roman.

Graham Property Overall Site Plan, 5-180930. Received, September 21, 2018. 217 Vista Marina, San Clemente, CA.

Glenn Lukos Associates. July 2018. Biological Technical Report, 217 Vista Marina, City of San Clemente, Orange County, California. Prepared for Graham Property Management, LLC.

Background

In May 2019 I determined that the undeveloped 0.84-acre lot located in Trafalgar Canyon at 217 Vista Marina, San Clemente, CA supported *Rhus integrifolia* Shrubland Alliance (Lemonade Berry Scrub). I found that the location where the Lemonade Berry Scrub existed rose to the level of an environmentally sensitive habitat area (ESHA) because of the vegetation's California Department of Fish and Wildlife (CDFW) and NatureServe rarity ranking of G3 S3¹ and its susceptibility to disturbance or degradation. I based my determination on the vegetation mapping conducted by the applicant's biological consultant and documented in their 2018 biological technical report, as well as google earth aerial images, site photographs, and consultation with a vegetation expert. The memorandum supporting this determination is attached here (see Addendum A).

On June 14, 2019, the Commission denied a coastal development permit application (CDP applic. # 5-18-0930) for residential development at 217 Vista Marina in San Clemente. The applicant subsequently sued the Commission, and on December 15, 2022, the superior court issued a writ of mandate directing the Commission to set aside its decision from June 14, 2019; hold a new hearing on CDP Application 5-18-0930; and approve, conditionally approve, or deny the application based upon the evidence presented at the new hearing.

It has now been over four years since I made the determination that there is Lemonade Berry Scrub ESHA on the parcel at 217 Vista Marina. In the interim, and specifically following the judge's decision, the applicant's agent, Mark McGuire, and consulting biologist, Tony Bomkamp of Glenn Lukos Associates (GLA), submitted numerous emails (see staff report substantive file documents), two technical memoranda (June 29, 2023, and October 23, 2023), and most recently a letter report (December 20, 2023) contesting my ESHA and buffer determinations. I have subsequently re-examined the historical and current status of the site biology; reviewed GLA's biological and technical memoranda and letter report, Mr. McGuire and Mr. Bomkamp's emails; reviewed the *Manual of California Vegetation, Second Edition* (MCV2) vegetation membership rules²; consulted with vegetation experts; and worked with the Commission's mapping unit to update my 2019 memorandum ESHA determination in my November 30, 2023 memorandum (see Addendum B). This memorandum is my November 30, 2023 memorandum with an updated section regarding the cleared area on the relatively flat area on the subject site and a response to the considerations Mr. Bomkamp asked for in his December 20, 2023 letter report to me.

¹ It is important to note that the Coastal Commission does not determine what is rare; rather, the Commission relies on rarity rankings determined by agencies such as the CDFW, in partnership with NatureServe, the U.S Fish & Wildlife Service, and the California Native Plant Society (CNPS), who determine the rarity status of plants, animals, and habitats in California, and considers any of these with global and/or state rarity rankings of 1, 2, or 3 to be rare.

² Online version of the *Manual of California Vegetation, Second Edition*; <https://vegetation.cnps.org/>

Vegetation Clearing

The subject lot in Trafalgar Canyon consists of a coastal canyon slope with a relatively flat area mid-slope. The applicant is currently proposing to develop approximately 40% of the 34,784 sq. ft. lot and build a 4,527 square foot home on the relatively flat portion of the lot.

Prior to assessing vegetation communities in an area, it can be important to consider whether that vegetation has been illegally modified. According to GLA, the relatively flat portion of the subject parcel has been annually cleared as part of the City's nuisance abatement program. Apparently, as part of the program, the relatively flat area is maintained for fire prevention. The Commission's Enforcement Unit investigated this activity to determine if the removal of vegetation, including removal of giant wild rye grass (*Leymus condensatus*) that occurred as part of the clearance may have been illegal. Removal of major vegetation generally constitutes development under the Coastal Act and therefore requires a permit. Furthermore, given that Giant Wild Rye Grassland patches rise to the level of ESHA, this annual clearance would have definitely required a permit. This annual clearance was never permitted, and the Enforcement Unit did not believe that the nuisance abatement order required removal of the giant wild rye grass. Early in this process, before I realized in 2023 that Giant Wild Rye Grassland rose to the level of ESHA based on its G3 S3 ranking, I consulted with Enforcement Unit staff regarding how to treat the removal of this vegetation.

On May 10, 2019, Jordan Sanchez, enforcement analyst, sent me photos of the subject parcel and surroundings before and after vegetation clearance (Figures 1a – 1d). He asked me if I was able to identify any of the native species being cleared. In the "before" pictures, I could see some patches of giant wild rye grass spanning the northern portion of the site within and along the edge of the black rectangle and into the canyon to the west and what has been identified as an individual non-native myoporum bush along and in the center of the eastern edge of the black triangle (Figures 1a and 1b). I also identified giant wild rye grass along the edge and growing back in small patches of the cleared area and a native California sunflower (*Encelia californica*) bush at the edge of the cleared area (Figures 1c and 1d). Enforcement staff thus concluded that the extent of major vegetation removal associated with fire prevention at the site was limited to removal of giant wild rye grass. It was my professional opinion in 2019, and still is, that without the annual clearing, the small patches of Giant Wild Rye Grassland would expand in the relatively flat cleared portion of the site.

We considered mapping where I believe additional Giant Wild Rye Grassland patches would have grown on the portion of the cleared area, based on my professional estimation, absent the annual clearing. If we were to have done this even more of the subject site would likely have been identified as ESHA. While it would be possible to make a professional estimate of the extent of giant wild rye grass that might have occurred on the site absent the clearing, we have decided to require the applicant to do this via a special condition. This is because, while the precise extent of the Giant Wild Rye Grassland ESHA that would have existed in the cleared area is relevant for the mitigation requirement it does not affect the consistency of the proposed project with

Coastal Act section 30240 because it is clear that the entire development remains within the buffer area that I find to be mandated by Section 30240(b), as discussed below, and some of it is directly within ESHA. As such, regardless of the extent of the Giant Wild Rye Grassland ESHA, the entire proposal is inconsistent with Section 30240.

Vegetation Mapping

GLA conducted general reconnaissance wildlife surveys and habitat assessments of the site on March 29 and April 27, 2018, during which 13 birds were observed, including Allen and Anna's hummingbirds, American goldfinch, lesser goldfinch, house finch, bushtit, California towhee, mourning dove, white-crowned sparrow, yellow-rumped warbler, northern mockingbird, American crow, and common raven. Other evidence of animals observed on-site included coyote and racoon tracks. No reptiles or amphibians were seen on the two dates when surveys were conducted.

GLA also conducted focused plant surveys to map the vegetation on the site on March 29 and April 27, 2018. GLA identified and mapped vegetation according to the habitat descriptions provided by the *Manual of California Vegetation, Second Edition*. They mapped the vegetation communities to the thousandth of an acre, or 43.6 square feet. GLA mapped two special status native vegetation communities: 0.169 acres of lemonade berry scrub and 0.035 acres of giant wild rye grassland. 0.007 acres of native Toyon scrub (*Heteromeles arbutifolia*) was also mapped, and a single individual California boxthorn (*Lycium californicum*), a 4.2 listed California Native Plant Society (CNPS) rare plant, was identified on the extreme western end of the site. GLA also mapped patches of non-native and invasive species including myoporum, acacia, fennel, and iceplant (Figure 2).

In the 2018 biological technical report, GLA biologist Tony Bomkamp described the lemonade berry scrub as follows:

Lemonade berry scrub consisting of lemonade Berry [sic] (Rhus integrifolia) occur on the slope along the southern edge of the property and in some areas extend just beyond the property line. Other patches occur at the eastern end of the property where it forms a mosaic with non-native myoporum (Myoporum laetum). The property supports 0.169 acre of lemonade berry scrub.

GLA biologist, Tony Bomkamp, returned to the site on May 22, 2023, and in the technical memorandum prepared for Tom Piana, *Status of Biological Resources Associated with 217 Vista Marina, San Clemente, Orange County*, dated June 29, 2023, states that:

Conditions on the site and adjacent areas have not substantially changed relative to the conditions recorded in the 2018 report. Importantly, vegetation alliances have not changed other than a few very minor differences to off-site areas.

On October 23, 2023, Mr. Bomkamp submitted another technical memorandum, this time prepared for Mark McGuire, whose subject was *Additional Considerations Regarding Vegetation Alliances at 217 Vista Marina, San Clemente*. In this memorandum, Mr. Bomkamp revised his vegetation map to identify the lemonade berry scrub stands on the site as “disturbed lemonade berry scrub” instead of “lemonade berry scrub” because he notes that the areas mapped as lemonade berry are not 100% lemonade berry bushes but include non-native species such as myoporum, acacia, aloe, jade, and other non-native vegetation (Figure 3).

The fact that the mapped lemonade berry is intermixed with native shrubs including toyon and California sunflower, as well as the non-native species listed above, is not surprising and rather expected, especially in Southern California where almost all native habitats are invaded by non-native and invasive species to one degree or another. In this case, the presence of scattered non-natives amongst the lemonade berry bushes does not preclude the lemonade berry stands from meeting the MCV2 membership rules for the *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub). During a Microsoft Teams remote meeting with Julie M. Evens, Vegetation Program Director, CNPS and Rachelle Boul, Senior Environmental Scientist, CDFW Vegetation Classification and Mapping Program (pers. comm., November 27, 2023), they concurred that lemonade berry scrub can be intact even if, as is sometimes the case, it is disturbed with non-native species interspersed with lemonade berry bushes and other associated native species such as toyon; and that it would still be considered *Rhus integrifolia* Shrubland Alliance as long as the respective membership rules threshold for relative cover of lemonade berry in the shrub layer is met.

On January 12, 2024, I visited the subject site along with several Coastal Commission staff and the applicant’s agent Mark McGuire. The main reason for the site visit was to review if any of the modifications suggested by Mr. Bomkamp in his December 20, 2023 letter report to me were warranted. In his letter report, *Further Considerations Regarding Vegetation Alliance Mapping and Buffer Requirements for 217 Vista Marina, San Clemente, California (Piana Residence)*, one of Mr. Bomkamp’s changes for my consideration was to separate out myoporum bushes from the largest lemonade berry scrub patch located at the north end of the property (Figure 4) as a unique and distinct individual patch (Figure 6). I considered this but determined that this request was unfounded for several reasons. First, based on my observations of the percent cover of lemonade berry bushes in this patch and my knowledge of the MCV2 membership rules for Lemonade Berry Scrub (see below), the percent cover of lemonade berry bushes clearly meets the threshold relative cover value for the shrub canopy. Second, the Lemonade Berry Scrub on the site, in addition to lemonade berry, includes other native bushes listed in the definition for Lemonade Berry Scrub (e.g. toyon and California sunflower) in the shrub canopy. And thirdly, the presence of scattered non-native shrubs (e.g. myoporum, etc.) interspersed in the shrub layer is expected (see discussion above). In addition, I have rejected Mr. Bomkamp’s other changes for consideration including that none of the vegetation on the property rises to the level of ESHA and that buffers smaller than 50 feet would not significantly degrade the ESHA I identified.

The following are the MCV2 membership rules for Lemonade Berry Scrub. Although I do not have quantitative data for the relative cover of lemonade berry bushes for each patch of Lemonade Berry Scrub, it is clear from the amount of mapped lemonade berry within each individual stand, that the membership rule for *Rhus integrifolia* Shrubland Alliance is easily met:

- *Rhus integrifolia* > 30% relative cover with coastal scrub species as co-dominants in the shrub canopy (Evens and San 2005).
- *Rhus integrifolia* > 50% relative cover in the shrub canopy (Keeler-Wolf and Evens 2006).
- *Rhus integrifolia* or *Rhamnus pirifolia* is > 50% relative cover in the shrub canopy, or > 30% relative cover with *Artemisia californica*, *Baccharis pilularis*, *Genista linifolia*, *Malosma laurina*, or *Diplacus aurantiacus* (Rodriguez et al. 2017, Dixon et al. 2019)³

The following are the MCV2 membership rules for Giant Wild Rye Grassland. Although I also do not have the quantitative data for the relative cover of giant wild rye grass in the patch, it is equally clear from the amount of mapped giant wild rye grass, that the membership rule for *Leymus condensatus* Grassland Alliance is easily met:

- *Leymus condensatus* > 50% relative cover in the herbaceous layer (Keeler-Wolf and Evens 2006, Verdone and Evens 2010, Sproul et al. 2011, Buck-Diaz et al. 2015).
- *Leymus condensatus* > 30% relative cover in the herbaceous layer (Rodriguez et al. 2017).

Based on GLA's 2018 and 2023 vegetation maps of the subject site and vicinity (Figures 2 and 3), which have remained virtually the same, I have identified four patches (also referred to as stands) of lemonade berry scrub and one patch of Giant Wild Rye Grassland (Figure 4). Stands (patches) are the unit that the CDFW and the CNPS map for delineating unique vegetation communities. According to the March 7, 2023 'CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment and Relevé Field Form'⁴:

A stand is the basic physical unit of vegetation in a landscape. It has no set size. Some vegetation stands are very small, such as a portion of a vernal pool, and some may be several square kilometers in size, such as a forest type.

CDFW and CNPS further state that stands have three main unifying characteristics:

1. Compositional integrity. Throughout the site the combination of species is similar – the stand is differentiated from adjacent stands by a discernable boundary that may be abrupt or indistinct.

³ <https://vegetation.cnps.org/alliance/266>

⁴ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18599&inline>

2. Structural integrity. It has a similar history of environmental setting that affords relatively similar horizontal and vertical spacing of plant species.
3. Repeating pattern on the landscape. Where the plant assemblage occurs in other sites with similar plant composition and environmental setting.

The *Rhus integrifolia* Shrubland Alliance, commonly known as lemonade berry scrub, has a rarity ranking of G3 S3⁵. The patches I delineated of lemonade berry scrub on the subject parcel and in the vicinity of the proposed development meet the CDFW/CNPS definition and characteristics of stands and are part of a much larger community that occurs throughout Trafalgar Canyon (Figure 4).

The *Leymus condensatus* Herbaceous Alliance, commonly known as Giant Wild Rye Grassland, also has a rarity ranking of G3 S3. The Commission's Enforcement Unit found that patches of giant wild rye grass were cleared as part of the City's annual vegetation maintenance on the relatively flat pad but other patches occurred on the slopes and amongst the scrub vegetation. The one remaining patch of Giant Wild Rye Grassland I delineated meets the CDFW/CNPS definition and characteristics of a stand (Figure 4).

ESHA Determination

The Coastal Act refers to areas that are home to rare plants, animals, and habitats that can be easily disturbed or degraded as environmentally sensitive habitat areas, or "ESHA." Section 30107.5 of the Coastal Act defines ESHA 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".

The Coastal Commission does not determine what is rare, rather the Commission relies on rarity rankings determined by agencies and organizations such as CDFW, NatureServe, the U.S Fish & Wildlife Service, and CNPS, who determine the rarity status of plants, animals, and habitats (vegetation communities) in California. CDFW, in partnership with NatureServe, consider any plant, animal, or habitat with global and/or state rarity rankings of 1, 2, or 3 to be rare. The Coastal Commission, following CDFW's lead, considers any area that houses any plant, animal, or habitat with a global or state rarity status of 1, 2, or 3 and that is easily disturbed, to rise to the level of ESHA. Therefore, because the lemonade berry scrub and giant wild rye grassland stands have G3 S3 rarity rankings and are easily disturbed by human activities such as vegetation clearing and ornamental landscaping, irrigation, and herbicide use,

⁵ Global and State Level 3 communities and species are identified as "vulnerable – at moderate risk of extinction due to a restricted range, relatively few populations (often ≤ 80), recent and widespread declines, or other factors" (<http://www.natureserve.org/conservation-tools/conservation-status-assessment>).

among others, associated with residential development, I find the stands to rise to the level of ESHA (Figure 4).

In GLA's 2018 biological technical report, Tony Bomkamp states:

GLA's professional opinion is that none of the vegetation within the site warrants a designation as ESHA. None of the vegetation is providing habitat for rare or endangered fauna, none of the plants present in and of themselves are rare or endangered, and the native vegetation consists of only small patches that are either surrounded or intermixed with non-native vegetation, or both.

However, based on our understanding of past Coastal Commission actions and the current understanding/rarity status of Giant Wild Rye and the Lemonade Berry Scrub Shrubland Alliance, GLA's professional opinion is that the Commission's staff will recommend an ESHA designation for the three Giant Wild Rye patches and those areas of the Lemonade Berry Scrub on the Project site that are immediately adjacent to additional Lemonade Berry Scrub such that the patch comprises more than just an isolated plant or two.. [sic] Individual Lemonade Berry plants in isolation or patches consisting of just two or three smaller shrubs surrounded by non-native vegetation may be excluded from the staff's ESHA recommendation (again, this is based on past Commission actions along Trafalgar Canyon). If the ultimate ESHA determination does include larger contiguous patches but excludes smaller patches, then the Project impacts to Lemonade Berry will likely be divided between ESHA and non-ESHA impacts.

GLA was correct that Commission staff, in this case, myself, Dr. Jonna Engel, Environmental Program Manager and Ecology Group lead, would recommend an ESHA designation for the Giant Wild Rye Grassland and Lemonade Berry Scrub patches on the subject parcel and vicinity for the reasons laid out above, and therefore disagree with GLA that none of the vegetation in this area of Trafalgar Canyon warrants an ESHA designation. I further disagree with GLA regarding the value of the site vegetation. GLA states that none of the vegetation provides habitat for rare or endangered flora or fauna. Yet, they identified a rare individual California boxthorn plant on site and during just two days of wildlife reconnaissance surveys, GLA identified 13 species of native birds and coyote and racoons using the site. It is also possible that if more time was spent surveying rare species would be observed. Importantly, the subject parcel is located within undeveloped Trafalgar Canyon which is characterized by steep slopes lined with native and non-native vegetation. The canyon serves as a wildlife corridor that enables dispersal and traveling between inland open space and coastal beaches and ocean. The native animals observed on the site and other species including reptiles would likely use the site and surrounding areas for nesting, resting, foraging, finding mates and for traveling between undeveloped open spaces.

ESHA Protection

Section 30240 of the Coastal Act requires that ESHA be protected and buffered as follows:

- (a) *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.*
- (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 those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Buffers are important for preserving the integrity and natural function of individual species and habitats. The purpose of a buffer is to create a zone where there will be little or no human activity; to “cushion” species and habitats from disturbance and allow native species to go about their “business as usual”. A buffer area is not itself a part of the ESHA, but a “buffer” or “screen” that protects the habitat area from adverse environmental impacts caused by development.

A primary function of buffers is to protect against human and domestic animal disturbance, that is, to keep disturbance at a distance. Human activity immediately adjacent to sensitive species and habitats can produce disturbance in the form of noise pollution (machinery, voices, music, construction, etc.), light pollution (artificial lighting, shading, and canopy removal) and foot traffic. Just the presence of humans is disturbing and disruptive to the normal functioning of many wild animals. Domestic animals are often associated with development, and cats and dogs may hunt and otherwise disturb native organisms including pollinators, other insects, amphibians, reptiles, birds, and mammals. Additionally, landscaping irrigation around development can negatively impact the natural community and application of pesticides for landscaping or building maintenance may be extremely harmful to native habitats. Buffers act as a barrier to both excessive water and anthropogenic chemicals. Buffers also protect against invasive plant and animal species that are often associated with humans and development. Such invasive species arrive on car tires (both during and after construction), fill soils, construction materials, and in myriad other ways throughout the life of the development. Buffers may enable invasive species detection and eradication before they invade sensitive habitats.

Protection from disturbance allows organisms to engage in the business of making a living and utilizing the ecosystem services that an intact, natural habitat provides. Pair bonding, mating, nesting or denning, foraging and feeding, rearing and feeding young, predator/prey interactions, and traveling are some of the behavioral aspects that may be negatively influenced by the stress of human and animal disturbance inherent in many types of development. A primary objective of buffers is to provide conditions where organism’s normal behavior patterns are disturbed as little as possible. Buffers may

also expand corridors for plant and animal dispersal and movement and reduce habitat fragmentation.

A buffer is a zone that can provide ecosystem services including soil stabilization, interception of eroded materials, absorption of runoff and pollutants (pesticides, etc.), treatment of runoff (filter mechanism), fixation of nitrogen, and storage of nutrients. Buffers can serve to slow the rate of storm water flow and encourage infiltration. In addition, buffers serve to accommodate human errors in the practice of habitat delineation. Buffers also provide complementary habitat, such as a source of upland pollinators for some wetland species and important foraging habitat for many birds that occupy ESHA.

ESHA Buffer Policy RES-54 of the San Clemente LUP states that:

A 100-foot buffer, shall be provided around all ESHA, except where establishment of such a buffer is prevented by existing development. In those circumstances, the largest feasible buffer will be established. ESHA buffers less than 100 feet wide, may be allowed only where it can be demonstrated, through submittal of site specific biological study that provides substantial evidence from qualified biologists, that the proposed narrower buffer would prevent impacts that would significantly degrade and/or disrupt the biological integrity and habitat values of the ESHA.

While the San Clemente LUP buffer policy calls for a 100-foot buffer, I find that a 50-foot buffer, along with a 6-foot fire wall surrounding the development, would prevent impacts that would significantly degrade or disrupt the biological integrity and habitat values of the ESHA on this site. In the discussion above I lay out the rationale for buffers between ESHA and development and all the potential adverse activities they provide protection against. Although the wall provides some additional buffering, it is limited by the fact that the development towers over the wall, allowing some of the impacts of typical residential development, such as light and noise, to flow freely beyond the wall. Thus, the buffer should not be reduced dramatically from 100 feet. It is my professional opinion, given the subject site characteristics, that the 50-foot buffer I am recommending, in combination with a 6-foot wall, will provide a sufficient distance between proposed development and ESHA for “business as usual” activities such as native vegetation reproduction and growth, insect pollination, and other animal activities such as nesting, foraging, dispersing, and mating (Figure 5).

Finally, the applicant's agent argues that the 50-foot buffer suggested in this memo is particularly unnecessary between the far eastern end of the proposed development and the ESHA that lies beyond it, because that far end comprises just a back yard, which could be planted with natives, and a wall, which will protect the surrounding ESHA from impacts. However, the protective value of the wall has already been taken into account in reducing the buffer from the more typical 100 feet to 50 feet. And while the applicant's agent argues that the back yard could be planted with natives, what's to say it will be now or into the future. Furthermore, back yards can be a source of many

adverse impacts including loud noise (machinery, music, adult and children's voices, pets, etc.), artificial night lighting, excess water, pesticides, and domestic pet that get loose.



Figure 1a. Photo showing the topography and vegetation of the area and the portion of the site cleared annually by the black rectangle.



Figure 1b. Close up of the cleared area showing giant wild rye along the northern edge of the property (along edge of black rectangle) and into the canyon and a myoporum bush along the center of the east side of the black rectangle.



Figure 1c. Photo showing clearance of the site.



Figure 1d. Photo of the cleared area of the site with a California sunflower bush (*Encelia californica*) in the bottom left of the photo and giant wild rye grass growing out of the patch of iceplant in the center of the photo.

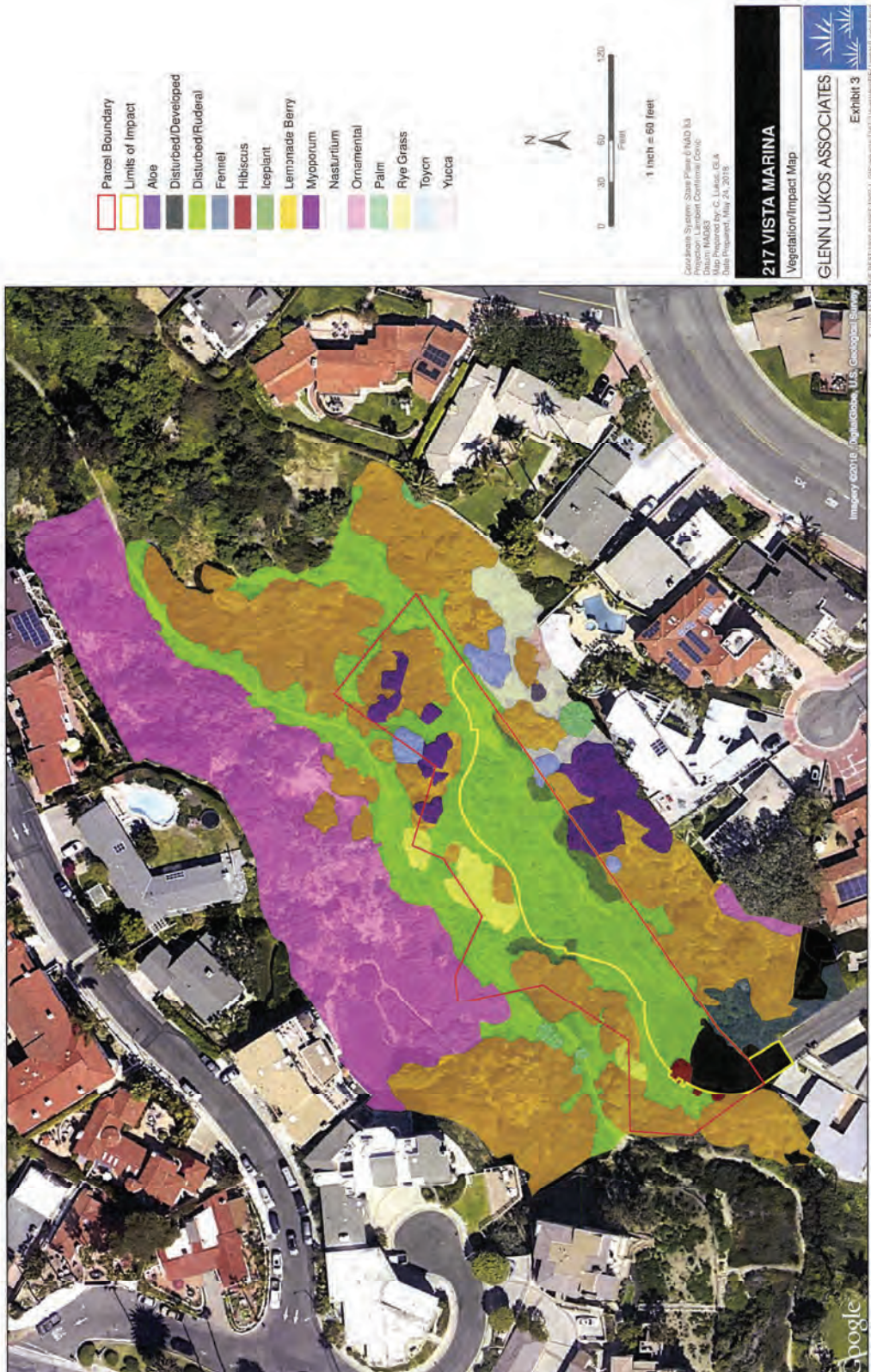


Figure 2. Exhibit 3, "Vegetation/Impact Map" from GLA's 2018 'Biological Technical Report, 217 Vista Marina, City of San Clemente, Orange County, California'.

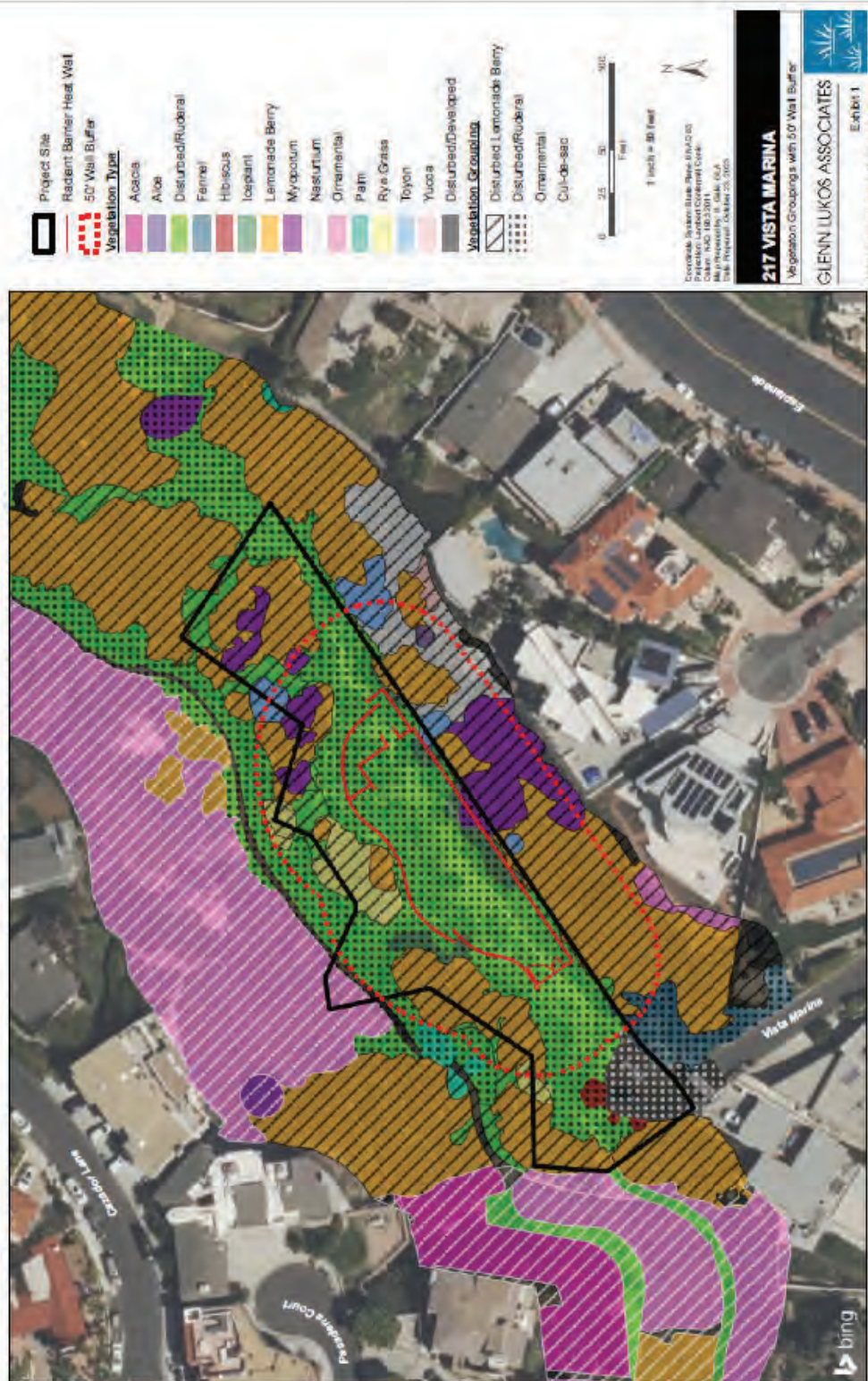
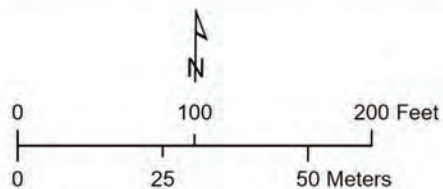


Figure 3. Exhibit 1, "Vegetation Groupings with 50' Wall Buffer" from GLA's 2023 Technical Memorandum 'Additional Considerations Regarding Vegetation Alliances at 217 Vista Marina, San Clemente'.

ESHA On and Surrounding 217 Vista Marina, San Clemente



- Giant Wild Rye Grassland ESHA
- Lemonade Berry Scrub ESHA Stand
- Toyon
- Giant Wild Rye Grass
- Lemonade Berry Scrub



Data Source: Vegetation Survey Data from Biological Technical Report prepared by Glenn Lukos Associates, July 2018

Figure 4. *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub) and *Leymus condensatus* Herbaceous Alliance (Giant wild rye grassland) ESHA stands.

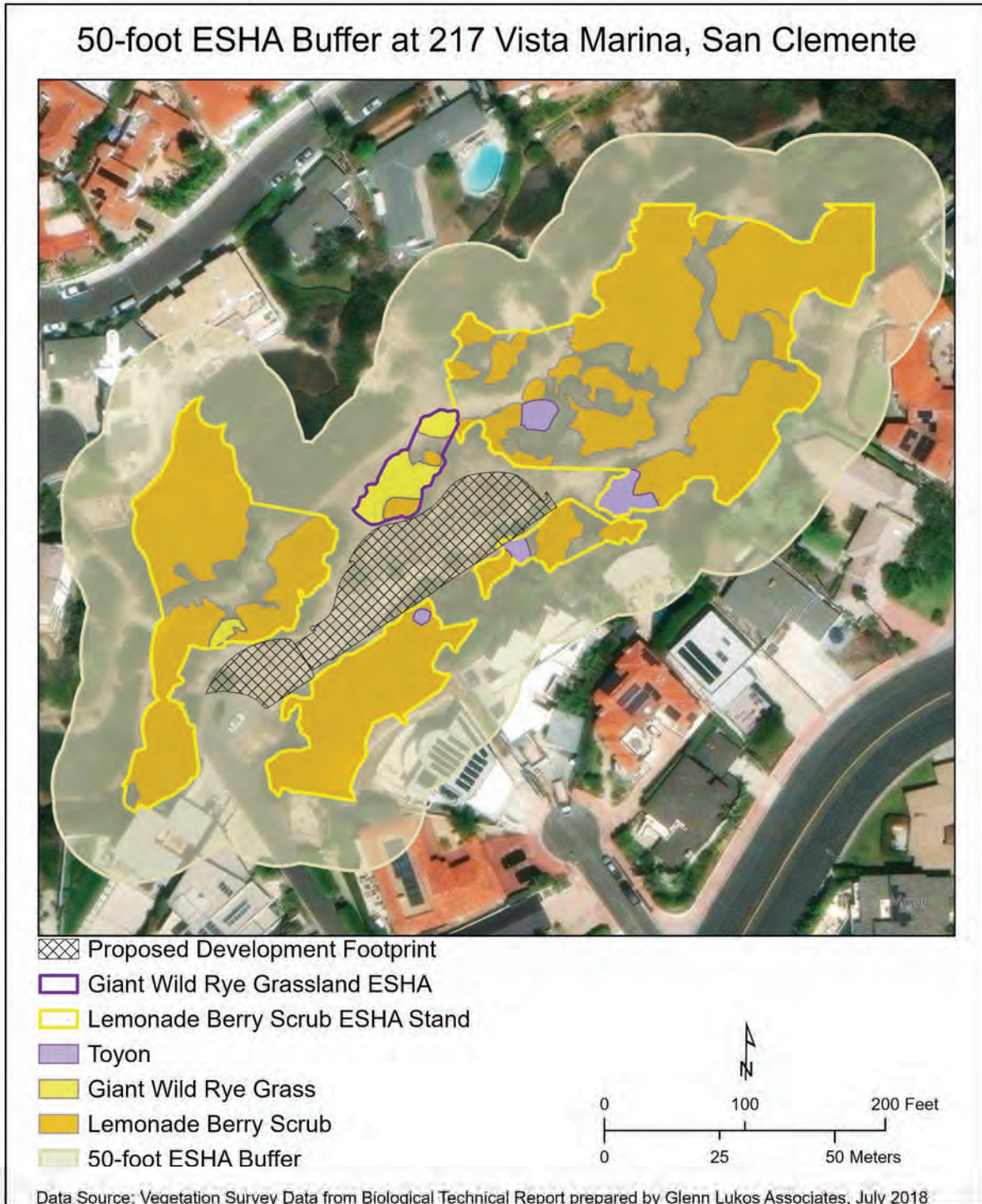


Figure 5. *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub) and *Leymus condensatus* Herbaceous Alliance (Giant wild rye grassland) ESHA stands protected by 50-foot buffers.



Figure 6. Image from Mr. Bomkamp's Dec. 20, 2023 letter report identifying myoporum within the lemonade berry scrub originally identified as lemonade berry.

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ADDENDUM A



M E M O R A N D U M

FROM: Jonna D. Engel, Ph.D., Senior Ecologist
TO: Liliana Roman, Coastal Program Analyst
SUBJECT: 217 Vista Marina, San Clemente (Orange County) ESHA Determination
DATE: May 29, 2019

Documents Reviewed:

Glenn Lukos Associates. July 2018. Biological Technical Report, 217 Vista Marina, City of San Clemente, Orange County, California. Prepared for Graham Property Management, LLC.

Graham Property Overall Site Plan, 5-180930. Received, September 21, 2018. 217 Vista Marina, San Clemente, CA.

I have been asked to examine the nature of the vegetation communities on an undeveloped 0.84 acre lot designated for single family residential use located in Trafalgar Canyon at 217 Vista Marina, San Clemente, CA. Topographically, the lot consists of a relatively flat pad along its southern side that is adjacent to a steep upper slope where residences line the top of the canyon, with a steep lower slope to the north that descends to the canyon bottom. The applicant is proposing to develop 40% of the 34,784 sq. ft. lot and build a 5,165 square foot home on the flat portion of the lot.

Trafalgar Canyon is one of seven coastal canyons that were designated as environmentally sensitive habitat (ESHA) in the San Clemente Land Use Plan (LUP). The updated and recently certified LUP acknowledges the sensitive nature of the canyons but requires a current biological survey for any proposed canyon development to determine the exact nature of the habitat. The applicant hired Glenn Lukos Associates (GLA) who conducted biological surveys for the site on April 27 and May 29, 2018. GLA conducted general reconnaissance surveys for rare plants and animals and mapped the vegetation communities on the site according to *A Manual of*

*California Vegetation: Second Edition (MCV2)*¹. GLA did not observe any listed plant or animal species on the site. They did observe numerous common species of birds and coyote and raccoon tracks. Of the 0.789 acres of mapped vegetation, 0.211 acres consisted of native lemonade berry (*Rhus integrifolia*) scrub (0.169 acres), giant ryegrass (*Elymus condensatus*) grassland (0.035 acres), and toyon (*Heteromeles arbutifolia*) scrub (0.007 acres) (Figure 1). GLA mapped the remaining 0.578 acres as disturbed, ornamental, ruderal, and non-native vegetation areas.

The MCV2 membership rules for lemonade berry scrub is greater than 50% relative cover of lemonade berry in the shrub canopy or greater than 30% relative cover of lemonade berry with coastal scrub species as co-dominants in the shrub canopy². The *Rhus integrifolia* Shrubland Alliance, commonly known as lemonade berry scrub, has a rarity ranking of G3 S3³. On this site, the lemonade berry stand consists of greater than 50% relative cover of lemonade berry with some patches of toyon, which Sawyer et al. (2009) identify as occurring within lemonade berry scrub⁴. The lemonade berry scrub on this site is part of a much larger stand of lemonade berry that occurs throughout north and south slopes of Trafalgar Canyon.

I consulted with Todd Keeler-Wolf, Senior Vegetation Ecologist for the California Department of Fish and Wildlife (CDFW), regarding the status of the lemonade berry in this canyon (Pers. Comm, May 22 and May 24, 2018). He said that there has been ongoing vegetation mapping efforts that are confirming that lemonade berry scrub is limited to the Southern California coast and a few nearby areas. He advised me to use the most recent Natural Communities list published on the VegCAMP website and referred me to page 58 of the October 15, 2018 California Natural Communities list⁵. Dr. Keeler-Wolf said that all seven lemonade berry associations in the San Clemente area, including the one in Trafalgar Canyon, are all at least a G3 S3. He went on to say that “the fact remains that the south coast vegetation in general is threatened by everything from sea level rise, [invasive species], through development. There is no question that this alliance [Lemonade berry scrub] is limited to the South Coast and to specific sites within that area usually associated with steep slopes and ravines within the maritime fog zone.”

The Coastal Act refers to rare plant, animals, and habitats as environmentally sensitive habitat or ESHA. Section 30107.5 of the Coastal Act defines ESHA as;

¹ Sawyer, J.O., T. Keeler-Wolf, & J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento, CA. 1300 pgs.

² Sawyer et al. 2009. Op. Cit.

³ Global and State Level 3 communities and species are identified as “vulnerable – at moderate risk of extinction due to a restricted range, relatively few populations (often ≤ 80), recent and widespread declines, or other factors” (<http://www.natureserve.org/conservation-tools/conservation-status-assessment>).

⁴ Ibid.

⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>.

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

The CDFW, in partnership with NatureServe, determine the rarity status of plants, animals, and habitats in California and considers any of these with global and/or state rarity rankings of 1, 2, or 3 to be rare. The CDFW maintains the California Natural Diversity Database (CNDDDB) which is an inventory of the status and locations of rare plants, animals, and habitats in California. The Coastal Commission, following CDFW’s lead, considers any plant, animal, or habitat with a global or state rarity status of 1, 2, or 3 to rise to the level of ESHA. Section 30240 of the Coastal Act requires that ESHA be protected and buffered as follows:

- (a) *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.*
- (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 those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

I find that the lemonade berry scrub at 217 Vista Marina rises to the level of ESHA because it is connected to a much larger stand of lemonade berry scrub within Trafalgar Canyon, it is rare, and it is easily disturbed by human activities such as vegetation clearance for fuel mod and activities associated with residential development such as ornamental landscaping, irrigation, and herbicide use. ESHA Buffer Policy RES-54 of the San Clemente LUP states that:

A 100-foot buffer, shall be provided around all ESHA, except where establishment of such a buffer is prevented by existing development. In those circumstances, the largest feasible buffer will be established. ESHA buffers less than 100 feet wide, may be allowed only where it can be demonstrated, through submittal of site specific biological study that provides substantial evidence from qualified biologists, that the proposed narrower buffer would prevent impacts that would significantly degrade and/or disrupt the biological integrity and habitat values of the ESHA.

A 100-foot buffer between development and ESHA on the lot at 217 Vista Marina is not possible because of existing development (Figure 1). I find that a reduced buffer of 50 feet would prevent impacts that would significantly degrade or disrupt the biological integrity and habitat values of the lemonade berry scrub ESHA for the following reasons:

- 1) GLA's site specific biological study did not identify any rare plants or animals that are dependent on the lemonade berry scrub or other habitat in Trafalgar Canyon.
- 2) A six foot wall between development and the canyon habitat has been proposed that will serve as a fire break and disturbance (noise, light, domestic animals, etc.) barrier.
- 3) The development proposed does not include fire places, and,
- 4) Pesticide, herbicide, and rodenticide use is prohibited.

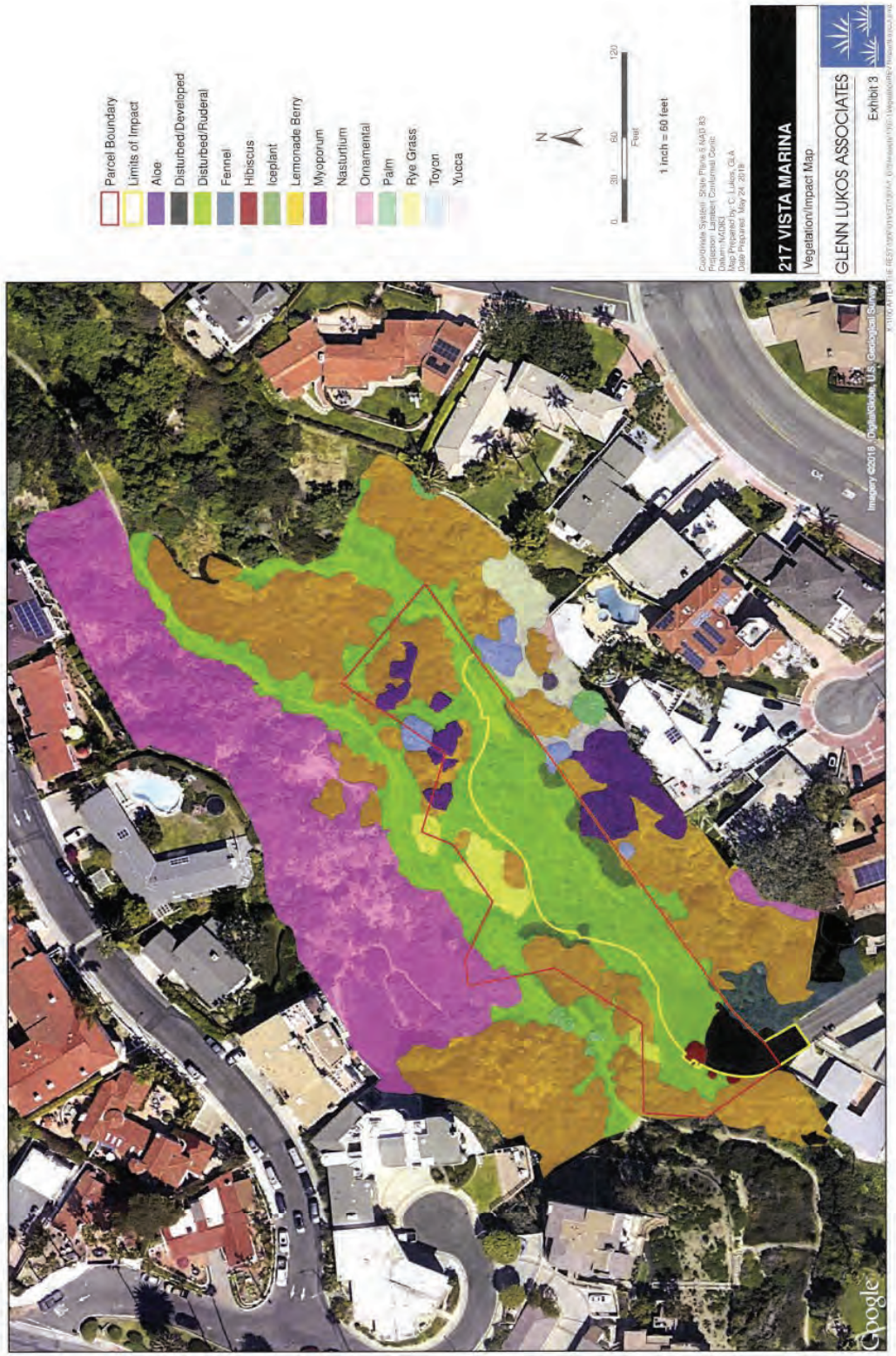


Figure 1. Exhibit 3, "Vegetation Impact Map", of GLA's Biology Report for 217 Vista Marina.

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ADDENDUM B



M E M O R A N D U M

FROM: Jonna D. Engel, Ph.D., Environmental Program Manager
TO: Liliana Roman, Coastal Program Resilience Analyst
SUBJECT: Updated ESHA Determination for 217 Vista Marina, San Clemente (Orange County)
DATE: November 30, 2023

Documents Reviewed:

Glenn Lukos Associates. October 23, 2023. Additional Considerations Regarding Vegetation Alliances at 217 Vista Marina, San Clemente. Project #: 13070002UPDA. Prepared for Mark McGuire.

Glenn Lukos Associates. June 29, 2023. Status of Biological Resources Associated with 217 Vista Marina, San Clemente, Orange County. Project #: 13070002UPDA. Prepared for Tony Piana.

Engel, J. May 29, 2019. 217 Vista Marina, San Clemente (Orange County) ESHA Determination. Memorandum to Liliana Roman.

Glenn Lukos Associates. July 2018. Biological Technical Report, 217 Vista Marina, City of San Clemente, Orange County, California. Prepared for Graham Property Management, LLC.

Graham Property Overall Site Plan, 5-180930. Received, September 21, 2018. 217 Vista Marina, San Clemente, CA.

Background

In May 2019 I determined that the undeveloped 0.84-acre lot located in Trafalgar Canyon at 217 Vista Marina, San Clemente, CA supported *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub). I found that the location where the lemonade berry scrub existed rose to the level of an environmentally sensitive habitat area (ESHA) because of the vegetation's California Department of Fish and Wildlife (CDFW) and

NatureServe rarity ranking of G3 S3¹ and its susceptibility to disturbance or degradation. I based my determination on the vegetation mapping conducted by the applicant's biological consultant and documented in their 2018 biological technical report, as well as google earth aerial images, site photographs, and consultation with a vegetation expert. The memorandum supporting this determination is attached here (see Addendum A).

On June 14, 2019, the Commission denied a coastal development permit application (CDP applic. # 5-18-0930) for residential development at 217 Vista Marina in San Clemente. The applicant subsequently sued the Commission, and on December 15, 2022, the superior court issued a writ of mandate directing the Commission to set aside its decision from June 14, 2019; hold a new hearing on CDP Application 5-18-0930; and approve, conditionally approve, or deny the application based upon the evidence presented at the new hearing. You have asked for this updated memo to inform your recommendation for that hearing.

It has now been over four years since I made the determination that there is lemonade berry scrub ESHA on the parcel at 217 Vista Marina. In the interim, and specifically following the judge's decision, the applicant's agent, Mark McGuire, and consulting biologist, Tony Bomkamp of Glenn Lukos Associates (GLA), have submitted numerous emails (see staff report substantive file documents) and two technical memoranda (June 29, 2023, and October 23, 2023) contesting my ESHA determination. I have subsequently re-examined the historical and current status of the site biology, reviewed GLA's biological and technical memoranda and Mr. McGuire and Mr. Bomkamp's emails, reviewed the *Manual of California Vegetation, Second Edition* (MCV2) vegetation membership rules², consulted with vegetation experts, and worked with the Commission's mapping unit to update my 2019 memorandum ESHA determination.

Vegetation Mapping

The subject lot in Trafalgar Canyon consists of a coastal canyon slope with a relatively flat area mid-slope. The applicant is currently proposing to develop approximately 40% of the 34,784 sq. ft. lot and build a 4,527 square foot home on the relatively flat portion of the lot.

Prior to assessing vegetation communities in an area, it can be important to consider whether that vegetation has been illegally modified. According to GLA, the relatively flat portion of the subject parcel has been annually cleared as part of the City's nuisance abatement program. Apparently, as part of the program, the relatively flat area is

¹ It is important to note that the Coastal Commission does not determine what is rare; rather, the Commission relies on rarity rankings determined by agencies such as the CDFW, in partnership with NatureServe, the U.S Fish & Wildlife Service, and the California Native Plant Society (CNPS), who determine the rarity status of plants, animals, and habitats in California, and considers any of these with global and/or state rarity rankings of 1, 2, or 3 to be rare.

² Online version of the Manual of California Vegetation, Second Edition; <https://vegetation.cnps.org/>

maintained for fire prevention. The Commission's enforcement division investigated this activity to determine if the removal of giant wild rye grass that occurred as part of the clearance may have been illegal. Removal of major vegetation generally constitutes development under the Coastal Act and therefore requires a permit. This annual clearance was never permitted, and the Enforcement unit did not believe that the nuisance abatement order required removal of giant wild rye grass. Thus, early in this process, I consulted with Enforcement staff regarding how to treat the removal of this vegetation.

On May 10, 2019, Jordan Sanchez, enforcement analyst, sent me photos of the subject parcel and surroundings before and after vegetation clearance (Figures 1a – 1d). He asked me if I was able to identify any of the native species being cleared. In the "before" pictures, I could see a patch of giant wild rye grass (*Leymus condensatus*) spanning the northern portion of the site along the edge of the black rectangle and into the canyon to the west and what has been identified as an individual non-native myoporum bush along and in the center of the eastern edge of the black triangle (Figures 1a and 1b). I also identified giant wild rye grass along the edge and growing back in patches of the cleared area and a native California sunflower (*Encelia californica*) bush at the edge of the cleared area (Figures 1c and 1d). It is my professional opinion that without the annual clearing, the relatively flat portion of the site would fill in with patches of giant wild rye grassland and likely extensions of the stands of lemonade berry scrub along with other native shrubs such as toyon and California sunflower and various non-native plants including myoporum, fennel, and iceplant.

We considered mapping the vegetation that would have grown on the portion of the cleared area, based on my professional estimation, absent the annual clearing. If we were to have done this even more of the site would likely have been identified as ESHA. While it would be possible to make a professional estimate of the extent of native vegetation that might have occurred on the site absent the clearing, we have decided this is unnecessary here. The precise extent of the giant wild rye, in particular, does not affect the consistency of the proposed project with Coastal Act section 30240 because whether or not areas where giant wild rye might have existed are mapped as ESHA, it is clear that the entire development remains within the buffer area that I find to be mandated by Section 30240(b), as discussed below. As such, regardless of the extent of the giant wild rye, the entire proposal is inconsistent with Section 30240.

Focusing only on what is actually on the site, GLA conducted general reconnaissance wildlife surveys and habitat assessments of the site on March 29 and April 27, 2018, during which 13 birds were observed, including Allen and Anna's hummingbirds, American goldfinch, lesser goldfinch, house finch, bushtit, California towhee, mourning dove, white-crowned sparrow, yellow-rumped warbler, northern mockingbird, American crow, and common raven. Other evidence of animals observed on-site included coyote and racoon tracks. No reptiles or amphibians were seen on the two dates when surveys were conducted.

GLA also conducted focused plant surveys to map the vegetation on the site on March 29 and April 27, 2018. GLA identified and mapped vegetation according to the habitat descriptions provided by the *Manual of California Vegetation, Second Edition*. They mapped the vegetation communities to the thousandth of an acre, or 43.6 square feet. GLA mapped two special status native vegetation communities: 0.169 acres of lemonade berry scrub and 0.035 acres of giant wild rye grassland. 0.007 acres of native Toyon scrub (*Heteromeles arbutifolia*) was also mapped, and a single individual California boxthorn (*Lycium californicum*), a 4.2 listed California Native Plant Society (CNPS) rare plant, was identified on the extreme western end of the site. GLA also mapped patches of non-native and invasive species including myoporum, acacia, fennel, and iceplant (Figure 2).

In the 2018 biological technical report, GLA biologist Tony Bomkamp described the lemonade berry scrub as follows:

Lemonade berry scrub consisting of lemonade Berry [sic] (Rhus integrifolia) occur on the slope along the southern edge of the property and in some areas extend just beyond the property line. Other patches occur at the eastern end of the property where it forms a mosaic with non-native myoporum (Myoporum laetum). The property supports 0.169 acre of lemonade berry scrub.

GLA biologist, Tony Bomkamp, returned to the site on May 22, 2023, and in the technical memorandum prepared for Tom Piana, *Status of Biological Resources Associated with 217 Vista Marina, San Clemente, Orange County*, dated June 29, 2023, states that:

Conditions on the site and adjacent areas have not substantially changed relative to the conditions recorded in the 2018 report. Importantly, vegetation alliances have not changed other than a few very minor differences to off-site areas.

On October 23, 2023, Mr. Bomkamp submitted another technical memorandum, this time prepared for Mark McGuire, whose subject was *Additional Considerations Regarding Vegetation Alliances at 217 Vista Marina, San Clemente*. In this memorandum, Mr. Bomkamp revised his vegetation map to identify the lemonade berry scrub stands on the site as “disturbed lemonade berry scrub” instead of “lemonade berry scrub” because he notes that the areas mapped as lemonade berry are not 100% lemonade berry bushes but include non-native species such as myoporum, acacia, aloe, jade, and other non-native vegetation (Figure 3).

The fact that the mapped lemonade berry is intermixed with native shrubs including toyon and California sunflower, as well as the non-native species listed above, is not surprising and rather expected, especially in Southern California where almost all native habitats are invaded by non-native and invasive species to one degree or another. In this case, the presence of scattered non-natives amongst the lemonade berry bushes does not preclude the lemonade berry stands from meeting the MCV2

membership rules for the *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub). During a Microsoft Teams remote meeting with Julie M. Evens, Vegetation Program Director, CNPS and Rachelle Boul, Senior Environmental Scientist, CDFW Vegetation Classification and Mapping Program (pers. comm., November 27, 2023), they concurred that lemonade berry scrub can be intact even if, as is sometimes the case, it is disturbed with non-native species interspersed with lemonade berry bushes and other associated native species such as toyon; and that it would still be considered *Rhus integrifolia* Shrubland Alliance as long as the respective membership rules threshold for relative cover of lemonade berry in the shrub layer is met.

The following are the MCV2 membership rules for lemonade berry scrub. Although I do not have the quantitative data for the relative cover of lemonade berry for each stand of lemonade berry scrub, it is clear from the amount of mapped lemonade berry within each individual stand, that the membership rule for *Rhus integrifolia* shrubland alliance is easily met:

- *Rhus integrifolia* > 30% relative cover with coastal scrub species as co-dominants in the shrub canopy (Evens and San 2005).
- *Rhus integrifolia* > 50% relative cover in the shrub canopy (Keeler-Wolf and Evens 2006).
- *Rhus integrifolia* or *Rhamnus pirifolia* is > 50% relative cover in the shrub canopy, or > 30% relative cover with *Artemisia californica*, *Baccharis pilularis*, *Genista linifolia*, *Malosma laurina*, or *Diplacus aurantiacus* (Rodriguez et al. 2017, Dixon et al. 2019)³

The following are the MCV2 membership rules for giant wild rye grassland. Although I also do not have the quantitative data for the relative cover of giant wild rye in the stand, it is equally clear from the amount of mapped giant wild rye grass, that the membership rule for *Leymus condensatus* grassland alliance is easily met:

- *Leymus condensatus* > 50% relative cover in the herbaceous layer (Keeler-Wolf and Evens 2006, Verdone and Evens 2010, Sproul et al. 2011, Buck-Diaz et al. 2015).
- *Leymus condensatus* > 30% relative cover in the herbaceous layer (Rodriguez et al. 2017).

Based on GLA's 2018 and 2023 vegetation maps of the subject site and vicinity (Figures 2 and 3), which have remained virtually the same, I have identified four stands of lemonade berry scrub and one stand of giant wild rye grassland (Figure 4). Stands are the unit that the CDFW and the CNPS map for delineating unique vegetation communities. According to the March 7, 2023 'CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment and Relevé Field Form'⁴:

³ <https://vegetation.cnps.org/alliance/266>

⁴ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18599&inline>

A stand is the basic physical unit of vegetation in a landscape. It has no set size. Some vegetation stands are very small, such as a portion of a vernal pool, and some may be several square kilometers in size, such as a forest type.

CDFW and CNPS further state that stands have three main unifying characteristics:

1. Compositional integrity. Throughout the site the combination of species is similar – the stand is differentiated from adjacent stands by a discernable boundary that may be abrupt or indistinct.
2. Structural integrity. It has a similar history of environmental setting that affords relatively similar horizontal and vertical spacing of plant species.
3. Repeating pattern on the landscape. Where the plant assemblage occurs in other sites with similar plant composition and environmental setting.

The *Rhus integrifolia* Shrubland Alliance, commonly known as lemonade berry scrub, has a rarity ranking of G3 S3⁵. The patches I delineated of lemonade berry scrub on the subject parcel and in the vicinity of the proposed development meet the CDFW/CNPS definition and characteristics of stands and are part of a much larger community that occurs throughout Trafalgar Canyon (Figure 4).

The *Leymus condensatus* Herbaceous Alliance, commonly known as giant wild rye grassland, also has a rarity ranking of G3 S3. The Commission's enforcement group found that giant wild rye grassland patches were cleared as part of the City's annual vegetation maintenance on the relatively flat pad but other patches occurred on the slopes and amongst the scrub vegetation. The one remaining patch of giant wild rye grassland I delineated meets the CDFW/CNPS definition and characteristics of a stand (Figure 4).

ESHA Determination

The Coastal Act refers to areas that are home to rare plants, animals, and habitats that can be easily disturbed or degraded as environmentally sensitive habitat areas, or "ESHA." Section 30107.5 of the Coastal Act defines ESHA 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"

The Coastal Commission does not determine what is rare, rather the Commission relies on rarity rankings determined by agencies and organizations such as CDFW, NatureServe, the U.S Fish & Wildlife Service, and CNPS, who determine the rarity

⁵ Global and State Level 3 communities and species are identified as "vulnerable – at moderate risk of extinction due to a restricted range, relatively few populations (often ≤ 80), recent and widespread declines, or other factors" (<http://www.natureserve.org/conservation-tools/conservation-status-assessment>).

status of plants, animals, and habitats (vegetation communities) in California. CDFW, in partnership with NatureServe, consider any plant, animal, or habitat with global and/or state rarity rankings of 1, 2, or 3 to be rare. The Coastal Commission, following CDFW's lead, considers any area that houses any plant, animal, or habitat with a global or state rarity status of 1, 2, or 3 and that is easily disturbed, to rise to the level of ESHA. Therefore, because the lemonade berry scrub and giant wild rye grassland stands have G3 S3 rarity rankings and are easily disturbed by human activities such as vegetation clearing and ornamental landscaping, irrigation, and herbicide use, among others, associated with residential development, I find the stands to rise to the level of ESHA (Figure 4).

In GLA's 2018 biological technical report, Tony Bomkamp states:

GLA's professional opinion is that none of the vegetation within the site warrants a designation as ESHA. None of the vegetation is providing habitat for rare or endangered fauna, none of the plants present in and of themselves are rare or endangered, and the native vegetation consists of only small patches that are either surrounded or intermixed with non-native vegetation, or both.

However, based on our understanding of past Coastal Commission actions and the current understanding/rarity status of Giant Wild Rye and the Lemonade Berry Scrub Shrubland Alliance, GLA's professional opinion is that the Commission's staff will recommend an ESHA designation for the three Giant Wild Rye patches and those areas of the Lemonade Berry Scrub on the Project site that are immediately adjacent to additional Lemonade Berry Scrub such that the patch comprises more than just an isolated plant or two.. [sic] Individual Lemonade Berry plants in isolation or patches consisting of just two or three smaller shrubs surrounded by non-native vegetation may be excluded from the staff's ESHA recommendation (again, this is based on past Commission actions along Trafalgar Canyon). If the ultimate ESHA determination does include larger contiguous patches but excludes smaller patches, then the Project impacts to Lemonade Berry will likely be divided between ESHA and non-ESHA impacts.

GLA was correct that Commission staff, in this case, myself, Dr. Jonna Engel, Environmental Program Manager and Ecology Group lead, would recommend an ESHA designation for the giant wild rye grassland and lemonade berry scrub stands on the subject parcel and vicinity for the reasons laid out above, and therefore disagree with GLA that none of the vegetation in this area of Trafalgar Canyon warrants an ESHA designation. I further disagree with GLA regarding the value of the site vegetation. GLA states that none of the vegetation provides habitat for rare or endangered flora or fauna. Yet, they identified a rare individual California boxthorn plant on site and during just two days of wildlife reconnaissance surveys, GLA identified 13 species of native birds and coyote and racoons using the site. It is also possible that if more time was spent surveying rare species would be observed. Importantly, the subject parcel located within undeveloped Trafalgar Canyon which is

characterized by steep slopes lined with native and non-native vegetation. The canyon serves as a wildlife corridor that enables dispersal and traveling between inland open space and coastal beaches and ocean. The native animals observed on the site and other species including reptiles would likely use the site and surrounding areas for nesting, resting, foraging, finding mates and for traveling between undeveloped open spaces.

ESHA Protection

Section 30240 of the Coastal Act requires that ESHA be protected and buffered as follows:

- (a) *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.*
- (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 those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Buffers are important for preserving the integrity and natural function of individual species and habitats. The purpose of a buffer is to create a zone where there will be little or no human activity; to “cushion” species and habitats from disturbance and allow native species to go about their “business as usual”. A buffer area is not itself a part of the ESHA, but a “buffer” or “screen” that protects the habitat area from adverse environmental impacts caused by development.

A primary function of buffers is to protect against human and domestic animal disturbance, that is, to keep disturbance at a distance. Human activity immediately adjacent to sensitive species and habitats can produce disturbance in the form of noise pollution (machinery, voices, music, construction, etc.), light pollution (artificial lighting, shading, and canopy removal) and foot traffic. Just the presence of humans is disturbing and disruptive to the normal functioning of many wild animals. Domestic animals are often associated with development, and cats and dogs may hunt and otherwise disturb native organisms including pollinators, other insects, amphibians, reptiles, birds, and mammals. Additionally, landscaping irrigation around development can negatively impact the natural community and application of pesticides for landscaping or building maintenance may be extremely harmful to native habitats. Buffers act as a barrier to both excessive water and anthropogenic chemicals. Buffers also protect against invasive plant and animal species that are often associated with humans and development. Such invasive species arrive on car tires (both during and after construction), fill soils, construction materials, and in myriad other ways throughout the life of the development. Buffers may enable invasive species detection and eradication before they invade sensitive habitats.

Protection from disturbance allows organisms to engage in the business of making a living and utilizing the ecosystem services that an intact, natural habitat provides. Pair bonding, mating, nesting or denning, foraging and feeding, rearing and feeding young, predator/prey interactions, and traveling are some of the behavioral aspects that may be negatively influenced by the stress of human and animal disturbance inherent in many types of development. A primary objective of buffers is to provide conditions where organism's normal behavior patterns are disturbed as little as possible. Buffers may also expand corridors for plant and animal dispersal and movement and reduce habitat fragmentation.

A buffer is a zone that can provide ecosystem services including soil stabilization, interception of eroded materials, absorption of runoff and pollutants (pesticides, etc.), treatment of runoff (filter mechanism), fixation of nitrogen, and storage of nutrients. Buffers can serve to slow the rate of storm water flow and encourage infiltration. In addition, buffers serve to accommodate human errors in the practice of habitat delineation. Buffers also provide complementary habitat, such as a source of upland pollinators for some wetland species and important foraging habitat for many birds that occupy ESHA.

ESHA Buffer Policy RES-54 of the San Clemente LUP states that:

A 100-foot buffer, shall be provided around all ESHA, except where establishment of such a buffer is prevented by existing development. In those circumstances, the largest feasible buffer will be established. ESHA buffers less than 100 feet wide, may be allowed only where it can be demonstrated, through submittal of site specific biological study that provides substantial evidence from qualified biologists, that the proposed narrower buffer would prevent impacts that would significantly degrade and/or disrupt the biological integrity and habitat values of the ESHA.

While the San Clemente LUP buffer policy calls for a 100-foot buffer, I find that a 50-foot buffer, along with a 6-foot fire wall surrounding the development, would prevent impacts that would significantly degrade or disrupt the biological integrity and habitat values of the ESHA on this site. In the discussion above I lay out the rationale for buffers between ESHA and development and all the potential adverse activities they provide protection against. Although the wall provides some additional buffering, it is limited by the fact that the development towers over the wall, allowing some of the impacts of typical residential development, such as light and noise, to flow freely beyond the wall. Thus, the buffer should not be reduced dramatically from 100 feet. It is my professional opinion, given the subject site characteristics, that the 50-foot buffer I am recommending, in combination with a 6-foot wall, will provide a sufficient distance between proposed development and ESHA for "business as usual" activities such as native vegetation reproduction and growth, insect pollination, and other animal activities such as nesting, foraging, dispersing, and mating (Figure 5).

Finally, the applicant's agent argues that the 50-foot buffer suggested in this memo is particularly unnecessary between the far eastern end of the proposed development and the ESHA that lies beyond it, because that far end comprises just a back yard, which could be planted with natives, and a wall, which will protect the surrounding ESHA from impacts. However, the protective value of the wall has already been taken into account in reducing the buffer from the more typical 100 feet to 50 feet. And while the applicant's agent argues that the back yard could be planted with natives, what's to say it will be now or into the future. Furthermore, back yards can be a source of many adverse impacts including loud noise (machinery, music, adult and children's voices, pets, etc.), artificial night lighting, excess water, pesticides, and domestic pet that get loose.



Figure 1a. Photo showing the topography and vegetation of the area and the portion of the site cleared annually by the black rectangle.



Figure 1b. Close up of the cleared area showing giant wild rye along the northern edge of the property (along edge of black rectangle) and into the canyon and a myoporum bush along the center of the east side of the black rectangle.



Figure 1c. Photo showing clearance of the site.



Figure 1d. Photo of the cleared area of the site with a California sunflower bush (*Encelia californica*) in the bottom left of the photo and giant wild rye grass growing out of the patch of iceplant in the center of the photo.

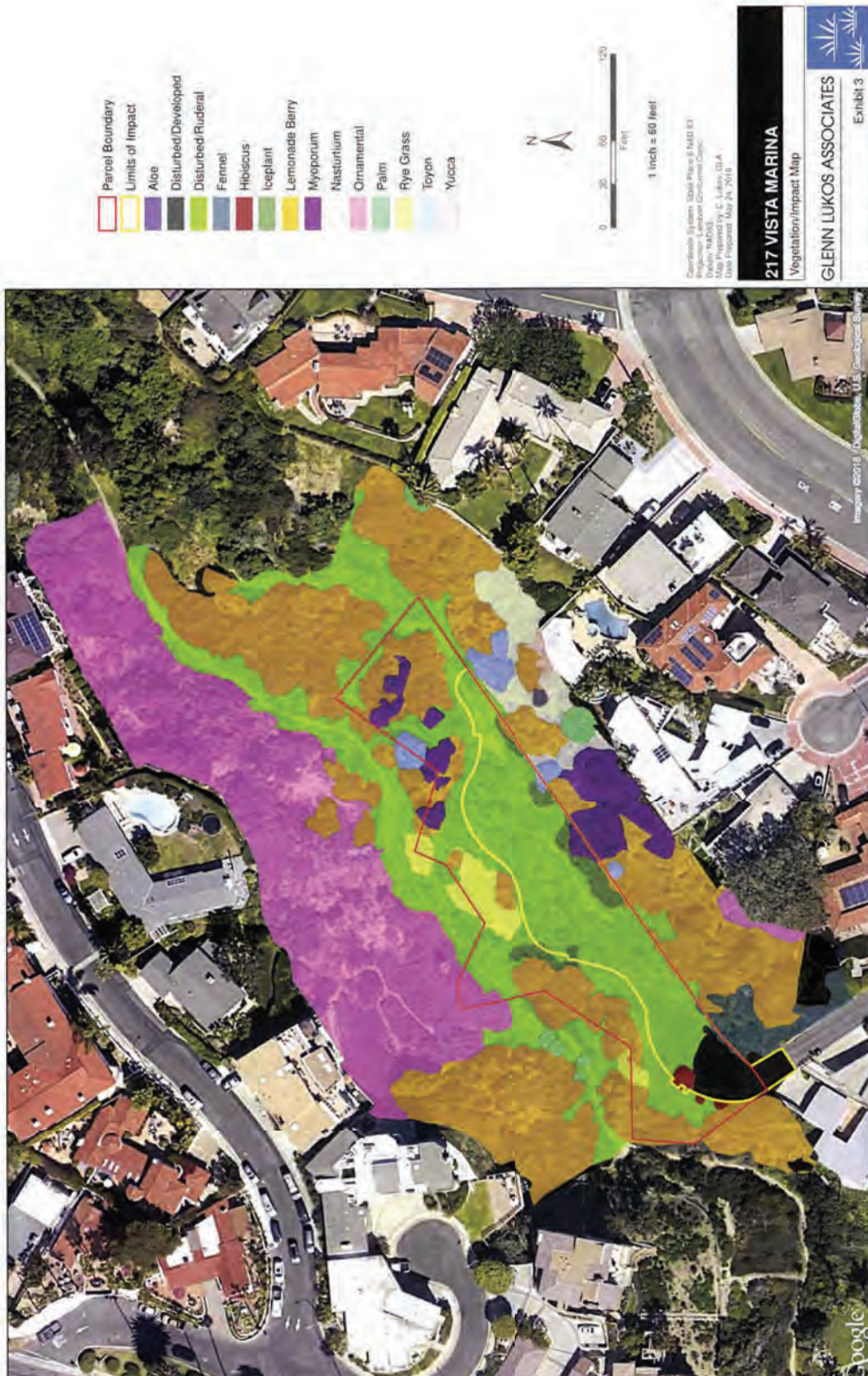


Figure 2. Exhibit 3, "Vegetation/Impact Map" from GLA's 2018 'Biological Technical Report, 217 Vista Marina, City of San Clemente, Orange County, California'.

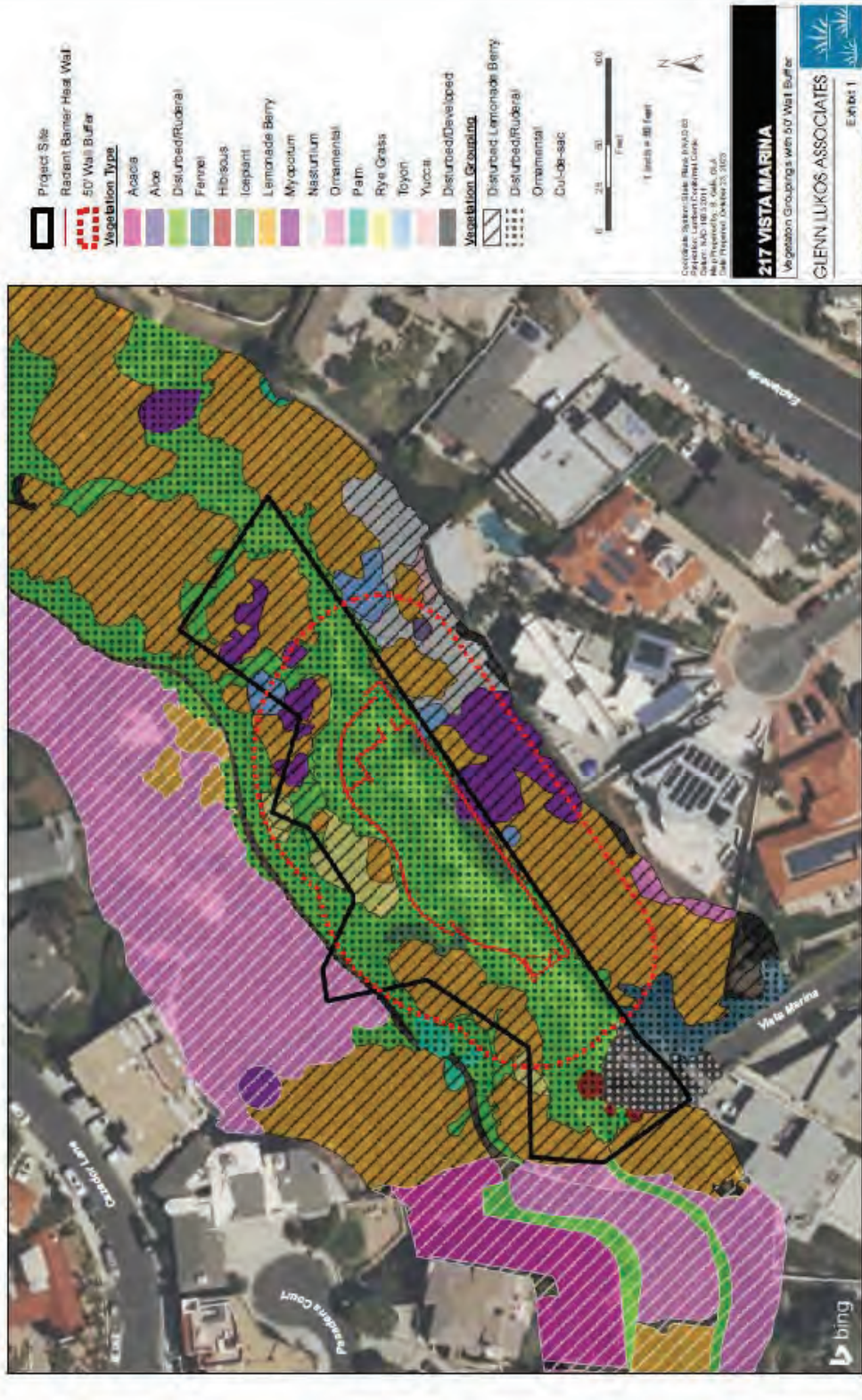
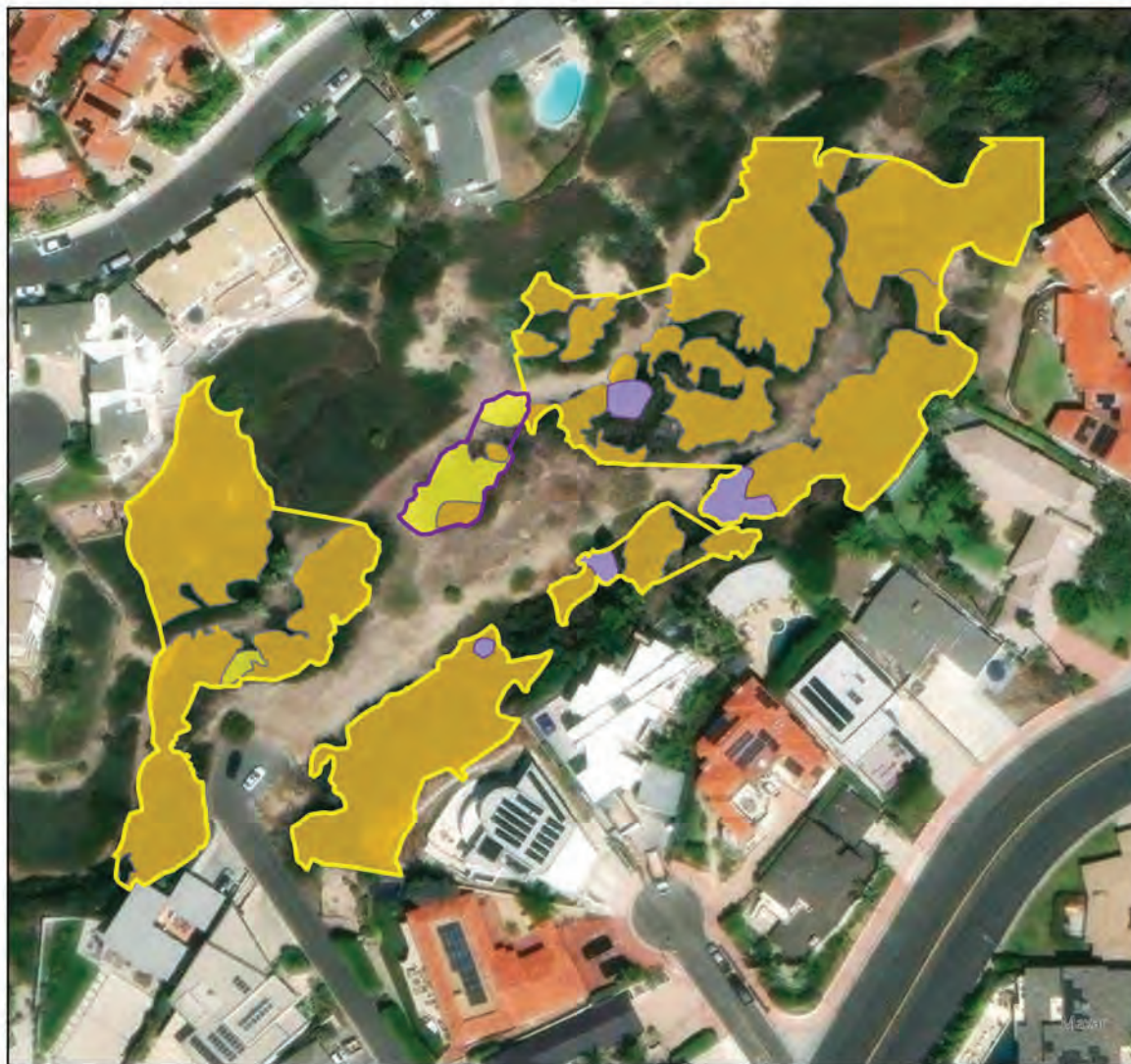





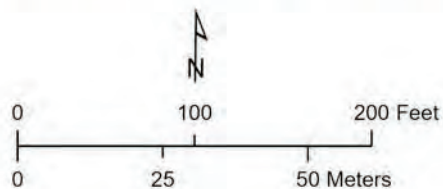


Figure 3. Exhibit 1, "Vegetation Groupings with 50' Wall Buffer" from GLA's 2023 Technical Memorandum 'Additional Considerations Regarding Vegetation Alliances at 217 Vista Marina, San Clemente'.

ESHA On and Surrounding 217 Vista Marina, San Clemente



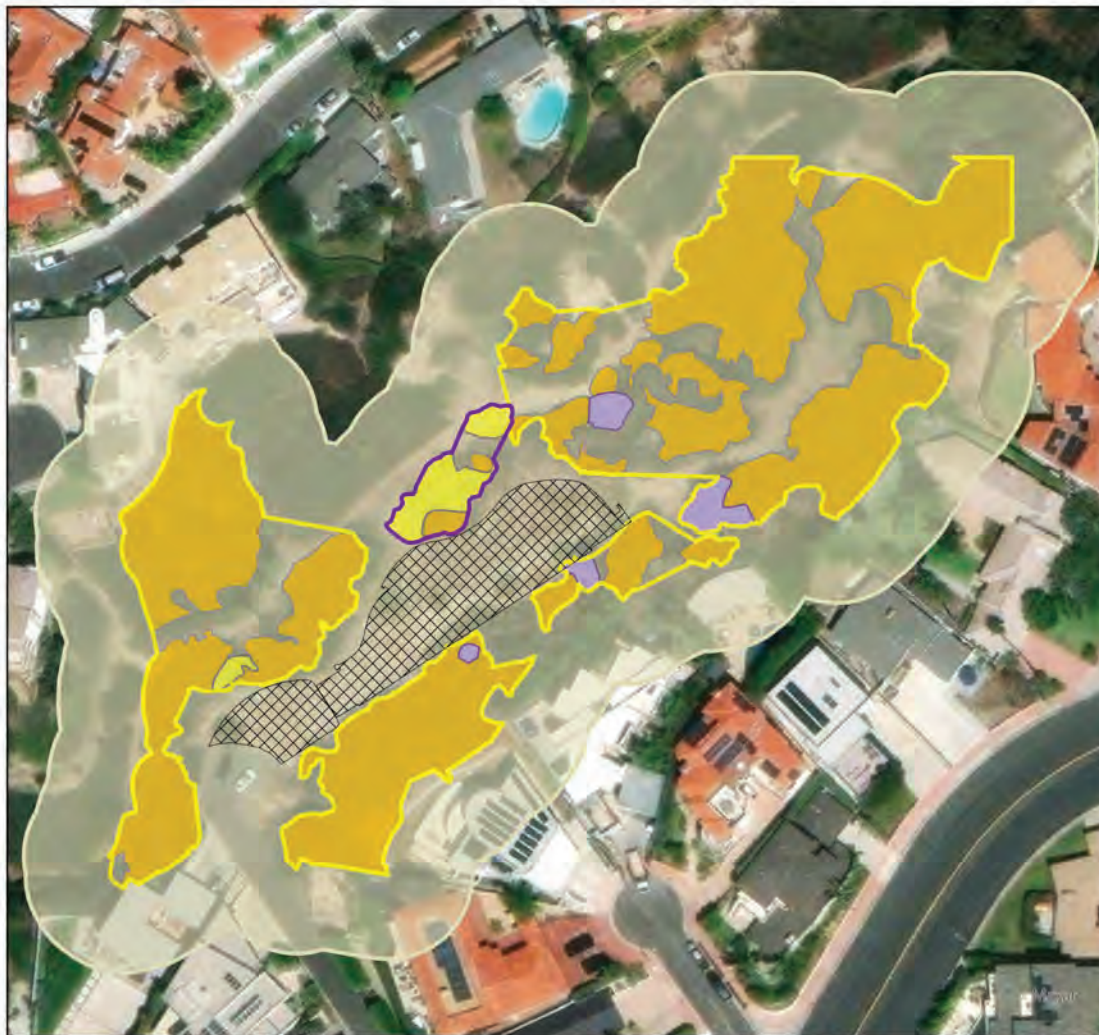
-  Giant Wild Rye Grassland ESHA
-  Lemonade Berry Scrub ESHA Stand
-  Toyon
-  Giant Wild Rye Grass
-  Lemonade Berry Scrub



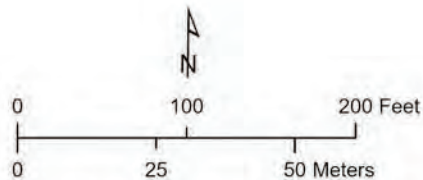
Data Source: Vegetation Survey Data from Biological Technical Report prepared by Glenn Lukos Associates, July 2018

Figure 4. *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub) and *Leymus condensatus* Herbaceous Alliance (Giant wild rye grassland) ESHA stands.

50-foot ESHA Buffer at 217 Vista Marina, San Clemente



- ▨ Proposed Development Footprint
- ▭ Giant Wild Rye Grassland ESHA
- ▭ Lemonade Berry Scrub ESHA Stand
- ▭ Toyon
- ▭ Giant Wild Rye Grass
- ▭ Lemonade Berry Scrub
- ▭ 50-foot ESHA Buffer



Data Source: Vegetation Survey Data from Biological Technical Report prepared by Glenn Lukos Associates, July 2018

Figure 5. *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub) and *Leymus condensatus* Herbaceous Alliance (Giant wild rye grassland) ESHA stands protected by 50-foot buffers.

J. Engel memo re: Updated ESHA Determination 217 Vista Marina

Addendum A:

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST DISTRICT OFFICE
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MEMORANDUM

FROM: Jonna D. Engel, Ph.D., Senior Ecologist
TO: Liliana Roman, Coastal Program Analyst
SUBJECT: 217 Vista Marina, San Clemente (Orange County) ESHA Determination
DATE: May 29, 2019

Documents Reviewed:

Glenn Lukos Associates. July 2018. Biological Technical Report, 217 Vista Marina, City of San Clemente, Orange County, California. Prepared for Graham Property Management, LLC.

Graham Property Overall Site Plan, 5-180930. Received, September 21, 2018. 217 Vista Marina, San Clemente, CA.

I have been asked to examine the nature of the vegetation communities on an undeveloped 0.84 acre lot designated for single family residential use located in Trafalgar Canyon at 217 Vista Marina, San Clemente, CA. Topographically, the lot consists of a relatively flat pad along its southern side that is adjacent to a steep upper slope where residences line the top of the canyon, with a steep lower slope to the north that descends to the canyon bottom. The applicant is proposing to develop 40% of the 34,784 sq. ft. lot and build a 5,165 square foot home on the flat portion of the lot.

Trafalgar Canyon is one of seven coastal canyons that were designated as environmentally sensitive habitat (ESHA) in the San Clemente Land Use Plan (LUP). The updated and recently certified LUP acknowledges the sensitive nature of the canyons but requires a current biological survey for any proposed canyon development to determine the exact nature of the habitat. The applicant hired Glenn Lukos Associates (GLA) who conducted biological surveys for the site on April 27 and May 29, 2018. GLA conducted general reconnaissance surveys for rare plants and animals and mapped the vegetation communities on the site according to *A Manual of*

California Vegetation: Second Edition (MCV2)¹. GLA did not observe any listed plant or animal species on the site. They did observe numerous common species of birds and coyote and raccoon tracks. Of the 0.789 acres of mapped vegetation, 0.211 acres consisted of native lemonade berry (*Rhus integrifolia*) scrub (0.169 acres), giant ryegrass (*Elymus condensatus*) grassland (0.035 acres), and toyon (*Heteromeles arbutifolia*) scrub (0.007 acres) (Figure 1). GLA mapped the remaining 0.578 acres as disturbed, ornamental, ruderal, and non-native vegetation areas.

The MCV2 membership rules for lemonade berry scrub is greater than 50% relative cover of lemonade berry in the shrub canopy or greater than 30% relative cover of lemonade berry with coastal scrub species as co-dominants in the shrub canopy². The *Rhus integrifolia* Shrubland Alliance, commonly known as lemonade berry scrub, has a rarity ranking of G3 S3³. On this site, the lemonade berry stand consists of greater than 50% relative cover of lemonade berry with some patches of toyon, which Sawyer et al. (2009) identify as occurring within lemonade berry scrub⁴. The lemonade berry scrub on this site is part of a much larger stand of lemonade berry that occurs throughout north and south slopes of Trafalgar Canyon.

I consulted with Todd Keeler-Wolf, Senior Vegetation Ecologist for the California Department of Fish and Wildlife (CDFW), regarding the status of the lemonade berry in this canyon (Pers. Comm, May 22 and May 24, 2018). He said that there has been ongoing vegetation mapping efforts that are confirming that lemonade berry scrub is limited to the Southern California coast and a few nearby areas. He advised me to use the most recent Natural Communities list published on the VegCAMP website and referred me to page 58 of the October 15, 2018 California Natural Communities list⁵. Dr. Keeler-Wolf said that all seven lemonade berry associations in the San Clemente area, including the one in Trafalgar Canyon, are all at least a G3 S3. He went on to say that “the fact remains that the south coast vegetation in general is threatened by everything from sea level rise, [invasive species], through development. There is no question that this alliance [Lemonade berry scrub] is limited to the South Coast and to specific sites within that area usually associated with steep slopes and ravines within the maritime fog zone.”

The Coastal Act refers to rare plant, animals, and habitats as environmentally sensitive habitat or ESHA. Section 30107.5 of the Coastal Act defines ESHA as;

¹ Sawyer, J.O., T. Keeler-Wolf, & J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento, CA. 1300 pgs.

² Sawyer et al. 2009. Op. Cit.

³ Global and State Level 3 communities and species are identified as “vulnerable – at moderate risk of extinction due to a restricted range, relatively few populations (often ≤ 80), recent and widespread declines, or other factors” (<http://www.natureserve.org/conservation-tools/conservation-status-assessment>).

⁴ Ibid.

⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>.

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

The CDFW, in partnership with NatureServe, determine the rarity status of plants, animals, and habitats in California and considers any of these with global and/or state rarity rankings of 1, 2, or 3 to be rare. The CDFW maintains the California Natural Diversity Database (CNDDDB) which is an inventory of the status and locations of rare plants, animals, and habitats in California. The Coastal Commission, following CDFW’s lead, considers any plant, animal, or habitat with a global or state rarity status of 1, 2, or 3 to rise to the level of ESHA. Section 30240 of the Coastal Act requires that ESHA be protected and buffered as follows:

- (a) *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.*
- (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 those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

I find that the lemonade berry scrub at 217 Vista Marina rises to the level of ESHA because it is connected to a much larger stand of lemonade berry scrub within Trafalgar Canyon, it is rare, and it is easily disturbed by human activities such as vegetation clearance for fuel mod and activities associated with residential development such as ornamental landscaping, irrigation, and herbicide use. ESHA Buffer Policy RES-54 of the San Clemente LUP states that:

A 100-foot buffer, shall be provided around all ESHA, except where establishment of such a buffer is prevented by existing development. In those circumstances, the largest feasible buffer will be established. ESHA buffers less than 100 feet wide, may be allowed only where it can be demonstrated, through submittal of site specific biological study that provides substantial evidence from qualified biologists, that the proposed narrower buffer would prevent impacts that would significantly degrade and/or disrupt the biological integrity and habitat values of the ESHA.

A 100-foot buffer between development and ESHA on the lot at 217 Vista Marina is not possible because of existing development (Figure 1). I find that a reduced buffer of 50 feet would prevent impacts that would significantly degrade or disrupt the biological integrity and habitat values of the lemonade berry scrub ESHA for the following reasons:

- 1) GLA's site specific biological study did not identify any rare plants or animals that are dependent on the lemonade berry scrub or other habitat in Trafalgar Canyon.
- 2) A six foot wall between development and the canyon habitat has been proposed that will serve as a fire break and disturbance (noise, light, domestic animals, etc.) barrier.
- 3) The development proposed does not include fire places, and,
- 4) Pesticide, herbicide, and rodenticide use is prohibited.

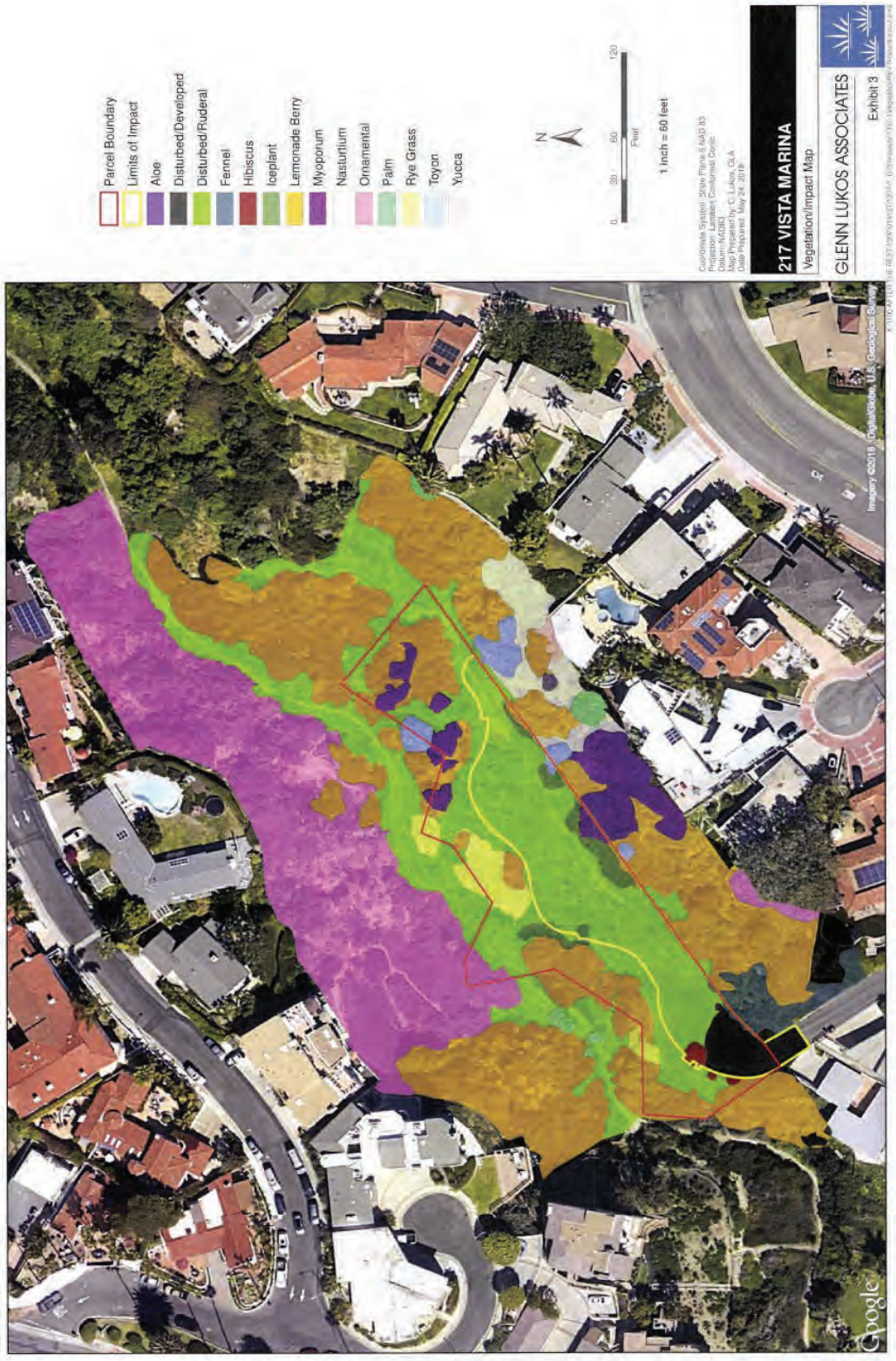


Figure 1. Exhibit 3, "Vegetation Impact Map", of GLA's Biology Report for 217 Vista Marina.

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November 29, 2023

CANYON EDGE & GEOTECHNICAL REVIEW MEMORANDUM

To: Liliana Roman, Coastal Program Analyst
From: Joseph Street, PhD, PG, Staff Geologist *Joseph Street*
Re: 217 Vista Marina, San Clemente (Graham Property Management), CDP Appl. No. 5-18-0930

Summary

Based on a review of the applicants' geotechnical reports and other relevant information, including current and historical topographic maps and aerial photos, the proposed project site is located entirely within the Trafalgar Canyon landform. The canyon edge, pursuant to the definitions contained in the City of San Clemente's certified Land Use Plan, is located at the top of the 30- to 40-foot slope rising behind (to the southeast of) the proposed building site, at elevations of approximately 100 to 110 feet above NAVD88. The mid-slope terrace on which the building site is located appears to be a natural variation, somewhat modified by past grading, on the southern canyon slope. The edge of the terrace is topographically contiguous with the previously delineated edge of the lower canyon but does not represent the canyon edge on the subject property.

Introduction

This is a revised and updated version of the memorandum previously published as an exhibit to staff reports dated May 31, 2019, and September 29, 2023. The primary purpose of this memo is to evaluate the location of the canyon edge, as defined in the City of San Clemente's certified Land Use Plan (LUP), in relation to the proposed of a new single-family residence on the subject property, a vacant lot on the south slope of Trafalgar Canyon. At the end of the memo, I also provide comments on the stability of the canyon slope and the stabilization devices included in the proposed development. To these ends, I have reviewed the following documents submitted by the applicant:

- 1) Geofirm, 2017, "Geotechnical Investigation for New Residence, Proposed Single-Family Residence, 217 Vista Marina, San Clemente, California," report dated December 11, signed by K.A. Trigg and Z. Wang.
- 2) David M. Sanders, Architect, 2019, Project Plans for 217 Vista Marina Residence, dated May 11.
- 3) Geofirm & Stoney Miller Consultants, Inc, 2023, "Updated Evaluation of Slope Stability, Proposed New Single-Family Residence, 217 Vista Marina, San Clemente, California," report dated July 25, signed by K.A. Trigg and J.D. Bearfield.
- 4) McGuire, M., "Canyon Edge Revisited Draft Email for Review," email to Commission staff (L. Roman, J. Street), copied to K. Trigg, dated August 2, 2023.

- 5) McGuire, M., "RE: 217 Vista Marina," three emails to Commission staff (L. Roman, J. Street), dated August 4, 2023.
- 6) David M. Sanders, Architect, 2023, Proposed Site Plan, 217 Vista Marina Residence, dated August 7, 2023.
- 7) McGuire, M., "RE: 217 Vista Marina," email to Commission staff (L. Roman, J. Street), dated August 10, 2023.
- 8) McGuire, M., "RE: 217 Vista Marina," email to Commission staff (L. Roman, J. Street), dated August 15, 2023.
- 9) McGuire, M., "FW: Steps & Risers," email to Commission staff (L. Roman, J. Street), copied to K. Trigg, dated September 7, 2023.
- 10) McGuire, M., "RE: Steps & Risers," two emails to Commission staff (L. Roman, J. Street), copied to K. Trigg, dated September 11, 2023.
- 11) McGuire, M., "RE: Piana 72339-01," email to Commission staff (L. Roman, J. Street), copied to K. Trigg, dated October 6, 2023.

I have also reviewed geotechnical reports from nearby sites, current and historical maps and aerial photographs of the area, and other materials that provide local geologic and topographic information (see References, p. 9). In addition, I visited the project site on April 17, 2019.

Site Description

The project site is an irregularly shaped lot located on a terrace or "step" on the southern (northwest-facing) slope of Trafalgar Canyon, at elevations ranging from approximately 65 to 75 feet above NAVD88. The canyon bottom, which has been heavily modified by the past installation of a storm drain system, occurs to the north of the building site at approximately 40 feet in elevation; the canyon slope extends to the south beyond the subject property, topping out at elevations of approximately 100 – 110 feet NAVD88. The site plan view and cross-sections provided in Ref. 3 are included here as **Fig. 1**; a topographic map of the area is provided in **Fig. 2**.

Refs. 1 and 3 report that the project site is underlain by Quaternary (recent) marine terrace deposits, landslide deposits (on the eastern portion of the site), residual soils and localized fill, above Capistrano Formation siltstone and sandstone bedrock. The detection of landslide materials at the site is consistent with previous geological mapping that identified Quaternary landslide deposits along the southern slope of Trafalgar Canyon (Tan 1999). Boring logs provided in Ref. 1 indicate the presence of approximately two to four feet of artificial fill beneath the building site and on the lower canyon slope immediately to the north. Ref. 1 initially identified the 30- to 40-foot-high slope immediately south of the building site as a manufactured fill slope, but Ref. 3 later revised this interpretation based on prior geologic studies indicating this upper slope is predominantly composed of natural materials. For example, borings collect at the top of the slope at 207 Calle Conchita (immediately upslope of the project site) logged just 1 – 2 feet of surficial fill, underlain by approximately 10 feet of natural marine terrace deposits and Capistrano Formation rock at depth (EGA Consultants 2017).

Canyon Edge Definition

The City of San Clemente's certified Land Use Plan (LUP) provides guidance on determining the edge location of both coastal and inland bluffs, including the following definition of a canyon edge (Chapter 7):

“CANYON EDGE” The upper termination of a canyon: In cases where the top edge of the canyon is rounded away from the face of the canyon as a result of erosional processes related to the presence of the canyon face, the canyon edge shall be defined as that point nearest the canyon beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the canyon. In a case where there is a step like feature at the top of the canyon face, the landward edge of the topmost riser shall be taken to be the canyon edge.

This definition is similar, but not identical, to the general definition of a bluff edge in the Coastal Commission’s regulations (Cal. Code Reg. Title 14, §13577(h)).¹ The LUP further defines a “coastal canyon” as any valley, gorge, or similar landform. While the LUP does not include a separate definition of “canyon face”, it does provide a “bluff face” definition which generally acknowledges the topographic diversity of natural slopes, including “step-like” irregularities:

“CANYON, COASTAL” means any valley, gorge or similar landform.

“BLUFF FACE” means the portion of a bluff between the bluff edge and the toe of the bluff. It is the steep surface of rock, decomposed rock, sediment or soil resulting from erosion, faulting, folding, uplifting or excavation of the land mass. The bluff face may be a simple planar or curved surface or it may be step-like in section.

Past Landform Modifications

The interpretation of these definitions and the determination of the canyon edge at the project site is complicated by the presence of the mid-slope terrace and by past development that, to some degree, has modified the natural landforms and topography within and adjacent to the southern slope of Trafalgar Canyon. Based on historical resources, including topographic maps and aerial photography, ground clearing and grading was involved in developing the local street system and residential lots in previous decades. For example, ground clearing, grading and fill placement associated with lot development along Paseo de Cristobal, Calle Conchita and Trafalgar Lane is evident in historical photographs (e.g., 1938, 1941, 1947, 1953), and is indicated by site-specific geologic reports (e.g., EGA Associates, 2017). In some cases, (e.g., 232 – 240 Trafalgar Ln. in 1941 photo) ground disturbance appears to have extended into Trafalgar Canyon. Additionally, Ref. 4 plausibly suggests that the upper slope (south of the project site) has been steepened by past grading. As can be seen in **Fig. 2**, the slope between the project site and the 204 – 207 Calle Conchita lots is relatively linear and has a consistent slope, suggestive of grading, perhaps associated with the storm drain installation or the development of the lots along Calle Conchita and Trafalgar Ln. The storm drain project also appears to have raised the bottom elevation of the canyon by approximately 10 feet (Ref. 1).

While acknowledging this history of site modification, past grading did not create or modify beyond recognition the pre-existing top of slope on the south side of Trafalgar Canyon. Early topographic maps that predate the most intensive development (e.g., 1886 T-Sheet), while not of optimal scale for interpreting details, nonetheless show the top of the canyon

¹ Section 13577(h)(2) of the Commission’s regulations defines the “bluff edge” as follows:

Bluff line or edge shall be defined as the upper termination of a bluff, cliff or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surfaces increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a steplike feature at the top of the cliff face, the landward edge of the topmost rise shall be taken as the cliff edge.

slope occurring at approximately 100 – 110 feet elevation near the project site, and in essentially the same location as present. The top elevation of the southern canyon slope also closely matches that of the steeper northern slope of the canyon (**Fig. 2**). The top of slope is also discernable, to varying degrees, in historical aerial photographs.

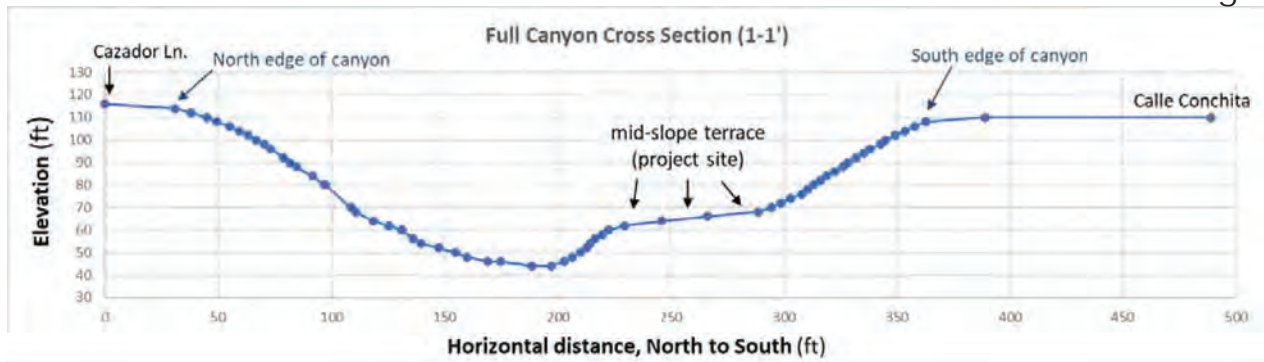
The mid-slope terrace on which the proposed building site is located appears to be a natural feature that has been partially modified by human activities. The terrace may represent a former base level of the canyon (prior to continued downcutting by Trafalgar Creek in the geologic past) or it may have originated from other processes. For instance, both the southern slope of Trafalgar Canyon and the gentle, coast-facing slope seaward of Vista Marina are mapped as the sites of ancient landslides (Tan 1999), which may explain the relatively gentle and/or stepped relief of these landforms. There are some signs of the terrace in early aerial photographs (e.g., 1938, 1941, 1946), but low photo resolution and heavy vegetation cover impedes topographic interpretation. The terrace is more evident in a 1966 photograph, at which time substantial vegetation clearing has occurred and the terrace is occupied by a dirt road. These changes likely coincided with the installation of a storm drainpipe along at the bottom of the canyon, and for which the primary construction access was laid across the subject property. The extent to which this access road required grading (terracing) of the pre-existing slope is unknown, but the presence of fill on the lip and lower slope of the terrace (Refs. 1, 3; **Fig. 1**) suggests that it may have been widened and flattened to facilitate the access road.

Canyon Edge Determination

Despite the history of landform modification outlined above, Trafalgar Canyon has remained a relatively consistent feature of the landscape to the present day. Based on the site elevation and the surrounding topography, it is evident to me that the project site is located within the “valley, gorge, or similar landform” that defines the canyon, as illustrated in **Figure A**, below. The location of the site within the canyon landform is also apparent on the local topographic map (**Fig. 2**), in the site cross-sections included in Refs. 1 and 3 (**Fig. 1**) and EGA Consultants (2017) and based on visual inspection of the site (see photos included in **Fig. 3**).

In each of these representations of the site, the geomorphic canyon edge, and the “canyon edge” that best fits the definition contained in the City LUP, is located at the top of the 30- to 40-foot-high slope immediately behind and to the south of the proposed building site, at elevations of approximately 100 to 110 feet (**Figs. A, 1-2**). This is the “upper termination” of the canyon landform, and to the extent that this top of slope is “rounded away from the canyon face”, it is still “the point nearest the canyon beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the canyon.” Measured from top-to-bottom, the average gradient of the southern slope of the canyon is approximately 2.5:1 (horizontal to vertical; h:v); excluding the mid-slope terrace, the slopes both above (south of) and below (north of) the terrace have gradients of 2:1 or greater.

Figure A: Canyon cross-section (see **Fig. 2** for location)



As can be seen in cross-section (**Fig. A**, above; also Fig. 1), moving northward from the top of the canyon (i.e., near Calle Conchita) the gradient increases quickly and ‘more or less continuously’ until it reaches the gradient of the upper slope, which matches or exceeds the general gradient of the canyon. Obviously, the gradient of the terrace on which the project would be located is much less, but I view this as a temporary hiatus or variation in the “general gradient of the canyon” rather than an indication that the terrace somehow lies outside the boundaries of the canyon. The terrace could be considered a “step” or “riser” under the LUP and Commission definitions, but it is located closer to the bottom of the canyon slope than the “top of the canyon face”, and my recommended canyon edge determination is not dependent on this part of the definition language.

The recommended canyon edge line for the subject lot is shown in **Fig. 2**.

Applicant’s Contentions Regarding the Canyon Edge

The applicant’s geotechnical investigation (Ref. 1) identified the canyon edge as occurring to the northwest of the project site, on the slope descending from the mid-slope terrace comprising the project site to the bottom of the canyon (**Fig. 1**). The criteria by which this canyon edge line was determined were not fully explained, but the applicant’s determination appeared to rely on two main considerations, including: (1) The assumption that the 30-40 foot slope above the project site, ascending toward the Calle Conchita lots, was composed of artificial fill, and was thus not a natural feature; and (2) the presence of a well-defined edge along the lower canyon seaward of the project site, beginning at the mouth of the canyon and ascending inland toward the subject property, which is more or less continuous with the canyon edge as determined by Geofirm (Ref. 1).

Composition/Origin of Upper Canyon Slope

As noted above, borings collected at 207 Calle Conchita found no evidence that the upper slope is substantially composed of artificial fill (EGA Consultants 2017). I also note that the general elevations of the area corresponding to the Calle Conchita tract (approx. +100 – 120 feet) have not changed substantially from pre-development to post-development topographic maps, indicating that height of the upper slope has not been significantly raised over time. Refs. 3 and 4 acknowledge that the interpretation of the upper slope as predominantly fill was incorrect, having been influenced by the uniform topography and gradient of this of this feature. It is possible, likely even, that this slope has been altered somewhat (e.g., steepened) through past grading. Grading on the Calle Conchita lots has probably levelled the ground at the top of the canyon (Ref. 4), possibly removing a more gradual transition into the canyon and contributing to a more sharply defined edge of slope. However, there is no evidence that the 30 – 40-foot-high slope above the project site is anything other than a predominantly natural feature or that the present-day canyon edge on the subject lot deviates greatly from the natural, pre-development top of slope.

Canyon Edge Connectivity

Previous Coastal Commission permit decisions for projects on lots along Calle Conchita and Trafalgar Lane,² including at 206 and Calle Conchita immediately above the project site, have recognized a more-or-less continuous canyon edge line that corresponds to (or is contiguous with) my recommended canyon edge for the 217 Vista Marina property. The canyon edge (shown in **Fig. 2**) descends from an elevation of approximately 120 feet at Trafalgar Lane to approximately 100 feet at the northwestern edge of the 207 Calle Conchita lot. Here, however, the edge of the landform (the sharp slope break above Vista Marina) turns away from the canyon to the south, and there is no clear, continuous connection to the edge of the lower, westernmost reach of Trafalgar Canyon.

Along the lower canyon, previous Coastal Commission actions, including CDP No. 5-00-459 (354 W. Paseo de Cristobal) and CDP No. 5-15-0807 (350 W. Paseo de Cristobal)) have identified a canyon edge line beginning at the mouth of the canyon, running inland along the top of the stream bank roughly parallel with the boundaries of several Paseo de Cristobal properties, and extending around the edge of the Vista Marina cul de sac (see **Fig. 2**). This lower canyon edge line connects topographically with the applicant's canyon edge (Ref. 1), on the slope below (north of) the project site. In contrast, there is no obvious topographic connection between the lower canyon edge where it skirts the Paseo de Cristobal properties and my recommended canyon edge line along the Calle Conchita tract and Trafalgar Lane.

As a general matter, bluff and canyon edge delineations under the Coastal Act and local LCP definitions are done on a lot-by-lot basis. Ideally, these edge "segments" will link, but the delineation of a continuous edge on the scale of the full geomorphic feature is seldom a part of the analysis, and discrepancies between individual delineations do sometimes occur. In the present case, the apparent lack of connectivity between the canyon edges identified along the inland portion of the canyon and lower canyon does not invalidate the canyon edge delineation applicable to the project site. Rather, it reflects the unique topography in this area near the mouth of Trafalgar Canyon. It is not unusual for coastal canyons to widen and become less steep toward the canyon mouth (as can be seen elsewhere in San Clemente as well). More specific to Trafalgar Canyon, there is evidence that both the southern slope of the canyon and the seaward-facing slope on the south side of the canyon mouth (i.e., the area occupied by properties along Vista Marina and Paseo de Cristobal) were shaped by past landslides, which likely caused or contributed to the shape of the landform, essentially a lower-relief terrace, bench or "apron" set between steeper lower and upper slope faces. Thus, there is not necessarily an expectation that there should be a readily defined, continuous canyon edge along the entire southern slope of Trafalgar Canyon.³

The applicant's representative (in Ref. 4) has also pointed out that in previous decisions the Coastal Commission has defined the *coasta*/bluff edge as the edge of the steep, lower slope seaward of Paseo de Cristobal rather than the edge of the upper slope above Vista Marina, which is topographically contiguous with the edge of the upper canyon (see **Fig. 2**). This previously determined coastal bluff edge line connects with the lower canyon edge

² CDP Nos. 5-91-457, 5-93-222, 5-99-461, 5-03-359, 5-04-436, 5-06-389, 5-17-0607.

³ Past grading of the Vista Marina roadway and cul de sac may have accentuated the terracing (the step-like topography) between Vista Marina and the Calle Conchita lots and contributed to the lack of connectivity in the canyon edge.

along 354 Paseo del Cristobal (CDP 5-00-459). This is a legitimate point and highlights one pitfall of the Commission's typical site-specific focus. I can only speculate on the reasons for the past coastal bluff edge determinations, and why the 'geologic' bluff edge (at the inland "scarp" of the ancient landslide) was not used. The considerations may have been practical -- there are eight developed lots on the gentle, graded slope between the lower bluff edge and the upper bluff edge seaward of Calle Conchita -- or related to localized hazards concerns (e.g., erosion, instability) specific to the lower slope. Alternatively, the true complexity of the bluff landform here may previously have been overlooked.

Alternative Approaches

In Refs. 5, 7, 8 and 10, the applicant's representative cites numerous examples where the Commission approved new development that appears to be located beyond the topographic canyon edge, including along Trafalgar Canyon. In one example, in a CDP for the apartment complex at 411 Cazador Ln., on the northern side of Trafalgar Canyon, the Commission applied its general bluff edge definition (14 CCR 13577(h)) to delineate the bluff edge, but found that development beyond this bluff edge line could still be approved provided it was consistent with Coastal Act resource protection policies (specifically Sections 30253 and 30251). These examples provide evidence that past Commissions, using the Coastal Act as the standard of review, have interpreted and applied the applicable bluff and canyon edge definitions flexibly, and have not uniformly prohibited development within coastal canyons.

In addition, Ref. 9 notes that the City of San Diego's certified LCP, specifically its "Coastal Bluffs and Beaches Guidelines", provides specific direction for delineating the coastal bluff edge on bluffs with stepped features (terraces, steps, risers, etc.) on the bluff face. In particular, San Diego's Guidelines indicate that when a bluff property is located entirely on a series of terraces/risers on the bluff face, the bluff edge should be delineated as the edge of the top-most riser *occurring on the subject property*, even if this is not the top-most riser of the bluff itself. If this guideline were translated to 217 Vista Marina, the applicant's bluff edge, at the top of the lower canyon slope, would be considered the canyon edge because the upper canyon edge, though at a higher elevation, occurs outside of the subject property. No such policy or guideline is contained in the City of San Clemente LUP (or, for that matter, in the Commission's regulations), so I cannot conclude that the applicant's delineation represents the canyon edge under the LUP definition. Nonetheless, it is notable that this alternative approach, applicable to similar physical settings as the project site, is used by another coastal jurisdiction and was previously certified by the Commission.

Slope Stability Considerations

The updated slope stability analysis provided in Ref. 3 indicates that the project site is marginally stable, as evaluated along two cross-sections representing the eastern (section A-A') and western (section B-B') portions of the site. However, the minimum static factors of safety against instability (e.g., landsliding) under project conditions were calculated at 1.3 (A-A') and 1.4 (B-B') and do not meet the minimum factor of safety of 1.5 required in the City LUP and building code. The proposed shear pin ("caisson") stabilization system, to be constructed into the terrace along the south side of the residence (**Fig. 1**), would achieve the required factor of safety for the building site. I have reviewed the site geology and slope stability analyses contained in Refs. 1 and 3 and agree with the methodology

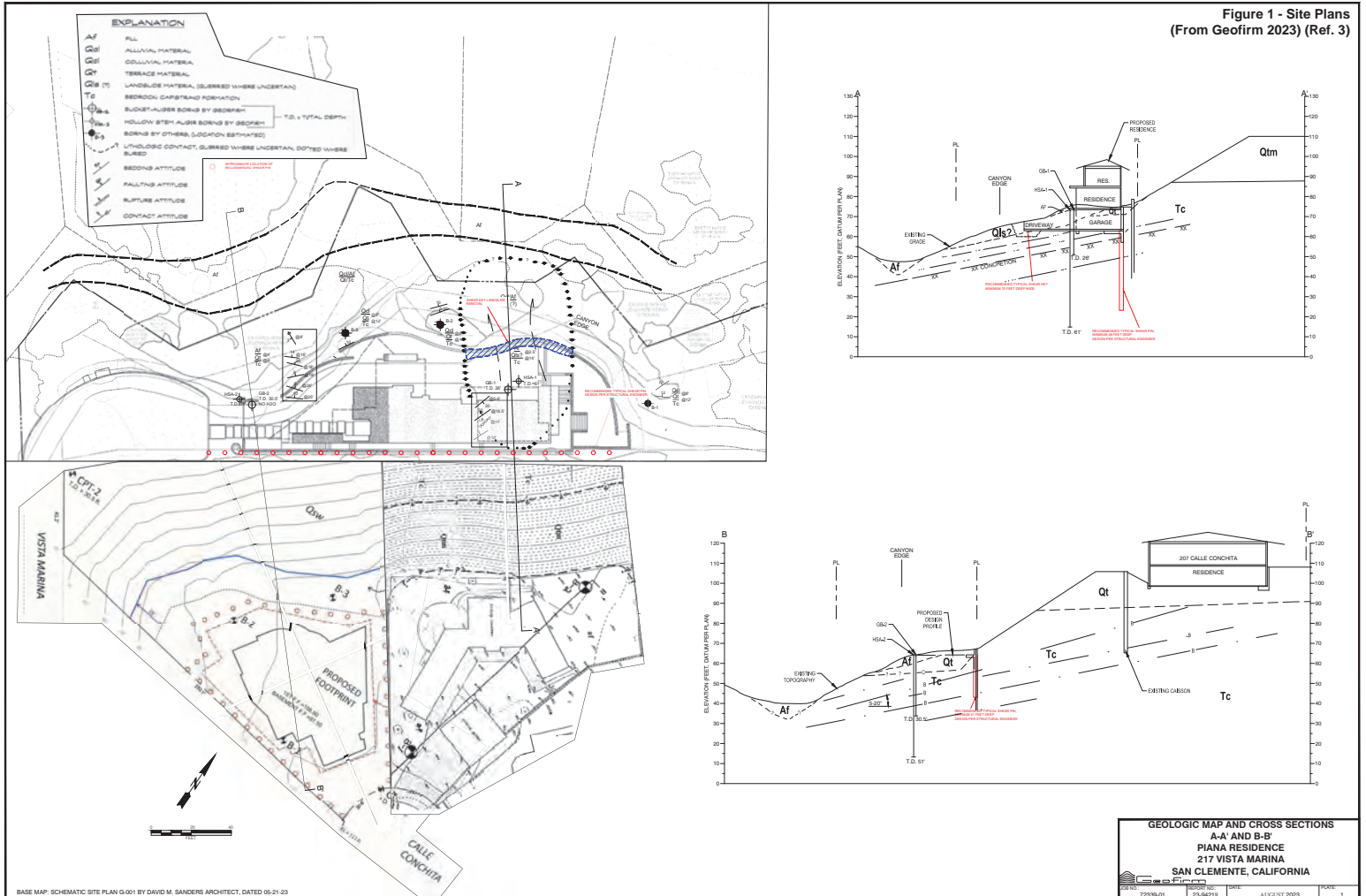
and conclusions reached in Ref. 3; additionally, I agree that a stabilization system is necessary to achieve the required factors of safety at the site. However, given that the caissons are designed only to add an increment of lateral stability for code conformance to an already grossly stable slope, I do not think that they function as protective devices; they would not actively retain the canyon slope or prevent slides or failures that are otherwise likely to occur. The caissons would also serve as the foundation and provide necessary support for the proposed radiant heat/fire protection wall along the southern edge of the development.

The proposed development includes a substantial cut into the existing grade at the rear (south side) of the residence, which would expand the level building pad and allow for an additional lower story for the house. The south wall of the proposed house would support this vertical cut. An approximately 175-foot-long radiant heat/fire protection wall, located parallel to and south of the house, would in places retain a few feet of soil, but would have only a minimal effect on natural erosion processes on the canyon slope.

References

- Coastal Development Permit No. 5-91-457 (Tammelin, 204 Calle Conchita, San Clemente) and Application File.
- Coastal Development Permit No. 5-93-222 (McIntyre, 206 Calle Conchita, San Clemente) and Application File.
- Coastal Development Permit No. 5-99-461 (Herbert, 226 Trafalgar Ln., San Clemente) and Application File.
- Coastal Development Permit No. 5-00-459 (Laidlaw Family Trust, 354 W. Paseo de Cristobal, San Clemente) and Application File.
- Coastal Development Permit No. 5-03-359 (Weeks, 230 Trafalgar Ln., San Clemente) and Application File.
- Coastal Development Permit No. 5-04-436 (Bohi, 206 Calle Conchita, San Clemente) and Application File.
- Coastal Development Permit No. 5-06-389 (McKernan, 232 Trafalgar Ln., San Clemente) and Application File.
- Coastal Development Permit No. 5-15-0807 (Martin, 350 W. Paseo de Cristobal, San Clemente), Staff Report and Application File.
- Coastal Development Permit No. 5-17-0607 (Worthington, 207 Calle Conchita, San Clemente) and Application File.
- Colman Geotechnical, 1993. Geotechnical Investigation, Proposed Second Story Addition, 206 Calle Conchita, San Clemente, CA. Job No. 1168. Revised June 17, 1993.
- County of Orange Historical Aerial Imagery, 1938-1996. Available at: <https://www.ocgis.com/ocpw/historicalimagery/index.html>
- EGA Consultants, LLC., 2017. Geotechnical Investigation for Proposed Residential Development Located at 207 Calle Conchita, San Clemente, California. Project No. RW989.1, April 21, 2017.
- Geofirm, 2015. Geotechnical Investigation for New Residence, 350 W. Paseo de Cristobal, San Clemente, California. Report No. 15-7623, February 11, 2015.

- Orange County Public Works (OCPW), Online Mapping Tool (<https://www.ocgis.com/ocpw/landrecords/>) and Geospatial Data (http://www.ocpublicworks.com/survey/products/geospatial_data_download). Accessed May 30, 2019.
- Tan, S.S., 1999. Geologic Map of the San Clemente 7.5' Quadrangle, Orange and San Diego Counties, California: A Digital Database Version 1.0. California Department of Conservation, Division of Mines and Geology, and U. S. Geological Survey.
- U.S. Coast and Geodetic Survey, 1886. Coast Topography Between San Juan Capistrano and San Diego, Section X (T-1758). Available online at: <http://www.caltsheets.org/socal/>
- U.S. Geological Survey (USGS) historical topographic maps, various scales and years, San Clemente and Capistrano quadrangles. Available online at: <https://ngmdb.usgs.gov/topoview/viewer/#15/33.4188/-117.6185>. Accessed on May 30, 2019.



BASE MAP: SCHEMATIC SITE PLAN G-001 BY DAVID M. SANDERS ARCHITECT, DATED 05-21-23

Figure 2 – Topographic Map

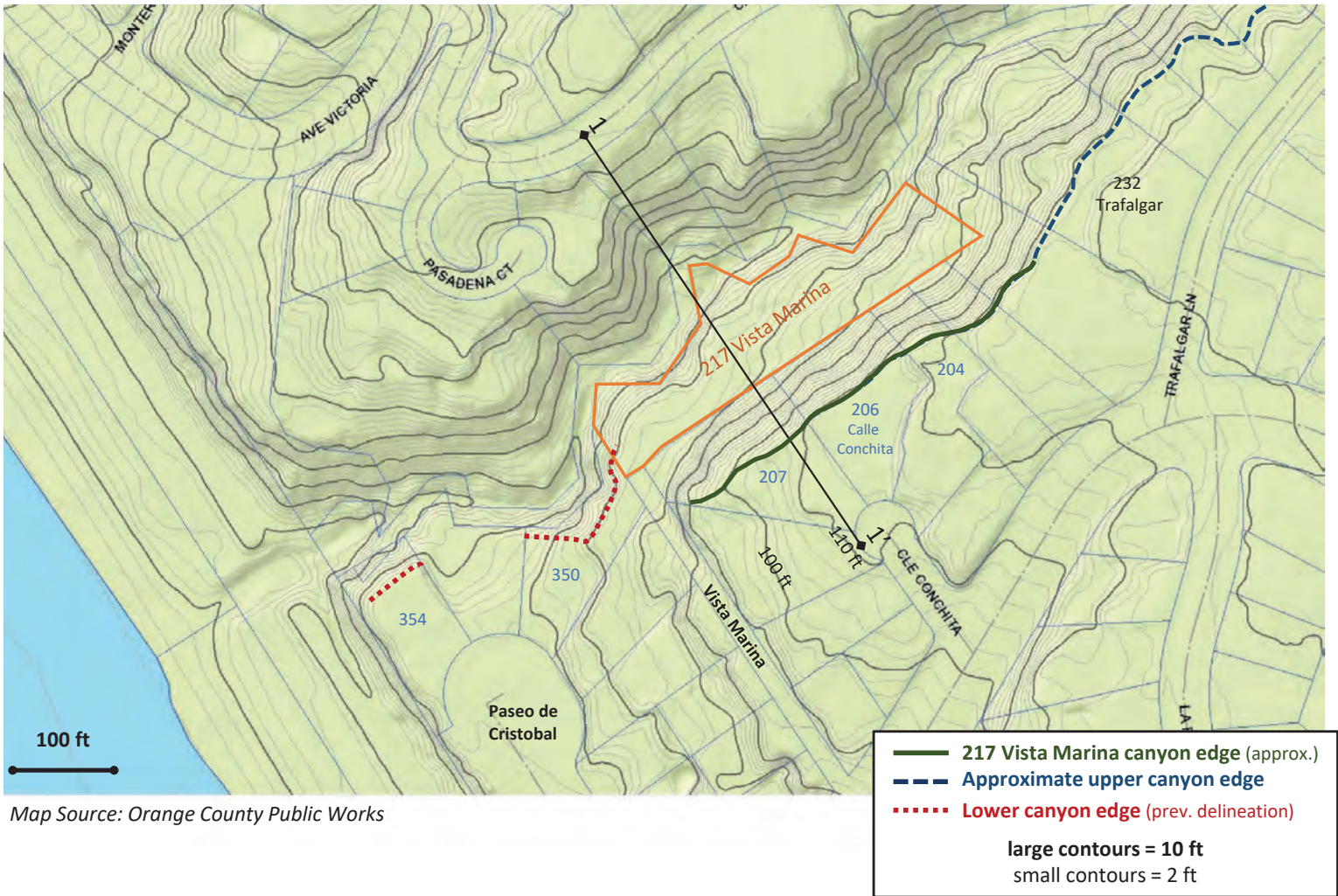


Figure 3

