

July 5, 2018

Mr. Joel Hyatt
Open Space Division
Parks and Recreation Department
202 "C" Street, 5th Floor (MS 5D)
San Diego, CA 92101

SDD-34.01

Subject: Biological Resources Letter Report for the Tierrasanta Trails Project

Dear Mr. Hyatt:

This letter report presents the results of biological surveys conducted by HELIX Environmental Planning, Inc. (HELIX) and subconsultant Rocks Biological Consulting, Inc. for the proposed Tierrasanta Trails Project (proposed project) located in the community of Tierrasanta, City of San Diego, California. The surveys were conducted to assess existing biological conditions and potential impacts, and identify the need for mitigation measures associated with existing and proposed public trails within canyon open space areas to create a complete trail system for the community of Tierrasanta. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act (CEQA) by the City of San Diego (City) and applicable resource agencies (U.S. Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]).

1.0 INTRODUCTION

1.1 Project Location

The approximately 28.7-acre study area is located in the Tierrasanta community of the City of San Diego, east of Interstate (I-) 15, north of I-8, and south of State Route 52 (Figure 1). It consists of 11 areas: five located south of Tierrasanta Boulevard, and six located north of Tierrasanta Boulevard (Figure 2). The study area is located in unsectioned land in the Mission San Diego land grant within Townships 15 and 16 South, Range 2 West on the San Bernardino Base and Meridian U.S. Geological Survey (USGS) 7.5-minute La Mesa quadrangle map (Figure 3). The study area occurs within the City's Multiple Species Conservation Program (MSCP) Subarea Plan (City 1997a). Approximately 24.5 acres of the study area are within the

Multi-habitat Planning Area (MHPA; the City's MSCP Preserve; Figure 4). The study area is outside of the Coastal Overlay Zone.

1.2 Environmental Setting

The study area consists of 11 areas within four canyons north of Mission Valley and west of Mission Gorge. Elevations in the study area range from approximately 144 feet (ft) above mean sea level (amsl) to approximately 540 ft amsl. Eight soil types are mapped within the study area: Diablo clay (30 to 50 percent slopes), Diablo-Olivenhain complex (9 to 30 percent slopes), Olivenhain cobbly loam (30 to 50 percent slopes), Redding gravelly loam (2 to 9 percent slopes), Redding cobbly loam (9 to 30 percent slopes), Redding cobbly loam (15 to 50 percent slopes), riverwash, and terrace escarpments (Bowman 1973).

1.3 Project Description

This report addresses existing and proposed public trails within four canyons located in the community of Tierrasanta and managed by the City Open Space Division.

The project would permit a network of multi-use (hiking and biking), existing and proposed trails within Tierrasanta Open Space. Not all sections of existing trail/use patterns meet the current City guidelines for construction of new trails. These sections may be improved where possible (for example, by the installation of landings or steps where grades currently exceed guidelines [e.g., Viacha access]) to improve the trail user experience while minimizing biological impacts that construction of a new fully compliant trail would entail. Guidance for the present and future use and maintenance of trails within the Tierrasanta Community is presented in the draft Tierrasanta Open Space Trails Plan (City 2017), which provides a cohesive trails plan for the open space areas.

For the purposes of review under CEQA and permitting, the trails to be included generally fall into three categories: (1) existing trail alignments that predate the City's 1991 Resource Protection Ordinance (RPO), which introduced restrictions on impacts to habitats in open space (i.e., pre-1991); (2) existing trails that have been built between adoption of the RPO and the present (i.e., post-1991); and (3) proposed new trail segments to complete the trail network (in some cases, involving realignment of existing trails; [Figures 2 through 4]). Biological impacts for trails in the second and third categories (i.e., existing post-1991 trails and proposed new trails) are included in this report and associated mitigation requirements are specified. Habitat impacts for existing post-1991 trails have been calculated based on the surrounding vegetation types since these impacts already have occurred. Trails constructed prior to 1991 (i.e., trail category 1 above) represent the baseline trail system when the RPO came into effect. These trails do not require permitting, and are therefore not subject to impact analysis. In addition to the trail alignments described above, trails to be closed also are depicted on Figures 2 through 4. Utility access paths are also shown and may be used by the public to make connections within the plan area. As maintenance of these paths is primarily for utility purposes and not as trails, these are not part of the impact analysis included herein. It is noted that an alternative utility access path on San Diego Unified School District (SDUSD) lands in South Shepherd Canyon

southwest of Clairemont Mesa Boulevard may be pursued in the future for use as a trail. No impacts are anticipated from this potential future trail alignment as it is on an existing utility access path that was constructed prior to 1991, and would replace the existing pre-1991 trail located further northwest in the canyon. Permission from SDUSD would be needed for this alternative trail alignment, but no reassessment of impacts to biological resources would be required to implement this alternative route.

A total of 11 areas were studied, comprising segments of 11 named trails (Figures 2 through 4). Some trails consist of more than one category type along their length. Category 1 existing trails (pre-1991) include all or portions of eight trail segments (Viacha Access [Area 1], End of La Cuenta [Area 2], Cartulina West [Area 5], Cartulina East to Rueda [Area 6], Vivaracho [Area 7], Promesa [Area 8], Shepherd Canyon [Area 9], and South Rueda Canyon [Area 11; Table 1a]). Several other Category 1 trails are also depicted on Figures 2 through 4 but were not included in the field surveys and are not further addressed in this report or in Table 1a. These trails are, however, included in the Tierrasanta Open Space Trails Plan. The trails plan would permit a total of approximately 11.7 miles of trails, including 8.1 miles of Category 1 pre-1991 trails, 2.9 miles of Category 2 post-1991 trails, and 0.6 mile of proposed new trails.

Table 1a TRAIL ALIGNMENTS¹		
AREA NO.	ALIGNMENT NAME	LENGTH (ft)
Category 1 Pre-1991 Existing Trails to Remain		
1	Viacha Access	466
2	End of La Cuenta	46
5	Cartulina West	2,048
6	Cartulina East to Rueda	592
7	Vivaracho	24
8	Promesa	139
9	Shepherd Canyon	199
11	South Rueda Canyon	105
Subtotal		3,619
Category 2 Post-1991 Existing Trails to Remain		
2	End of La Cuenta	1,696
4	Roadrunner Park	12
6	Cartulina East to Rueda	125
7	Vivaracho	56
9	Shepherd Canyon	1,071
10	North Rueda Canyon	4,603
11	South Rueda Canyon	7,304
Subtotal		14,867

Table 1a (cont.) TRAIL ALIGNMENTS¹		
AREA NO.	ALIGNMENT NAME	LENGTH (ft)
Category 3 Proposed New Trails		
3	Viacha Encroachments	456
4	Roadrunner Park	483
6	Cartulina East to Rueda	603
7	Vivaracho	917
8	Promesa	686
9	Shepherd Canyon	58
Subtotal		3,203
TOTAL		21,689

¹Does not include trails to be closed or utility access paths (Figure 2).

Several trail closures are proposed as part of the draft Tierrasanta Open Space Trails Plan and are listed below in Table 1b.

Table 1b TRAIL CLOSURES	
Category 4: Trails to be closed	LENGTH (ft)
Shepherd Canyon closure of spurs and redundant trails.	4,849
Promesa trail re-route south of Clairemont Blvd. Existing trail northwest of re-route has already been closed.	457
Promesa eastern most trail spurs to be closed.	1,193
Vivaracho existing trail to be closed following re-route.	630
North Rueda Canyon trail spurs to be closed.	304
South Rueda adjacent and redundant trail spurs to be closed.	3,072
Viacha Encroachments on private property to remain closed.	91
Trail spur off the south end of Viacha Drive to be closed.	425
South Rueda Canyon trail spurs and redundant trails south of La Cuenta	1,859
Roadrunner Park relocation of trail off private property. Existing trail to be closed following re-route.	464
Closure of redundant trail between Tierrasanta Blvd and Calle de Vida	2,628
TOTAL	15,972

Category 2 existing trails (post-1991) evaluated include all or portions of eight trails that were constructed without prior evaluation or authorization (End of La Cuenta [Area 2], Viacha Encroachments [Area 3], Roadrunner Park [Area 4], Cartulina East to Rueda [Area 6], Vivaracho

[Area 7], Shepherd Canyon [Area 9], North Rueda Canyon [Area 10], and South Rueda Canyon [Area 11; Table 1]).

Category 3 proposed trails evaluated include all or portions of six trail segments (Viacha Encroachments [Area 3], Roadrunner Park [Area 4], Cartulina East to Rueda [Area 6], Vivaracho [Area 7], Promesa [Area 8], and Shepherd Canyon [Area 9; Table 1]). The proposed Category 3 alignments include construction of new trails and realignment of existing trails that cross private property (Viacha Encroachments [Area 3] and Roadrunner Park [Area 4]). Various alignments were considered based on a July 17, 2013 memorandum prepared by City staff and subsequent coordination, including identification of a less impactful alignment for Roadrunner Park. Alternative alignments were evaluated based on impact, redundancy, trail management experience, and property ownership. Only the final alignments are presented in this report.

New trails would be constructed by hand clearing with power tools such as chainsaws and weed whips. A walk-behind chipper may be used within the impact footprint and existing disturbed areas and staging areas. Final trail tread grades would be established with hand-held tools, including power tools such as jackhammers and hand-held compactors.

The completed trail tread for new trail segments is expected to be 2 to 3 ft in width, with a maximum of 4 ft. For the purposes of the analysis in this report (for both existing and proposed trails), construction impacts were calculated at widths ranging from 5 to 6.68 ft to include trail tread, erosion control, best management practices (BMPs), and future maintenance needs, with additional cut-and-fill as necessary based on segment-specific slope (see Table 2). The only exception to the impact widths stated above is for a single short segment of new trail that would be constructed as 4-foot wide stairs connecting Middle Shepherd Canyon to Clairemont Mesa Boulevard; a 12-foot width impact width was assumed for construction of this segment. In order to minimize construction impacts associated with cut-and-fill within the MHPA, a maximum 3-foot-wide trail tread would be utilized on slopes greater than 20 percent. The trail tread would be composed of dirt. Where the South Rueda Canyon Trail would cross a drainage south of Roadrunner Park (Figure 5l), a puncheon or similar structural crossing would be used to avoid dredge and fill impacts to the drainage. On the east side of South Rueda (Figure 5h), a bridge was removed circa 2015 to prevent further travel on the trail to the south while the trail is being permitted. A puncheon or similar structural crossing would be reinstalled in this area as part of the trails plan.

SLOPE	IMPACT WIDTH (ft)
0-15%	5
15-25%	6.4
>25%	6.68

All trails other than those illustrated in this report, including new trails constructed in the future without proper authorization, can be closed, because they are not part of the proposed trail

system. Category 4, Trails to be Closed, are included in Table 1b and a trail closure plan has been incorporated into the draft Tierrasanta Open Space Trails Plan.

2.0 METHODS

2.1 Trails Review

A comprehensive review was undertaken of the trail network in Tierrasanta Open Space. This included review of existing trails to identify areas where existing trails/use patterns do not meet City guidelines, trails that were constructed after adoption of the RPO, and needs for additional segments to complete the trails network.

All existing trails were reviewed on aerial photographs taken in 1989 to determine whether they were visible at that time, or were constructed later. Trails constructed prior to 1989 represent the baseline trail system when the RPO came into effect in 1991. As stated previously, these trails do not require permitting, and were therefore not subject to further analysis.

Trails constructed after adoption of the RPO in 1991 that were not considered desirable for inclusion in the trails system were identified for closure. Trails constructed after adoption of the RPO in 1991 that were considered desirable as part of the cohesive trails system, as well as trails that are proposed, were subject to additional analysis.

2.2 Field Studies

Prior to conducting biological field surveys, searches of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), U.S. Fish and Wildlife Service (USFWS) sensitive species database, California Native Plant Society (CNPS) online database for the La Mesa USGS topographic quadrangle, and the City's MSCP Subarea Plan for information regarding sensitive species known to occur within the vicinity of the project area were performed.

General biological surveys were conducted by HELIX biologist Stacy Nigro on March 24, 2014, HELIX biologist Ben Rosenbaum on September 22, 2017, and by biologists from HELIX subconsultant Rocks Biological Consulting on April 3, 2014, February 23, 2015, March 3, 2015, and March 9, 2015 (Table 3). The surveys consisted of mapping vegetation communities/habitats along existing trails and potential trail realignments, as well as a minimum of 25 ft to each side (referred to as the "study area") and documenting the locations of sensitive plant and animal species observed, as well as potentially jurisdictional habitats or drainage features. The surveys were conducted on foot, and binoculars were used as necessary. Vegetation communities were mapped in accordance with the City's Biology Guidelines (City 2012). Vegetation communities and sensitive species were mapped on a 1 inch equals 100 ft scale map with a current aerial photograph base map.

Table 3 SURVEY INFORMATION		
SURVEY DATE	PERSONNEL	SURVEY TYPE
03/24/2014	Stacy Nigro ¹	General biological survey, vegetation mapping
04/03/2014	Melanie Rocks ²	General biological survey, vegetation mapping
02/23/2015	Lee Ripma ²	General biological survey, vegetation mapping
03/03/2015	Lee Ripma ²	General biological survey, vegetation mapping
03/09/2015	Brian Lohstroh ²	General biological survey, vegetation mapping
09/22/2017	Ben Rosenbaum ¹	General biological survey, vegetation mapping
5/2/2018	Jim Rocks ² Lee Ripma ²	Rare plant survey
5/4/2018	Brenda Bennett ²	Rare plant survey

¹HELIX Environmental Planning

²Rocks Biological Consulting

Rare plant surveys were conducted within the study area by biologists from Rocks Biological Consulting on May 2 and May 4, 2018 (Table 3). Surveys were conducted on foot and sensitive species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph. Opportunistic inspections for rare plant species were also made during the general biological surveys.

Plant and animal species observed or otherwise detected during the surveys were recorded (Attachments A and B). Animal identifications were made in the field by direct, visual observation, or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. However, the lists of species identified are not necessarily comprehensive accounts of all species that occur on the site, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. No focused surveys for sensitive animal species have been conducted to date. An analysis of sensitive plant and animal species with potential to occur in the study area is provided as Attachment C.

2.3 Nomenclature

Nomenclature used in this report follows the conventions used in the City’s Biology Guidelines (City 2012) and the MSCP (City 1997a and b). Nomenclature also follows Baldwin et al. (2012) for plants; Holland (1986) and Oberbauer (2008) for vegetation communities; the American Ornithologists’ Union (2014) for birds; Collins and Taggart (2006) for reptiles; and Baker et al. (2003) for mammals. Plant species status is taken from the CNPS (2017). Animal species status is from CDFW (2017a and b). Habitat sensitivity is based on the City’s Biology Guidelines (City 2012).

3.0 RESULTS

3.1 Vegetation Communities/Habitats

The study area supports 19 vegetation communities/habitats: southern riparian forest, southern willow scrub, riparian scrub, mule fat scrub, freshwater marsh, herbaceous wetland, native grassland, coast live oak woodland, scrub oak chaparral, Diegan coastal sage scrub, broom baccharis-dominated coastal sage scrub, flat-topped buckwheat scrub, coastal sage-chaparral scrub, southern mixed chaparral, non-native grassland, eucalyptus woodland, ornamental vegetation, disturbed habitat, and developed land (Figures 5a through 5l; Table 4).

Table 4 EXISTING VEGETATION COMMUNITIES/HABITATS WITHIN THE STUDY AREA				
VEGETATION COMMUNITY/HABITAT	MSCP Tier†	ACREAGE*		
		Within MHPA	Outside MHPA	Total
Wetland				
Southern riparian forest	--	0.08	0.00	0.08
Southern willow scrub	--	0.04	<0.01‡	0.04
Riparian scrub	--	0.18	0.00	0.18
Mule fat scrub	--	0.11	0.01	0.12
Freshwater marsh	--	0.05	0.00	0.05
Herbaceous wetland	--	0.03	0.00	0.03
Upland				
Native grassland	I	0.9	0.0	0.9
Coast live oak woodland	I	0.2	0.0	0.2
Scrub oak chaparral	I	0.3	0.0	0.3
Diegan coastal sage scrub	II	15.3	1.8	17.1
Broom baccharis-dominated coastal sage scrub	II	2.5	0.0	2.5
Flat-topped buckwheat scrub	II	0.1	0.0	0.1
Coastal sage-chaparral scrub	II	0.3	0.0	0.3
Southern mixed chaparral	IIIA	0.7	0.1	0.8
Non-native grassland	IIIB	1.2	0.2	1.4
Eucalyptus woodland	IV	0.8	0.9	1.7
Ornamental	IV	0.5	0.6	1.1
Disturbed habitat	IV	0.5	0.1	0.6
Developed land	--	0.7	0.6	1.3
TOTAL		24.5	4.2	28.7

*Rounded to the nearest 0.1 acre for uplands and 0.01 acre for wetlands. Totals reflect rounding.

†Tiers refer to City MSCP Subarea Plan habitat classification system.

‡0.004 acre of southern willow scrub.

3.1.1 Southern Riparian Forest

Southern riparian forests are composed of winter deciduous trees that require an abundant supply of water at or near the soil surface for most of the year. Approximately 0.08 acre of southern riparian forest occurs within a riparian corridor in the western portion of the Area 9 Shepherd Canyon study area (Figure 5a; Table 4). Characteristic species present include western sycamore (*Platanus racemosa*), black willow (*Salix goodingii*), and California rose (*Rosa californica*).

3.1.2 Southern Willow Scrub

Southern willow scrub is a dense, broad-leaved, winter deciduous riparian thicket dominated by willows (*Salix* spp.), typically found within loose, sandy or fine gravelly alluvium along stream channels. Approximately 0.04 acre of southern willow scrub occurs within a riparian corridor in the western portion of the Area 3 Viacha Encroachments study area (Figure 5i; Table 4). Characteristic species occurring within this vegetation community in the study area include arroyo willow (*Salix lasiolepis*) and pampas grass (*Cortaderia* sp.).

3.1.3 Riparian Scrub

Riparian scrub is a scrubby streamside thicket varying from open to impenetrable. This early seral community may succeed to any of several riparian woodland or forest types absent severe flooding disturbance. Approximately 0.18 acre of riparian scrub occurs in portions of Area 7 Vivaracho, Area 8 Promesa, Area 10 North Rueda Canyon, and Area 11 South Rueda Canyon (Figures 5e, 5f, 5g, 5h, 5i, 5k, and 5l; Table 4). Characteristic species present include arroyo willow, mule fat (*Baccharis salicifolia*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), and pampas grass.

3.1.4 Mule Fat Scrub

Mule fat scrub is a depauperate, shrubby, riparian scrub community dominated by mule fat (*Baccharis salicifolia*) and interspersed with shrubby willows. Approximately 0.12 acre of mule fat scrub occurs within a riparian corridor in the western portion of the Area 9 Shepherd Canyon study area (Figure 5a; Table 4). Mule fat is the dominant species present.

3.1.5 Freshwater Marsh

Coastal and valley freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 ft tall, forming incomplete to completely closed canopies. These areas are semi- or permanently flooded yet lack a significant current (Holland 1986). Approximately 0.05 acre of freshwater marsh occurs within a stream channel in the western portion of the Area 3 Viacha Encroachments study area, eastern and central portions of Area 8 Promesa, and central portion of Area 11 South Rueda Canyon (Figures 5f, 5h, and 5i; Table 4). Cattail (*Typha* sp.) is the dominant species occurring within this vegetation community in the study area.

3.1.6 Herbaceous Wetland

Herbaceous wetland is a low-growing, herbaceous community that is dominated by a variety of native wetland species, typically occurring in seasonally wet areas. Approximately 0.03 acre of herbaceous wetland occurs within a riparian corridor in the western portion of the Area 8 Promesa study area (Figure 5f; Table 4). Characteristic species present include curly dock (*Rumex crispus*) and western ragweed (*Ambrosia psilostachya*).

3.1.7 Native Grassland

Native grassland is a community dominated by perennial bunchgrasses, generally occurring on fine-textured soils. Almost all of the native grasslands in California have been displaced by non-native grassland dominated by introduced annual species. Native grasslands occur throughout California as small isolated islands. Approximately 0.9 acre of native grassland occurs within the study area for Area 2 End of La Cuenta alignment, Area 9 Shepherd Canyon, and Area 11 South Rueda Canyon (Figures 5b, 5c, 5h, 5i, 5j, 5k, and 5l; Table 4). Characteristic species observed in this community include needlegrass (*Stipa* sp.) and blue-eyed grass (*Sisyrinchium bellum*).

3.1.8 Coast Live Oak Woodland

Coast live oak woodland is an evergreen oak woodland dominated by coast live oak (*Quercus agrifolia*), which reaches 30 to 80 feet in height. Approximately 0.2 acre of coast live oak woodland occurs within the Area 11 South Rueda Canyon study area (Figures 5j and 5k; Table 4).

3.1.9 Scrub Oak Chaparral

Scrub oak chaparral is a dense, evergreen chaparral up to 20 ft tall, found in somewhat more mesic areas than many other chaparrals, such as north facing slopes, and recovers more rapidly from fires than other chaparrals due to resprouting capabilities of scrub oak (Holland 1986; Keeley and Keeley 1988).

A total of 0.3 acre of scrub oak chaparral occurs in the study area, at the western end of Area 7 Vivaracho, and in the northern and southern portions of Area 10 North Rueda Canyon (Figure 5e, 5f, and 5g; Table 4). Nuttall's scrub oak (*Quercus dumosa*) is the dominant species in this community.

3.1.10 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is the wide-spread coastal sage scrub in coastal southern California. This vegetation community occupies xeric sites characterized by shallow soils. Approximately 17.1 acres of Diegan coastal sage scrub occurs within the study area (Table 4), and is found in all 11 areas (Figures 5a through 5l). Characteristic species observed within this vegetation

community include California sagebrush (*Artemisia californica*), California encelia (*Encelia californica*), and black sage (*Salvia mellifera*).

3.1.11 Broom Baccharis-dominated Coastal Sage Scrub

Broom baccharis-dominated coastal sage scrub is a subtype of Diegan coastal sage scrub containing broom baccharis (*Baccharis sarothroides*) as the dominant species. It develops under a variety of circumstances following Diegan coastal sage scrub disturbance. Approximately 2.5 acres of broom baccharis-dominated coastal sage scrub occur within the study area (Table 4), and is found in portions of Area 2 End of La Cuenta, Area 8 Promesa, Area 9 Shepherd Canyon, Area 10 North Rueda Canyon, and Area 11 South Rueda Canyon (Figures 5b, 5e, 5f, 5g, 5h, and 5i).

3.1.12 Flat-topped Buckwheat Scrub

Flat-topped buckwheat scrub is a community characterized by a near monoculture of flat-topped buckwheat (*Eriogonum fasciculatum*), usually resulting from disturbance. This community may transition to coastal sage scrub or chaparral, and often intergrades with Diegan coastal sage scrub. Approximately 0.1 acre of flat-topped buckwheat scrub occurs within the Area 9 Shepherd Canyon study area (Figure 5a; Table 4).

3.1.13 Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between sage scrub and chaparral vegetation communities. Approximately 0.3 acre of coastal sage-chaparral scrub occurs within the study area (Table 4). It is found in the Area 4 Roadrunner Park portion of the study area (Figure 5l). Characteristic species observed within this vegetation community include California sagebrush, chamise (*Adenostoma fasciculatum*), and black sage.

3.1.14 Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 ft in height and form dense often nearly impenetrable stands with poorly developed understories. Approximately 0.8 acre of southern mixed chaparral occurs within the study area (Table 4), associated with the Area 4 Roadrunner Park and Area 9 Shepherd Canyon study areas (Figures 5c and 5l). Characteristic species observed within this vegetation community include chamise, black sage, and bush monkey-flower (*Mimulus aurantiacus*).

3.1.15 Non-native Grassland

Non-native grassland is characterized by a sparse to dense cover of annual grasses and is often associated with numerous species of showy-flowered, native, annual forbs. Most of the introduced, annual species that comprise the majority of species and biomass within non-native grassland originate from the Mediterranean region, an area with a long history of agriculture and climate similar to California. Approximately 1.4 acres of non-native grassland occur within the

study area (Table 4), associated with Area 2 End of La Cuenta, Area 5 Cartulina West, Area 7 Vivaracho, Area 9 Shepherd Canyon, Area 10 North Rueda Canyon, and Area 11 South Rueda Canyon (Figures 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, and 5k). Characteristic species observed within this vegetation community include oats (*Avena* sp.) and bromes (*Bromus* sp.).

3.1.16 Eucalyptus Woodland

Eucalyptus woodland may be characterized by single-species thickets of eucalyptus (*Eucalyptus* sp.) with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy.

Eucalyptus woodland totals 1.7 acres within the study area (Table 4), and is located in the study areas of the following alignments: Area 3 Viacha Encroachments, Area 4 Roadrunner Park, Area 5 Cartulina West, Area 6 Cartulina East to Rueda, Area 7 Vivaracho, Area 8 Promesa, Area 9 Shepherd Canyon, Area 10 North Rueda Canyon, and Area 11 South Rueda Canyon (Figures 5a, 5b, 5d, 5e, 5f, 5g, 5h, 5i, and 5l).

3.1.17 Ornamental

Ornamental vegetation is characterized by non-native species introduced and established through human action. These species include cultivated plants that have become naturalized in native habitat areas or that are remnant of previous cultivated land uses. Approximately 1.1 acres of ornamental vegetation occur within the study area (Table 4), located within the study areas of the following alignments: Area 1 Viacha Access, Area 3 Viacha Encroachments, Area 5 Cartulina West, Area 6 Cartulina East to Rueda, Area 7 Vivaracho, Area 9 Shepherd Canyon, and Area 10 North Rueda Canyon (Figures 5a, 5b, 5d, 5e, 5f, 5g, 5i, and 5k). Characteristic species present in this community include hottentot-fig (*Carpobrotus edulis*), Peruvian pepper tree (*Schinus molle*), and Brazilian pepper tree (*Schinus terebinthifolius*).

3.1.18 Disturbed Habitat

Disturbed habitat is either unvegetated or is dominated by non-native, weedy species that are adapted to a regime of frequent disturbance (ruderal). Species occurring within this vegetation community in the study area include dwarf nettle (*Urtica urens*), black mustard (*Brassica nigra*), and Russian thistle (*Salsola tragus*). Approximately 0.6 acre of disturbed habitat occurs in the study area for Area 4 Roadrunner Park, Area 5 Cartulina West, Area 6 Cartulina East to Rueda, Area 9 Shepherd Canyon, and Area 11 South Rueda Canyon (Figures 5a, 5b, 5d, 5e, 5k, and 5l; Table 4).

3.1.19 Developed

Approximately 1.3 acres of the study area are developed (Table 4). Developed lands include paved roads and landscaped areas, and occur in Area 1 Viacha Access, Area 4 Roadrunner Park, Area 5 Cartulina West, Area 6 Cartulina East to Rueda, and Area 9 Shepherd Canyon (Figures 5a, 5b, 5c, 5d, 5e, 5i, and 5l).

3.2 Plants

A total of 146 plant species were observed within the study area during the general biological surveys and rare plant surveys (Attachment A). Ornamental species occurring within urban/developed land are not included in the species tally.

3.3 Animals

A total of 43 animal species, including 3 invertebrate, 3 reptile, 33 bird, and 4 mammal species, were observed or detected within the study area during the general biological survey (Attachment B).

3.4 Sensitive Resources

3.4.1 Sensitive Vegetation Communities

Sensitive vegetation communities are considered either rare within the region or sensitive by CDFW; are listed as sensitive under the MSCP (City 1997a) or the City's Biology Guidelines (2012); or support sensitive plants or animals. They are considered sensitive because they have been depleted, are naturally uncommon, or support sensitive species.

Sensitive vegetation communities that occur within the study area include southern riparian forest, southern willow scrub, riparian scrub, mule fat scrub, freshwater marsh, herbaceous wetland, native grassland, coast live oak woodland, scrub oak chaparral, Diegan coastal sage scrub, broom baccharis-dominated coastal sage scrub, flat-topped buckwheat scrub, coastal sage-chaparral scrub, southern mixed chaparral, and non-native grassland. Mitigation in accordance with the MSCP regulations is required for impacts to sensitive vegetation communities.

3.4.2 Sensitive Plants

Sensitive plant species are considered uncommon or limited in that they (1) are only found in the San Diego region; (2) are a local representative of a species or association of species not otherwise found in the region; or (3) are severely depleted within their ranges or within the region. High-interest plants include those afforded designation by the CNPS (2018).

No federally or state listed plant species were observed within the study area. A total of seven sensitive plant species were observed in the study area: Nuttall's scrub oak, decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), San Diego barrel cactus (*Ferocactus viridescens*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), San Diego County viguiera (*Bahiopsis laciniata*), Palmer's grapplinghook (*Harpagonella palmeri*), and graceful tarplant (*Holocarpha virgata* ssp. *elongata*). Of these, only San Diego barrel cactus is an MSCP Covered Species. Refer to Figures 5a through 5l for the location of sensitive plant species observed in the study area. An explanation of status codes can be found in Attachment D.

Nuttall's scrub oak (*Quercus dumosa*)

Status: --/--; CRPR 1B.1

Distribution: San Diego, Orange, and Santa Barbara counties in California; Baja California, Mexico

Habitat(s): Chaparral, coastal scrub with sandy or clay loam soils

Status on site: A total of 6 individuals were observed in Diegan coastal sage scrub and southern mixed chaparral in Areas 1, 4, and 7 (Figures 5f, 5i, and 5l), as well as several individuals occurring as the dominant species in scrub oak chaparral in Area 10 (Figures 5e, 5f, and 5g).

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)

Listing: --/--; CRPR 1B.2

Distribution: Orange and San Diego counties; Baja California, Mexico; San Clemente and Santa Catalina islands

Habitat: Occurs in disturbed areas of coastal sage scrub and riparian areas

Status on site: A total of 89 individuals were observed in native grassland and Diegan coastal sage scrub in Areas 2 and 11 (Figures 5i, 5j, and 5k).

San Diego barrel cactus (*Ferocactus viridescens*)

Status: --/--; CRPR 2.1, MSCP Covered

Distribution: San Diego County and Baja California, Mexico

Habitat(s): Dry slopes in coastal sage scrub and chaparral

Status on site: A total of 30 individuals were observed in native grassland and Diegan coastal sage scrub in Areas 2, 8, and 11 (Figures 5f, 5h, 5i, and 5j). Additional individuals were observed outside the study area.

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)

Status: --/--; CRPR 4.2

Distribution: Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties; Baja California, Mexico

Habitat: Moist, saline, or alkaline soils in coastal salt marshes and riparian marshes

Status on site: A total of 37 individuals were observed in southern willow scrub, riparian scrub, and freshwater marsh in Areas 3, 8, 10, and 11 (Figures 5e, 5f, 5h, and 5i).

San Diego County viguiera (*Bahiopsis laciniata*)

Status: --/--; CRPR 4.2

Distribution: San Diego and Orange County; Baja California, Mexico

Habitat: Diegan coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Occurs on a variety of soil types.

Status on site: A total of 611 individuals were observed in Diegan coastal sage scrub, broom baccharis-dominated coastal sage scrub, eucalyptus woodland, and ornamental vegetation in Areas 2, 4, 5, 6, 7, 8, 10, and 11 (Figures 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, and 5l). Additional individuals were observed outside the study area.

Palmer's grapplinghook (*Harpagonella palmeri*)

Listing: --/--; CRPR 4.2

Distribution: Below approximately 3,300 feet in elevation in Los Angeles, Orange, Riverside, and San Diego counties; Baja California and Sonora, Mexico; San Clemente Island; Arizona

Habitat: Clay soils in annual grasslands and coastal sage scrub

Status on site: A total of 200 individuals were observed in native grassland and Diegan coastal sage scrub in Area 11 (Figure 5h).

Graceful tarplant (*Holocarpha virgata* ssp. *elongata*)

Listing: --/--; CRPR 4.2

Distribution: San Diego, Orange, and Riverside counties

Habitat: Coastal mesas and foothills with grassland habitats

Status on site: A total of 10 individuals were observed in Diegan coastal sage scrub and broom baccharis-dominated sage scrub in Area 9 of Shepherd Canyon (Figure 5b).

In addition to the seven species listed above, a total of 10 California box-thorn (*Lycium californicum*), a CRPR List 4.2 species, was observed to the north of the study area for Area 7 Vivaracho (Figure 5f). No other sensitive plant species, including City narrow endemic species, were observed during the biological surveys which took place in March and April 2014, March 2015, and September 2017, or May 2018 focused rare plant surveys.

The potential for other sensitive plant species to occur in the study area is presented in Attachment C. Sensitive plant species may have been present within the existing alignments of Category 2 (post-1991) trails prior to their construction; however, it is not possible to know which species, if any, were impacted. It is anticipated that construction of these trails would have impacted few individuals, as the trails are narrow in width and large numbers of sensitive plant species were not observed during field surveys for the current project. Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*), a CRPR 4.3 species, is the only sensitive plant species considered to have high potential to occur in the study area but that was not observed during project surveys. CRPR 4.3 species are considered watch list species; they are not afforded special status or recognition by the USFWS or CDFW but may be considered sensitive by local jurisdictions. No narrow endemic or federal or state listed plant species are expected to occur within the proposed alignments. Biological surveys, which included focused rare plant surveys, were completed during the blooming period for the species with high potential to occur in the study area. Further, a focused evaluation was completed during the May 2018 rare plant survey within a portion of South Rueda Canyon where a community member thought they may have found San Diego thorn-mint (*Acanthomintha ilicifolia*), a federally listed threatened and state listed endangered plant species. This species was known to be flowering at Mission Trails Regional Park at the time of the survey, thus the timing of the survey was appropriate. San Diego thorn-mint was not found in the study area by surveying biologists or during a separate visit by a City biologist. Other native species were present that could have potentially been confused with thorn-mint by a lay person, e.g., hooked navarretia (*Navarretia hamata*) and fringed spineflower (*Chorizanthe fimbriata*), both of which were observed and neither of which are sensitive species.

3.4.3 Sensitive Animals

Belding's orange-throated whiptail (*Aspedoscelis hyperythra beldingi*) and Cooper's hawk (*Accipiter cooperi*) are the only sensitive animal species detected within the study area during the biological surveys and are further discussed below.

Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*)

Status: --/WL, MSCP Covered

Distribution: Southern Orange County and southern San Bernardino County, south through Baja California

Habitat: Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites.

Status on site: One individual was observed within Diegan coastal sage scrub.

Cooper's hawk (*Accipiter cooperii*)

Status: --/WL; MSCP Covered

Distribution: Occurs year-round throughout San Diego County's coastal slope where stands of trees are present

Habitat: Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests

Status on site: One individual was observed within eucalyptus woodland.

Several sensitive animal species have potential to occur within native habitat areas in the study area; however, the only listed species with high potential to occur is the coastal California gnatcatcher (*Polioptila californica californica*), a federally listed species and California species of special concern. The USFWS has database records for the coastal California gnatcatcher in the vicinity of several of the trail alignments, as well as in canyons to the south and east. Suitable habitat for coastal California gnatcatcher is present throughout much of the study area and this species is assumed present.

The potential for sensitive animal species to occur in the study area is presented in Attachment C. Protocol surveys for coastal California gnatcatcher would be required to determine if this species occupies any of the trail alignments. However, for the purposes of this analysis, the coastal sage scrub in the area is conservatively assumed to be occupied by coastal California gnatcatcher and, with the requirement that impacts be avoided during the breeding season (refer to Mitigation), surveys for this species are not required. No other focused surveys for animal species are warranted, as no other listed species has high potential to occur, and mitigation measures would be implemented to avoid impacts to nesting birds.

3.5 Jurisdictional Waters and Wetlands

A formal jurisdictional delineation was not conducted for the project. However, the small areas of wetland habitat occurring in the study area, including southern riparian forest, southern willow scrub, mule fat scrub, riparian scrub, freshwater marsh, and herbaceous wetland, as well as an approximately 4-foot-wide unvegetated streambed in Area 4 Roadrunner Park (Figure 5I) would

likely fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or City. No other potentially jurisdictional features were observed in the study area.

3.6 Wildlife Corridors and Movement

The City's MHPA provides varying levels of wildlife corridor and movement functions within the study area. Much of the area is highly urbanized, with a system of finger canyons supporting native habitat, surrounded by dense urban development fringing the canyon edges. Wildlife movement occurs within and between these canyons, which also provide access to food, water, and shelter for a variety of invertebrates, amphibians, reptiles, birds, and mammals. Wildlife movement occurring within the study area is somewhat less constrained compared to other canyons in the urban habitat areas of the MHPA due to proximity to Mission Trails Regional Park.

4.0 REGIONAL AND REGULATORY CONTEXT

The following federal, state, and/or local regulations or policies apply to biological resources in the study area.

4.1 Federal

4.1.1 Endangered Species Act

The USFWS regulates impacts on listed species and their habitats through the Endangered Species Act (ESA). Projects that affect listed species or their habitats require mitigation of those effects in accordance with USFWS standards. The City has incidental take authorization from USFWS for species covered by the City's MSCP Subarea Plan.

The USFWS also identifies critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. No critical habitat for any species occurs within the study area (Figure 4).

4.1.2 Migratory Bird Treaty Act

All migratory bird species native to the United States and its territories are protected under the Migratory Bird Treaty Act (MBTA), as amended. The MBTA mandates protection for eggs and chicks of all migratory bird species but does not stipulate specific protection measures. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests. Project activities would comply with the MBTA.

4.1.3 Clean Water Act

Federal wetland regulation applicable to the study area is guided by the Clean Water Act (CWA). The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all Waters of the U.S. (WUS). Permitting for projects filling WUS (including wetlands) is overseen by the USACE under Section 404 of the CWA. In addition, under Section 401 of the federal CWA, an applicant for a federal permit for an activity that may result in a discharge to a water body must obtain certification from the state that the proposed activity will comply with state water quality standards and water quality objectives. A Section 401 Certification must be obtained prior to issuance of a 404 Permit. The CWA Section 404 and 401 permits are not anticipated to be needed for the proposed project as project activities would not result in the placement of fill in WUS or otherwise result in impacts to jurisdictional waters or wetlands.

4.2 State of California

4.2.1 California Environmental Quality Act

Primary environmental legislation in California is found in the California Environmental Quality Act (CEQA) and its implementing guidelines (State CEQA Guidelines), requiring that projects with potential adverse effects or impacts to the environment undergo environmental review. Adverse impacts to the environment are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

4.2.2 California Endangered Species Act

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes.

4.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The California ESA follows the NPPA and covers both plants and animals determined to be endangered or threatened with extinction. Plants listed as rare under the NPPA are also designated as rare under the California ESA.

4.2.4 California Fish and Game Code

Pursuant to California Fish and Game Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by California Fish and Game Code Section 3503.5, which states that it is unlawful to take, possess,

or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW.

California Fish and Game Code (Sections 1600 through 1603) requires a CDFW agreement for projects affecting riparian and wetland habitats through issuance of a Streambed Alteration Agreement (SAA). The proposed project may require an SAA if wetland impacts cannot be avoided. The only area of jurisdictional habitat that is within trail Category 2 (post-1991 existing trail) is a less than 0.001-acre area of freshwater marsh (Figure 5h) comprised of cattails occurring within the bottom of a narrow, incised channel. Trail users currently step on the banks to cross the channel. However, the City may opt to construct a puncheon or similar structural feature in this area to facilitate crossing by trail users. Any such structure would be set into the slope above the ordinary high water mark and not result in any direct impacts to the marsh vegetation or stream channel. All other reaches of Category 2 trails occur in uplands.

4.3 City of San Diego

4.3.1 Environmentally Sensitive Lands

Impacts to biological resources in the City must comply with the City's Environmentally Sensitive Lands (ESL) Regulations. The purpose of the regulations is to "protect, preserve, and, where damaged, restore the environmentally sensitive lands of San Diego and the viability of the species supported by those lands." Environmentally sensitive lands are defined to include sensitive biological resources, steep hillsides, coastal beaches, sensitive coastal bluffs, and 100-year floodplains.

The ESL regulations require that impacts to wetlands be avoided unless the activities meet specific exemption criteria established in the ordinance. Impacts to City-defined wetlands require approval of deviation findings as required by ESL regulations. Impacts to wetlands must be mitigated in accordance with Section III(B)(1)(a) of the Land Development Manual Biology Guidelines (City 2012).

In addition to restricting impacts to wetland habitats, the ESL regulations also restrict development within the MHPA, including impact avoidance areas around raptor nesting locations (specifically, Cooper's hawk, northern harrier [*Circus cyaneus*], golden eagle [*Aquila chrysaetos*], and burrowing owl [*Athene cunicularia*]) and known locations of the southern pond turtle (*Clemmys marmorata pallida*). The ESL regulations also require seasonal restrictions on grading where development may impact the following bird species: western snowy plover (*Charadrius alexandrinus nivosus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least tern (*Sternula antillarum browni*), San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), least Bell's vireo (*Vireo bellii pusillus*), tricolored blackbird (*Agelaius tricolor*), and coastal California gnatcatcher.

4.3.2 Multiple Species Conservation Program

In July 1997, the USFWS, CDFW, and City adopted the Implementing Agreement for the MSCP. This program allows the incidental take of threatened and endangered species as well as regionally sensitive species that are conserved by it (Covered Species). The MSCP designates regional preserves that are intended to be mostly void of development activities, while allowing development of other areas subject to the requirements of the program. Impacts to biological resources are regulated by the City's ESL regulations.

The City's MSCP Subarea Plan has been prepared to meet the requirements of the California Natural Communities Conservation Planning (NCCP) Act which was originally enacted in 1991. The NCCP Act was subsequently amended in 1996 and 2000 before being superseded by the 2003 NCCP Act, most recently amended in 2012. The MSCP identifies an MHPA that is intended to link all core biological areas into a regional wildlife preserve. The City's MSCP Subarea Plan describes how the City's portion of the MSCP Preserve, the MHPA, will be implemented.

The study area is located within the eastern portion of the "Urban Areas" of the MHPA (Section 1.2.3 of the Subarea Plan). The "Urban Areas" portion of the MHPA includes areas not incorporated in the major planned areas of the MHPA, and consists primarily of canyons with native habitats in relative proximity to other MHPA areas providing habitat (City 1997). Urban habitat areas include open space in Tecolote Canyon, Marian Bear Memorial Park, Rose Canyon, San Diego River, Carroll Canyon, Florida Canyon, as well as numerous smaller canyon systems dispersed throughout the more urban areas of the City (City 1997). These areas are intended to provide habitat for native species remaining in urban areas of the City, stepping stones for migrating birds and those establishing new territories, and environmental education opportunities for urban dwellers (City 1997).

No specific MHPA guidelines from Section 1.2.3 of the Subarea Plan apply to the proposed project. However, as stated in this section of the Subarea Plan, MHPA lands within the urban areas of the City are managed pursuant to existing Natural Resource Management Plans, Landscape Maintenance Districts, as conditions of permit approval, or are currently unmanaged. It is noted that the Tierrasanta Maintenance Assessment District provides additional maintenance within Tierrasanta Open Space.

The trails plan's consistency with MSCP Subarea Plan Section 1.5 "Framework Management Plan" is addressed in the Tierrasanta Trails Plan under the "General Management Directives" section.

MHPA Adjacency Guidelines

The City's MSCP Subarea Plan addresses the impacts to preserve areas from adjacent development in Section 1.4.3, Land Use Adjacency Guidelines (City 1997). The Land Use Adjacency Guidelines provide requirements for land uses adjacent to the habitat preserve in order to minimize indirect impacts to the sensitive resources contained therein. As stated

previously, much of the study area is located within or adjacent to the MHPA, thus, MHPA adjacency guidelines are applicable to the proposed project. The trails plan's consistency with the Land Use Adjacency Guidelines are discussed primarily in Section 6.2 of this report, however Section 6.1.6 also provides information related to compliance with general and specific management directives, and Sections 7.1.2 and 7.1.3 provides relevant information related to edge effects.

5.0 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

In accordance with the Significance Determination Guidelines (City 2011), a project would result in a significant or potentially significant biological resources impact if it would result in:

- A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies, or regulations or by the USFWS or CDFW;
- A substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Manual or other sensitive natural community identified in local or regional plans, policies, or regulations, or by USFWS or CDFW;
- A substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through the direct removal, filling, hydrological interruption, or other means;
- Interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors; including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites;
- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region;
- Introducing land use within an area adjacent to the MHPA that would result in adverse edge effects;
- A conflict with any local policies or ordinances protecting biological resources; or
- An introduction of invasive plant species into a natural open space area.

6.0 IMPACTS

This section describes potential direct and indirect impacts associated with implementation of the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary

effects of a project, including drainage and toxins (water quality), lighting, noise, invasive plant species, and errant construction impacts.

6.1 Direct Impacts

6.1.1 Vegetation Communities

The project would result in direct impacts to the following sensitive vegetation communities: 0.13 acre of native grassland, 0.02 acre of coast live oak woodland, 0.05 acre of scrub oak chaparral, 1.61 acres of Diegan coastal sage scrub, 0.21 acre of broom baccharis-dominated coastal sage scrub, 0.01 acre of flat-topped buckwheat scrub, 0.03 acre of southern mixed chaparral, and 0.13 acre of non-native grassland. These impacts would be considered significant.

Impacts also would occur to eucalyptus woodland, ornamental, disturbed habitat, and developed land (Table 5; Figures 5a-5l). Impacts to these vegetation communities are not considered significant because they are not considered sensitive. Although not considered a sensitive habitat, eucalyptus woodlands are known to provide nesting habitat for a variety of bird species, including raptors. The project does not propose removal of eucalyptus or other trees.

Table 5 PROPOSED PROJECT IMPACTS TO VEGETATION COMMUNITIES/HABITATS				
VEGETATION COMMUNITY/HABITAT	MSCP Tier†	IMPACT ACREAGE*		
		Within MHPA	Outside MHPA	Total
Wetland				
Southern riparian forest	--	--	--	--
Southern willow scrub	--	--	--	--
Riparian scrub	--	--	--	--
Mule fat scrub	--	--	--	--
Freshwater marsh	--	--	--	--
Herbaceous wetland	--	--	--	--

Table 5 (cont.) PROPOSED PROJECT IMPACTS TO VEGETATION COMMUNITIES/HABITATS				
VEGETATION COMMUNITY/HABITAT	MSCP Tier†	IMPACT ACREAGE*		
		Within MHPA	Outside MHPA	Total
Upland				
Native grassland	I	0.13	--	0.13
Coast live oak woodland	I	0.02	--	0.02
Scrub oak chaparral	I	0.05	--	0.05
Diegan coastal sage scrub	II	1.50	0.11	1.61
Broom baccharis-dominated coastal sage scrub	II	0.21	--	0.21
Flat-topped buckwheat scrub	II	0.01	--	0.01
Coastal sage-chaparral scrub	II	--	--	--
Southern mixed chaparral	IIIA	0.03	--	0.03
Non-native grassland	IIIB	0.12	0.01	0.13
Eucalyptus woodland	IV	0.07	0.07	0.14
Ornamental	IV	0.02	0.03	0.05
Disturbed habitat	IV	0.02	--	0.02
Developed land	--	--	0.02	0.02
TOTAL		2.18	0.24	2.42

†Tiers refer to City MSCP Subarea Plan habitat classification system.

*Rounded to the nearest 0.01 acre. Totals reflect rounding.

Impacts to vegetation communities associated with individual alignments are presented in Table 6. The majority of impacts to sensitive vegetation communities are from existing alignments that were constructed without prior evaluation or authorization; thus, impacts cannot be further reduced. New trail construction (i.e., Category 3) would impact a total of 0.34 acre of Diegan coastal sage scrub and 0.03 acre of southern mixed chaparral. Impacts along these alignments were minimized by proposing construction in the least sensitive habitats wherever possible, while taking into account slopes/topography and private property boundaries. However, impacts could not be completely eliminated since many of these areas only support Diegan coastal sage scrub and other sensitive vegetation communities along much of their lengths.

**Table 6
PROJECT IMPACTS TO VEGETATION COMMUNITIES BY ALIGNMENT¹**

VEGETATION COMMUNITY ²	MSCP Tier ³	Area 2 End of La Cuenta		Area 3 Viacha Encroachments		Area 4 Roadrunner Park		Area 6 Cartulina East to Rueda		Area 7 Vivaracho		Area 8 Promesa		Area 9 Shepherd Canyon		Area 10 North Rueda Canyon		Area 11 South Rueda Canyon		TOTAL ⁴		
		Inside or Outside the MHPA																				
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In
Upland																						
Native grassland	I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	0.13	-	0.13
Coast live oak woodland	I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	0.02	-	0.02
Scrub oak chaparral	I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	0.05	-	0.05
Diegan coastal sage scrub	II	0.25	-	0.02	0.05	0.03	-	0.05	0.02	0.06	0.03	0.09	-	0.09	-	0.47	-	0.45	-	1.50	0.11	1.61
Broom baccharis-dominated coastal sage scrub	II	< 0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	0.15	-	0.21	-	0.21
Flat-topped buckwheat scrub	II	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	-	-	-	0.01	-	0.01
Southern mixed chaparral	IIIA	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	0.03
Non-native grassland	IIIB	< 0.01	-	-	-	-	-	-	-	-	-	-	-	0.02	0.01	0.07	-	0.03	-	0.12	0.01	0.13
Eucalyptus woodland	IV	-	-	-	-	-	-	-	-	-	0.05	0.01	0.01	0.06	0.01	-	0.01	-	-	0.07	0.07	0.14
Ornamental	IV	-	-	-	-	-	-	-	0.02	-	0.01	-	-	-	-	0.02	0.01	-	-	0.02	0.03	0.05
Disturbed habitat	IV	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	0.02
Developed land	--	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	0.02	0.02
TOTAL		0.26	-	0.02	0.05	0.07	-	0.05	0.06	0.06	0.08	0.10	0.01	0.18	0.02	0.66	0.02	0.78	-	2.18	0.24	2.42

¹Excludes Areas 1 Viacha Access and 5 Cartulina West, which are existing trails constructed prior to 1991.

²Vegetation communities existing within the study area but not impacted are not included in the table.

³Tiers refer to City MSCP Subarea Plan habitat classification system.

⁴Presented in acre(s) rounded to the nearest hundredth. Totals reflect rounding.

6.1.2 Sensitive Plant Species

Seven sensitive plant species were observed in the study area during biological surveys: Nuttall's scrub oak, decumbent goldenbush, San Diego barrel cactus, southwestern spiny rush, San Diego County viguiera, Palmer's grapplinghook, and graceful tarplant. The project has potential to impact approximately 50 San Diego County viguiera occurring as scattered individuals along portions of the following three proposed new trail alignments: Area 6 Cartulina East to Rueda, Area 7 Vivaracho, and Area 8 Promesa (Figures 5d, 5f, and 5g). However, it is anticipated that minor adjustments to the trail width and location can be implemented during construction to avoid most or all potential impacts to this species. The project would avoid impacts to decumbent goldenbush, San Diego barrel cactus, Nuttall's scrub oak, Palmer's grapplinghook, graceful tarplant, and southwestern spiny rush.

Potential impacts to up to 50 San Diego County viguiera individuals would not result in substantial adverse effects on this species and are not considered significant due to the relatively large amount of habitat for this species already conserved and preserved in perpetuity within the MSCP Plan Area. Furthermore, the project would avoid impacts to 561 San Diego County viguiera individuals (92 percent) recorded within the study area.

In addition to direct impacts from trail construction, edge effects on San Diego barrel cactus and other sensitive plant species may include trampling from off-trail use, and erosion and sedimentation from trail degradation.

6.1.3 Sensitive Animal Species

Two sensitive animal species (Cooper's hawk and Belding's orange-throated whiptail) were observed or detected during the general biological survey, and there is also high potential for coast horned lizard (*Phrynosoma blainvillii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and yellow warbler (*Setophaga petechia*) to occur in the study area. Orange-throated whiptail and coast horned lizard are not anticipated to be directly impacted by the project but could be subject to edge effects. Yellow warbler, a riparian-associated species, would not be impacted by the project as no removal of riparian habitat would occur. Impacts to southern California rufous-crowned sparrow and Cooper's hawk could occur if nesting habitat were removed during the breeding season (February 15-August 31 for most birds; January 15-July 15 for raptors).

Although no nests were observed during the field surveys, the study area contains trees and shrubs that could support nesting sites for other bird species protected under the MBTA. Impacts to nesting birds could occur if vegetation clearing were to take place during the general avian or raptor breeding seasons (February 15 to August 31 and January 15 to July 15, respectively). Such impacts would be considered significant.

Coastal California gnatcatcher is assumed present within the study area and the project would impact 1.61 acres of Diegan coastal sage scrub and 0.21 acre of broom baccharis-dominated

coastal sage scrub potentially occupied by this species. Impacts to coastal California gnatcatcher would be considered significant.

6.1.4 Jurisdictional Waters and Wetlands

The proposed new trail alignment for Area 4 Roadrunner Park would cross an approximately four-foot-wide drainage feature that is potential USACE non-wetland WUS and CDFW stream channel (Figure 5l). Impacts to this feature would be avoided by installing a puncheon or similar structural crossing to avoid dredge and fill impacts to the streambed. The structure would be set into the slope above the ordinary high water mark and not result in any direct impacts to the streambed, therefore no permits would be required from the USACE or RWQCB under Sections 404 and 401 of the CWA or from CDFW under its Streambed Alteration program.

The proposed new trail alignment for Area 3 Viacha Encroachments occurs near wetland habitat (Figure 5i). A portion of this alignment would be constructed adjacent to the outer edge of existing southern willow scrub habitat. The trail cannot be located further away from the wetland in this location because of adjacent private property; thus, a wetland buffer could not be provided between the wetland and trail at this specific location. However, the trail width and associated construction footprint would be reduced as needed to avoid impacting wetland habitat. The trail would result in impacts to a portion of the wetland buffer by reducing vegetative cover (primarily lemonadeberry but also broom baccharis and California sagebrush) thereby decreasing habitat for wildlife; increasing the potential for erosion which could affect water quality in the adjacent wetland; and increasing the potential for the spread of invasive plants by trail users. The proposed trail would result in human activity closer to the wetland than currently exists and could increase the potential for edge effects on wildlife, including noise and human encroachment. Noise generated by trail users could also affect avian nesting activity in the adjacent wetland, although this portion of the trail is just down slope of several single-family residences, which likely generate noise that travels to this area already. Wildlife anticipated to use the proposed trail area and adjacent wetland include various common birds (e.g., California towhee [*Pipilo crissalis*], common yellowthroat [*Geothlypis trichas*], lesser goldfinch [*Carduelis psaltria*], house wren [*Troglodytes aedon*], and bushtit [*Psaltriparus minimus*]), lizards (e.g., side-blotched lizard [*Uta stansburiana*]), and mammals (e.g., raccoon [*Procyon lotor*], coyote [*Canis latrans*], bobcat [*Lynx rufus*], and cottontail rabbit [*Sylvilagus audubonii*]). Impacts to the buffer would occur only along one side of the wetland edge, with the remainder of the buffer left intact.

An existing portion of the Area 11 South Rueda Canyon trail alignment crosses a small area of wetland habitat north of the Area 3 Viacha Encroachments alignment. Wetland habitat at the crossing consists of a narrow channel with marsh vegetation in the bottom (Figure 5h). Trail users currently step across this channel; however, the City may opt to construct a puncheon or similar structural feature in this area to facilitate crossing by trail users. Any such structure would be set into the slope above the ordinary high water mark and not result in any direct impacts to the marsh vegetation or stream channel, therefore no permits would be required from the USACE or RWQCB under Sections 404 and 401 of the CWA or from CDFW under its Streambed Alteration program.

In addition to the existing wetland crossing identified above, portions of the following existing post-1991 trail alignments occur near wetland habitat: Area 7 Vivaracho, Area 9 Shepherd Canyon, Area 10 North Rueda Canyon, and Area 11 South Rueda Canyon. Trail construction in these areas does not impact wetland habitat.

6.1.5 Wildlife Corridors and Movement

Although the majority of the project would occur within the MHPA, project implementation would not result in substantial interference with wildlife movement through the MHPA or impede linkages or the use of wildlife nursery sites. Proposed trails would continue to allow for wildlife movement through the canyons and would not impede linkages; thus, no significant impacts to wildlife corridors would occur.

6.1.6 Compliance with Regional Conservation Plans, Local Ordinances, and Policies

The proposed project would comply with the City's MSCP Subarea Plan and Land Development Manual Biology Guidelines; thus, no significant impacts are expected. Compliance includes the following:

MSCP General Management Directives

The project will be in compliance with MSCP Section 1.5.2 general management directives regarding public access, trails, and recreation, mitigation, and restoration for the following reasons:

- Trail heads would be identified by City Parks and Recreation signs;
- Trails would be unpaved and range primarily between two and three ft wide, with a maximum width of four ft;
- Alternative trail alignments were considered and the least impactful feasible alignments selected;
- Proposed trails avoid wetland habitats and minimize impacts to other sensitive habitats to the greatest extent practicable;
- Off-road motorized use would not be allowed on the proposed trails except where they are co-located with utility or maintenance access paths;
- Habitat mitigation will be performed in accordance with the ESL Ordinance and Biology Guidelines and will occur through restoration of habitat within Tierrasanta Open Space for impacts to Tier I habitat, and through one or more of the following for impacts to Tier II, Tier IIIA, and Tier IIIB habitats: purchase of habitat through an approved mitigation bank such as the Cornerstone Lands Mitigation Bank or other approved mitigation site, or debit of acres of habitat from mitigation credits owned by City Parks and Recreation; and
- Restoration plans will be prepared for restoration of Tier I habitat conducted as mitigation for Tier I impacts, and such mitigation will occur within the MHPA. Additionally, planting of disturbed areas with native species may occur voluntarily, separate from any required mitigation.

As stated above, habitat mitigation for Tiers II, IIIA, and IIIB is proposed to occur offsite, as allowed by the City's Biology Guidelines. Conducting onsite mitigation for these non-Tier I habitats is estimated to cost two to three times more than purchase of credits from the Cornerstone Lands Mitigation Bank, making it cost-prohibitive. As such, off-site mitigation is proposed to offset these impacts from the Trails Plan. The Trails Plan is funded by the Tierrasanta Maintenance Assessment District, which is advised by the Tierrasanta Open Space Canyons Committee. The committee voted unanimously on March 7, 2018 to propose offsite mitigation for Trails Plan impacts to Tiers II, IIIA, and IIIB habitats, also reiterating their commitment to continue to conduct restoration of canyon areas by the committee and community volunteers. Thus, although mitigation for impacts to Tiers II, IIIA, and IIIB habitats would occur offsite, habitat restoration and enhancement within the Tierrasanta open space would continue to be conducted by the committee and community volunteers, as well as through the efforts of the Tierrasanta Maintenance Assessment District.

Specific Management Directives for the Urban Habitat Lands ("Urban Area")

The MSCP Subarea Plan does not include any specific management policies and directives that pertain to the study area. Urban habitat within the MHPA would continue to be managed according to the general management policies and directives and any special management needs would be resolved by the preserve managers and coordination with the MSCP habitat management technical committee. The Tierrasanta Maintenance Assessment District also provides maintenance within Tierrasanta Open Space.

Specific Management Directives for the Eastern Area

The MSCP Subarea Plan does not include any specific management policies and directives that pertain to the study area.

MSCP Covered Species

San Diego barrel cactus is the only MSCP-covered plant species observed within the study area. Cooper's hawk and Belding's orange-throated whiptail are the only MSCP-covered animal species observed or detected in the study area, although there is high potential for the MSCP-covered coastal California gnatcatcher to occur in coastal sage scrub in various portions of the study area, as well as the MSCP-covered coast horned lizard and MSCP-covered southern California rufous-crowned sparrow.

The project will implement area-specific management directives for San Diego barrel cactus by clearly marking the locations of any San Diego barrel cactus locations adjacent to the proposed trails to protect against damage during construction. Small sections of protective fencing could also be used for any individuals that are directly adjacent to construction. In addition, Parks and Recreation staff would monitor trails for degradation and off-trail use and provide necessary repairs and maintenance, as well as posting signs at closed trails. Strategic revegetation and stabilization structures would be implemented as needed to protect against trail erosion. These

measures would protect this species from edge effects by helping ensure that barrel cactus individuals are not trampled or damaged by equipment during trail construction or by off-trail use or trail erosion. Flagging and/or fencing shall be removed at the end of construction.

The project will implement area-specific management directives for Cooper's hawk by requiring a 300-foot wide impact avoidance area around active nests during the construction period.

The project will implement area-specific management directives for Belding's orange-throated and coast horned lizard by restricting trail construction to the minimum widths feasible, which will minimize habitat disturbance. Furthermore, Parks and Recreation staff would monitor trails for degradation and off-trail use and provide necessary repairs and maintenance, as well as posting signs at closed trails. Strategic revegetation and stabilization structures would be implemented as needed to protect against trail erosion that could affect habitat for this species.

Area-specific management directives for southern California rufous-crowned sparrow are limited to maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components. This directive would not be specifically implemented by the project, which is a trail project, instead falling under the umbrella of general MSCP monitoring and maintenance conducted by the City. Further, as noted in the City's MSCP Subarea Plan, southern California rufous-crowned sparrow is tolerant of edge effects, small habitat patches, low shrub volume, and short-term habitat disturbance.

The project will implement area-specific management directives for the coastal California gnatcatcher by restricting clearing of vegetation to outside of the nesting period (i.e., no clearing between March 1 and August 15) or conducting protocol surveys to establish species absence if work is proposed in the nesting period. Furthermore, purchase of Cornerstone Lands or other approved mitigation site for impacts to gnatcatcher habitat would provide funding to acquire and manage gnatcatcher habitat within the MHPA.

6.2 Indirect Impacts/Compliance with MHPA Adjacency Guidelines

As stated previously, portions of the study area are within or adjacent to the MHPA. Potential indirect impacts analyzed for this project include drainage/toxins, lighting, noise, invasive plant species, and errant construction impacts.

6.2.1 Drainage/Toxins

Project implementation would not result in an increase in paved areas draining to the MHPA, or otherwise cause additional runoff or toxins to drain to the MHPA. Existing drainage patterns would be preserved. The BMPs would be implemented during project construction to control runoff, erosion, and contaminants, as necessary. Further, strategic revegetation and stabilization structures would be implemented as needed to protect against trail erosion. As such, the project would comply with MHPA Adjacency Guidelines regarding drainage/toxins, and no indirect impacts resulting from drainage or impaired water quality would occur.

6.2.2 Lighting

Project implementation would not require the installation of lighting, either temporary or permanent, as trail construction would occur during daylight hours. As such, the project would comply with MHPA Adjacency Guidelines regarding lighting and no significant indirect impacts resulting from lighting would occur.

6.2.3 Construction Noise

Construction noise could result in significant indirect impacts to nesting coastal California gnatcatchers if construction were to take place during the gnatcatcher breeding season (March 1 through August 15). Mitigation measures are provided in Section 7.2.1 below.

6.2.4 Invasive Plant Species/Landscaping

Non-native plants can colonize sites disturbed by construction and potentially spread into adjacent native habitats. Construction of proposed trails would not result in indirect impacts from the introduction of non-native species into native habitats, as the project would only be clearing the minimum necessary to construct the trails and would not be installing any landscaping. Several non-native species already occur within the study area and additional species are not anticipated to be introduced from the proposed trail construction. Furthermore, any plants installed as erosion control in shoulders of trails will be native species appropriate to the surrounding vegetation communities. Although construction of the trails themselves are not anticipated to result in introduction of non-native species into native habitats, future use of the new trails could increase the potential for the spread of invasive plants by trail users. However, as this area is part of the MHPA Preserve, City Parks and Recreation staff would monitor the area for invasive species and target highly invasive species for removal/treatment, particularly any species that is not already documented in the area. For new trails, City Parks and Recreation staff will map and monitor all Cal-IPC targeted invasive non-native plants quarterly for the first year, and again for the second annual monitoring. This shall be done for a five-foot wide corridor on either side of the newly established trails. These species will be treated according to the established protocols/guidelines for any species found. Any treated areas will be monitored for two growing seasons following treatment to achieve a target of zero percent cover of the treated species. The Tierrasanta Maintenance Assessment District also provides additional maintenance within Tierrasanta Open Space, which would contribute to the effort to control invasive plant species. As such, the project would comply with MHPA Adjacency Guidelines regarding invasive plant species and no significant indirect impacts from non-native plant species would occur.

6.2.5 Grading

Project grading would not include the creation of manufactured slopes within the MHPA. No indirect impacts from grading would occur.

6.2.6 Access/Barriers

Public access would be directed to the proposed trails and abandoned trails would be blocked and labeled as off-limits/closed. No indirect impacts from access would occur.

6.2.7 Errant Construction Impacts

Unauthorized construction impacts outside the approved limits of work could potentially impact adjacent sensitive habitat, where present. Errant construction impacts are unlikely to occur, as project construction would consist of hand clearing with power tools such as chainsaws and weed whips. If/when power tools are used during construction, fire extinguishers shall be on site in accordance with the City's chainsaw training policies. A walk-behind chipper may be used within the impact footprint and existing disturbed areas and staging areas. Final trail tread grades would be established with hand-held tools, including power tools such as jackhammers and hand-held compactors. Since large machinery would not be used for construction, the potential for errant construction impacts is very low, and any impacts that do occur are unlikely to be significant. However, in order to avoid potential impacts from errant construction, mitigation measures have been developed and are provided below under "Mitigation."

7.0 MITIGATION

The project would result in significant direct impacts to sensitive vegetation communities, and has the potential to result in significant direct impacts to nesting birds and significant indirect impacts from construction noise and errant construction impacts. The following measures are proposed to mitigate for these direct and indirect impacts.

7.1 Mitigation for Direct Impacts

The following mitigation measures have been formulated to satisfy the requirements of the City's MSCP (City 1997) and Biology Guidelines (City 2012). The mitigation ratios used in this report follow the City's ESL categorized five-tier system for impacts to sensitive vegetation/habitat communities within the MSCP (City 2012):

- **Tier I:** Southern foredunes, Torrey pine forest, coastal bluff scrub, maritime succulent scrub, maritime chaparral, scrub oak chaparral, native grasslands, and oak woodlands (mitigation ratios range from 1:1 to 3:1)
- **Tier II:** Coastal sage scrub and coastal sage scrub/chaparral ecotone (1:1 to 2:1)
- **Tier IIIA:** Mixed chaparral and chamise chaparral (0.5:1 to 1.5:1)
- **Tier IIIB:** Non-native grasslands (0.5:1 to 1.5:1)
- **Tier IV:** Disturbed, agricultural, and eucalyptus (0:1)

7.1.1 Sensitive Vegetation Communities

Direct impacts to Tier I vegetation communities, composed of 0.13 acre of native grassland, 0.02 acre of coast live oak woodland, and 0.05 acre of scrub oak chaparral, would be mitigated at a 2:1 ratio through restoration of Tier I habitat within the MHPA in Tierrasanta Open Space (Table

7). Mitigation for native grassland shall include a minimum 1:1 creation component, as required by the City’s Biology Guidelines. A conceptual revegetation plan will be prepared per the City’s Biology Guidelines to be reviewed as part of the Site Development Permit for the Plan.

Direct impacts to Tier II vegetation communities, composed of 1.61 acres of Diegan coastal sage scrub, 0.21 acre of broom baccharis-dominated coastal sage scrub, 0.01 acre of flat-topped buckwheat scrub, 0.03 acre of southern mixed chaparral, and 0.13 acre of non-native grassland, would be mitigated at a 1:1 ratio through purchase of habitat through an approved mitigation bank such as the Cornerstone Lands Mitigation Bank or other approved mitigation site, or debit of acres of habitat from mitigation credits owned by City Parks and Recreation, or a combination thereof (Table 7).

All mitigation is anticipated to occur within the MHPA. Impacts to other vegetation communities would not be significant and therefore would not require mitigation.

Table 7 MITIGATION FOR IMPACTS TO VEGETATION COMMUNITIES¹					
VEGETATION COMMUNITY	TIER	IMPACTS		MITIGATION	
		MHPA	Non- MHPA	Ratio²	Required
Uplands					
Native grassland	I	0.13	--	2:1	0.26
Coast live oak woodland	I	0.02	--	2:1	0.04
Scrub oak chaparral	I	0.05	--	2:1	0.10
Diegan coastal sage scrub (including disturbed)	II	1.50	0.11	1:1	1.61
Broom baccharis- dominated sage scrub	II	0.21	--	1:1	0.21
Flat-topped buckwheat scrub	II	0.01	--	1:1	0.01
Southern mixed chaparral	IIIA	0.03	--	1:1	0.03
Non-native grassland	IIIB	0.12	0.01	1:1 ³	0.13
Eucalyptus woodland	IV	0.07	0.07	--	--
Ornamental	IV	0.02	0.03	--	--
Disturbed habitat	IV	0.02	--	--	--
Developed land	IV	--	0.02	--	--
TOTAL		2.18	0.24	--	2.39

¹Habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

²Ratios assume all mitigation occurs inside the MHPA.

³The mitigation ratio for impacts to non-native grassland outside the MHPA is 0.5:1, however, since only 0.01 acre of impact would occur under this category, and mitigating at 0.5:1 would still round to 0.01; this impact was included under the 1:1 ratio required for impacts to non-native grassland within the MHPA.

7.1.2 Sensitive Plants

Potential impacts to up to 30 San Diego County viguiera individuals are not considered significant and no mitigation measures are required. A variety of trail alignments were evaluated prior to selection of the final alignment; and avoidance of sensitive plants (including but not limited to San Diego County viguiera) was one of the main considerations when deciding between various options. San Diego County viguiera is widespread within the overall Tierrasanta Open Space and the project would impact a very small number of individuals relative to the size of the regional population. As such, collection and propagation of seed from the impacted individuals is not proposed, as it is unlikely to contribute substantially to the overall population of this species in the region. Further, mitigation for project impacts to Tier II habitats (i.e., sage scrub communities) would not occur onsite. Only mitigation for Tier I habitats (i.e., native grassland, coast live oak woodland, and scrub oak chaparral) would occur onsite and San Diego County viguiera is not a characteristic species of these habitat types. However, if requested by the wildlife agencies, the City would collect from some areas that would be impacted and then disperse in suitable adjacent habitat. In addition, the City Parks and Recreation Department has partnered with San Diego Zoo's Global Institute for Conservation Research for a native plant seed bank with an emphasis on enhancing the collection and storage of rare plant species. These seeds are available for City restoration or revegetation projects if needed.

No other sensitive plant species would be directly impacted by the project.

Measures to protect San Diego barrel cactus during and after construction are outlined below.

- San Diego barrel cactus occurring near proposed trail alignments would be protected from impacts during construction by flagging or otherwise clearly marking the locations of this species.
- Edge effects on San Diego barrel cactus and other sensitive plant species would be addressed over the long-term by standard measures implemented by Parks and Recreation staff, including monitoring trails for degradation and off-trail use and providing necessary repairs and maintenance, as well as posting signs at closed trails. Strategic revegetation and stabilization structures would be implemented as needed to protect against trail erosion.

7.1.3 Sensitive Animals

Impacts to habitat potentially occupied by coastal California gnatcatcher would be mitigated through habitat-based mitigation identified in Table 7. Measures to avoid impacts to nesting birds, including coastal California gnatcatcher, are described below.

Avian Protection Measures:

- Gnatcatcher Avoidance: Coastal California gnatcatcher is assumed present within the MHPA in the study area. Clearing of occupied coastal California gnatcatcher habitat and

other activities with potential to impact gnatcatcher within the City's MHPA shall be avoided during the gnatcatcher breeding season, which extends from March 1 to August 15.

- Pre-Construction Nesting Bird Survey and Nesting Bird Avoidance: No grubbing, clearing, or grading shall occur during the general avian breeding season (February 15 – August 31) or raptor breeding season (January 15 – July 15) without a pre-construction nesting bird survey. If grubbing, clearing, or grading would occur during the general avian or raptor breeding seasons, a qualified biologist shall survey the project area no more than seven days prior to the commencement of the activities to determine if active bird nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code are present in the affected areas. If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed¹. If the qualified biologist determines that an active migratory bird or raptor nest is present, appropriate setbacks shall be implemented as determined by the biologist. A 300-foot setback would be implemented for Cooper's hawk nests, and setbacks for other bird species would be determined by the qualified biologist. No impacts shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, as determined by the qualified biologist. If active coastal California gnatcatcher nests are found outside the MHPA during the survey, the USFWS and CDFW shall be consulted to determine appropriate measures to avoid impacts to this species. The results of the preconstruction nesting bird survey shall be reported to the City in a brief memorandum.

Measures to address edge effects on orange-throated whiptail and coast horned lizard are described below.

- To address potential edge effects on orange-throated whiptail and coast horned lizard, Parks and Recreation staff would monitor trails for degradation and off-trail use and provide necessary repairs and maintenance, as well as posting signs at closed trails. Strategic revegetation and stabilization structures would be implemented as needed to protect against trail erosion, and unauthorized trails would be allowed to revegetate.

7.1.4 Jurisdictional Waters and Wetlands

No impacts to jurisdictional waters or wetlands would occur and no mitigation is required. However, the following measures will be implemented to ensure that substantial adverse indirect impacts to the wetland buffer or wetland functions and values, including water quality functions and native habitat for wildlife, do not occur from project implementation:

- Habitat impacts to the wetland buffer would be mitigated through upland habitat mitigation as described in Section 7.1.1, above.

¹ With the exception of sage scrub habitats occupied by the coastal California gnatcatcher, as outlined above in "Gnatcatcher Avoidance".

- Trail erosion would be addressed by monitoring of trail conditions by City Parks and Recreation staff and implementing repairs as needed.
- As this area is part of the MHPA Preserve, City Parks and Recreation staff would monitor the area for invasive species and target highly invasive species for removal/treatment, particularly any species that is not already documented in the area.
- Parks and Recreation staff also would monitor trails for off-trail use and provide necessary repairs and maintenance to address human encroachment into the wetland, including installation of small sections of fencing and/or posting signs.

7.1.5 Wildlife Corridors and Movement

No impacts to wildlife corridors and movement would occur and no mitigation measures are proposed.

7.2 Mitigation for Indirect Impacts

7.2.1 Construction Noise

Implementation of the following condition addresses potential construction noise impacts to coastal California gnatcatcher:

- Coastal California gnatcatcher is assumed present within the MHPA in the study area. Construction noise within potential to impact coastal California gnatcatcher within the City's MHPA shall be avoided between March 1 and August 15. Construction noise outside the MHPA shall be avoided, if possible, from March 1 through August 15. If construction outside the MHPA cannot be avoided during the gnatcatcher breeding season, noise attenuation measures would be required if noise levels from construction activities would exceed 60 dBA hourly L_{EQ} at the edge of the occupied MHPA, or the ambient noise level if noise levels already exceed 60 dBA hourly L_{EQ} .

7.2.2 Errant Construction Impacts

Biological Monitoring Program

A biological monitoring program would be implemented to help ensure that impacts to sensitive resources do not occur beyond those identified in this report. This program consists of the following components:

- A preconstruction meeting shall be held to ensure that construction crews are informed of the presence of sensitive habitat in and adjacent to the project site. Prior to commencement of clearing or trail construction activities, the location of the proposed trails shall be identified in the field.

- Prior to initiating any construction-related activities, including clearing, chipping, or compacting, a qualified biological monitor shall be retained and shall check that the limits of work have been clearly marked and will flag any San Diego barrel cactus or other sensitive plants near the proposed alignment. The biological monitor will be on site during initial vegetation clearing activities, and will then conduct periodic monitoring for the remaining duration of vegetation clearing. The biological monitor shall attend all preconstruction meetings and provide periodic monitoring of the impact area including, but not limited to, trail alignments, stockpiles, and staging areas. Following completion of construction, the biological monitor will confirm that the approved limits of disturbance were not exceeded.
- A qualified biologist shall monitor construction within and adjacent to the MHPA to ensure consistency with the MSCP.

8.0 CONCLUSION

The proposed project would result in impacts to biological resources that would be mitigated in accordance with the MSCP Subarea Plan and City Biology Guidelines. Implementation of mitigation measures listed above would reduce all impacts to below a level of significance.

Please do not hesitate to call me at (760) 517-9054 or Andrea Bitterling at (619) 462-1515 if you have any questions.

Sincerely,



Stacy Nigro
Senior Scientist

Enclosures:

Figure 1	Regional Location Map
Figure 2	Project Vicinity Map (Aerial Photograph)
Figure 3	Project Vicinity Map (USGS Topography)
Figure 4	Critical Habitat and MHPA
Figures 5a-5l	Vegetation and Sensitive Resources
Attachment A	Plant Species Observed
Attachment B	Animal Species Observed or Detected
Attachment C	Sensitive Species Potential to Occur
Attachment D	Explanation of Status Codes for Plant and Animal Species

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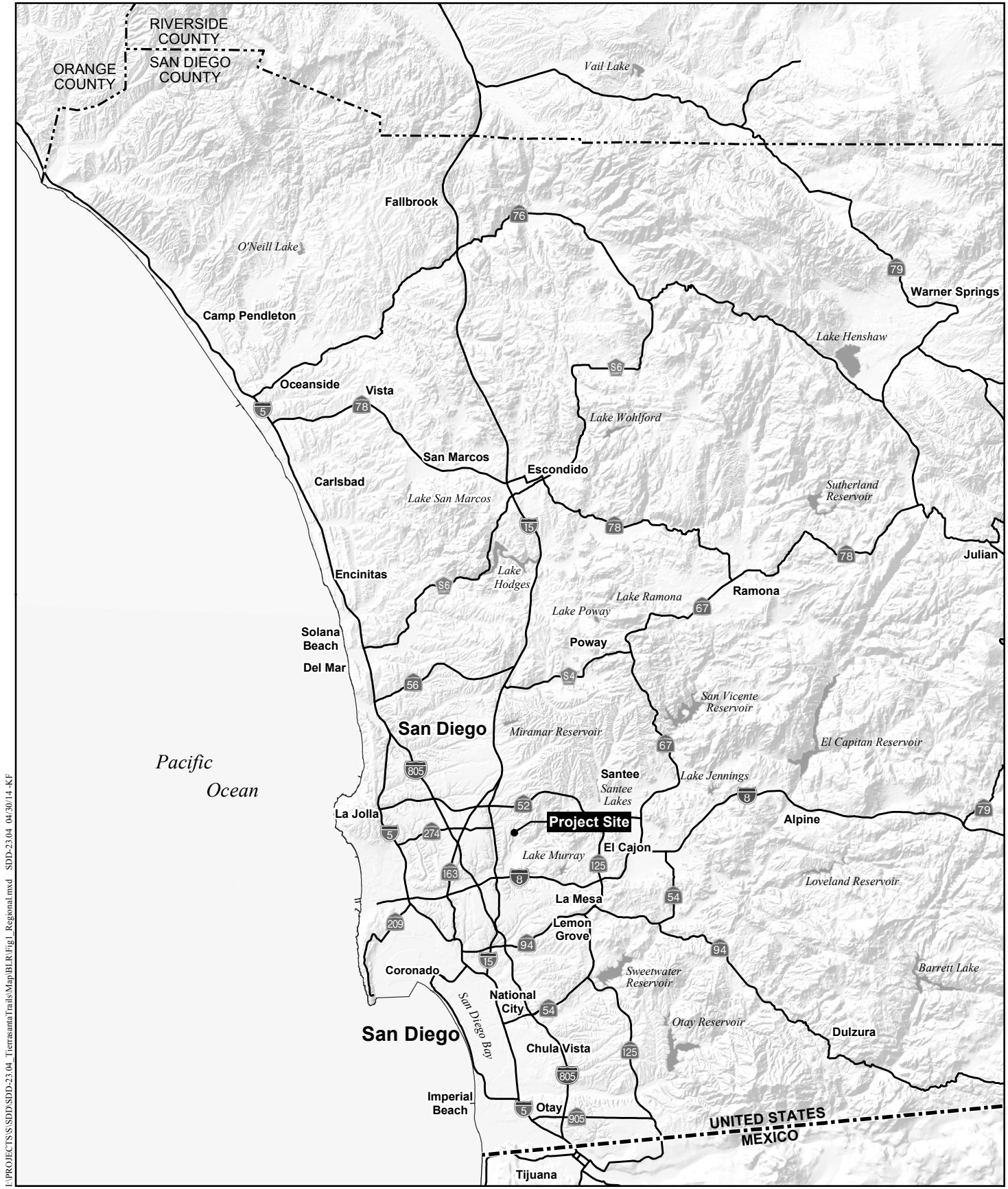
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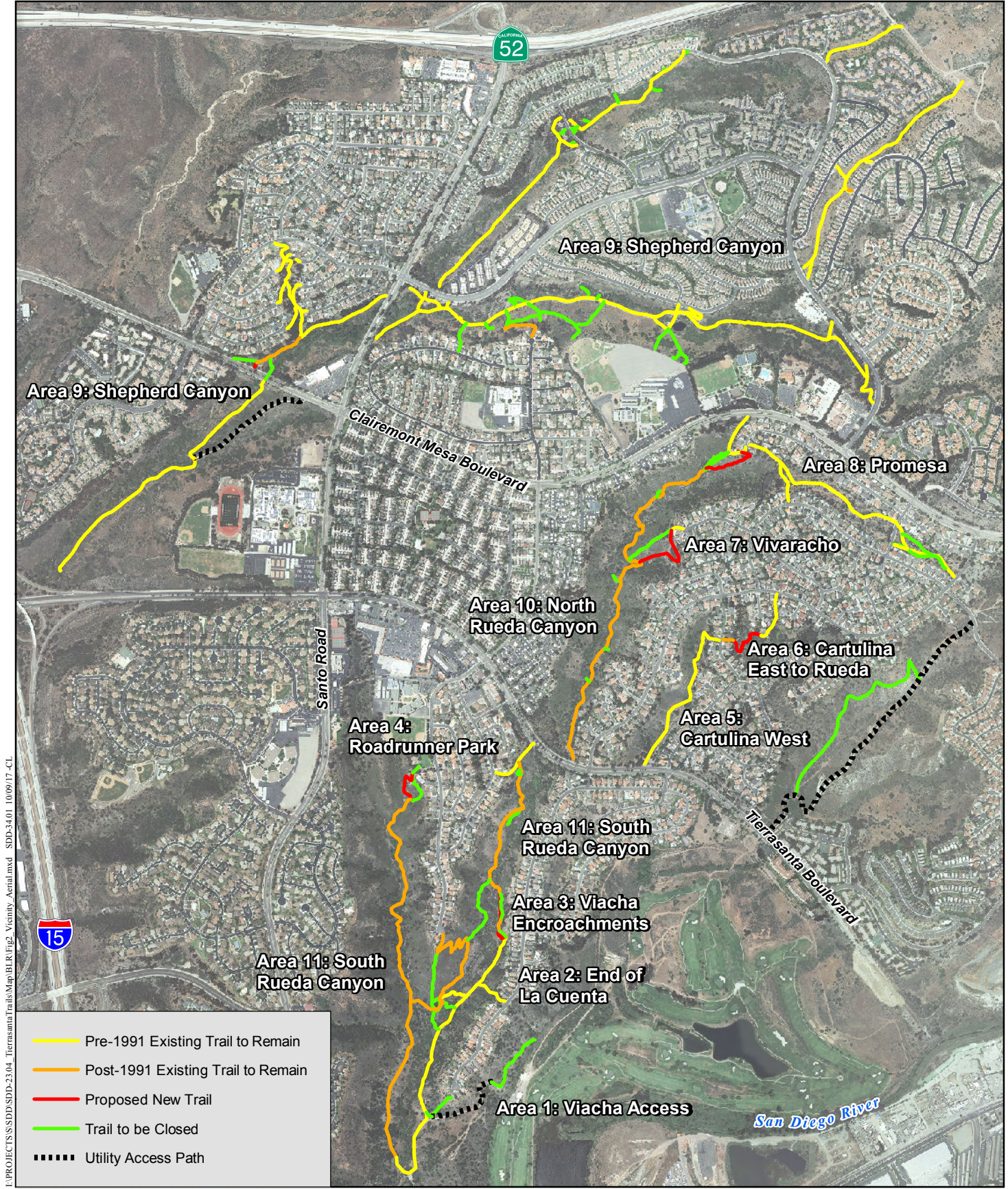
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Regional Location Map

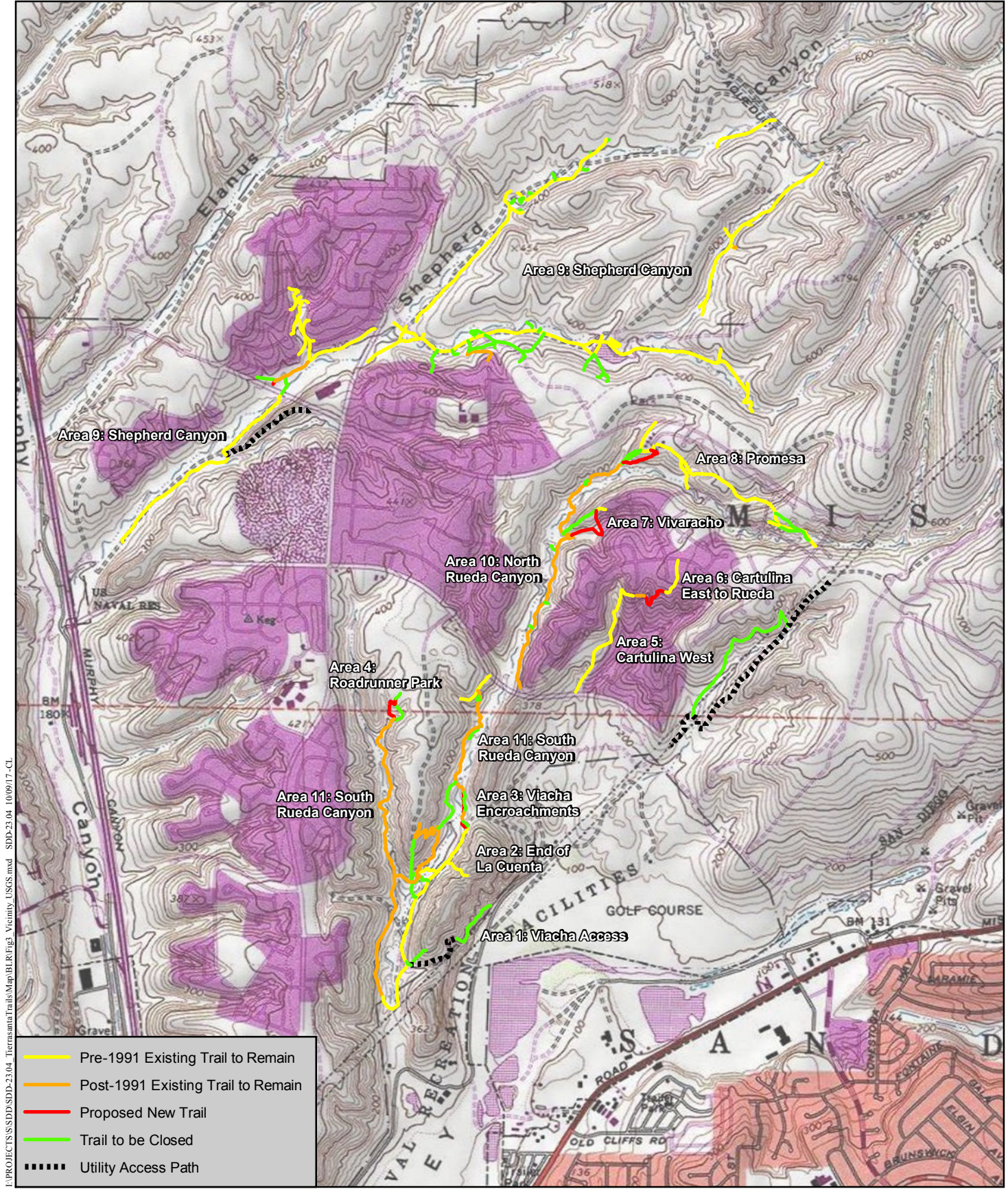
TIERRASANTA TRAILS



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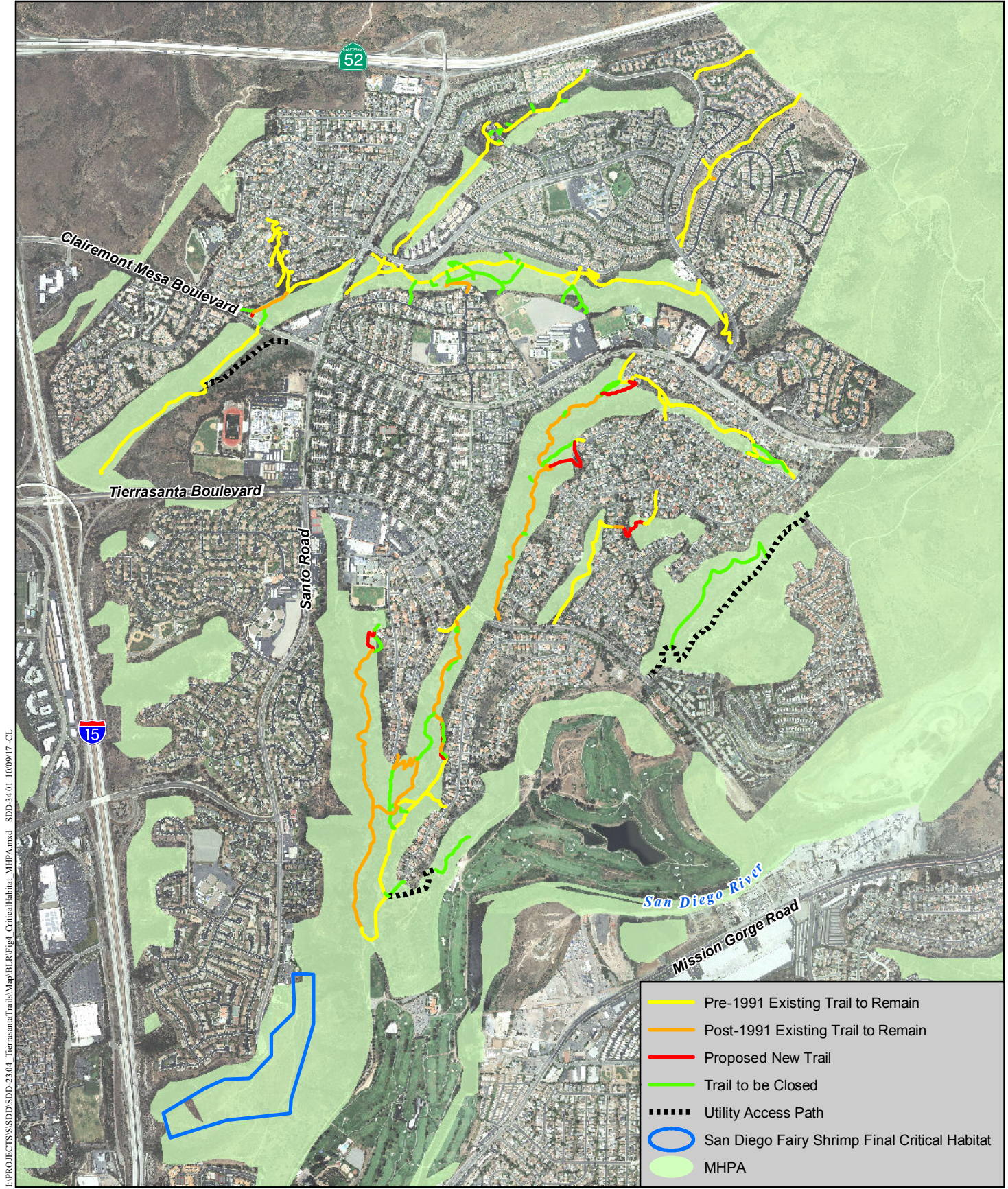
Project Vicinity Map (Aerial Photograph)

TIERRASANTA TRAILS



Project Vicinity Map (USGS Topography)

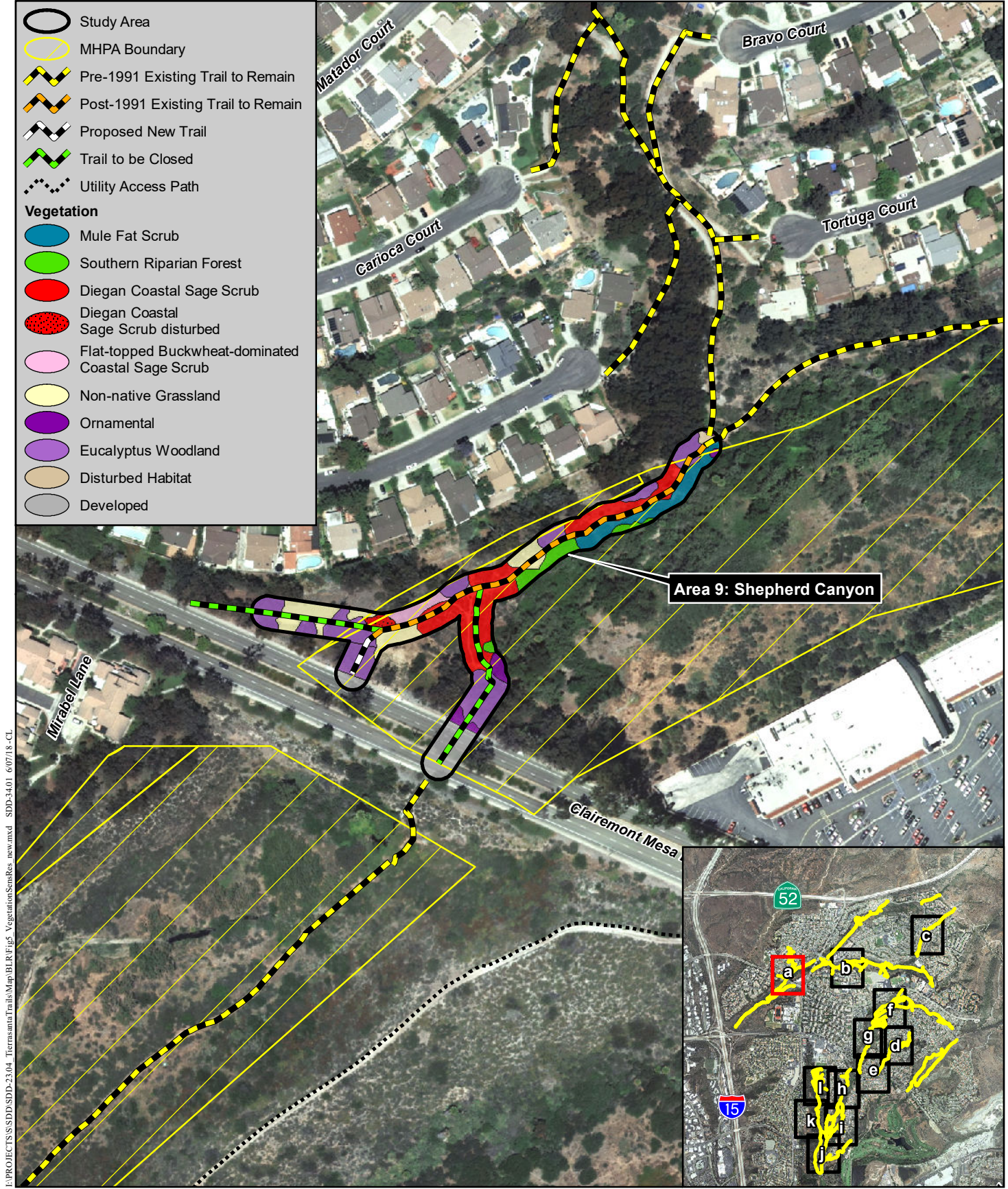
TIERRASANTA TRAILS



Critical Habitat and MHPA

TIERRASANTA TRAILS

Figure 4

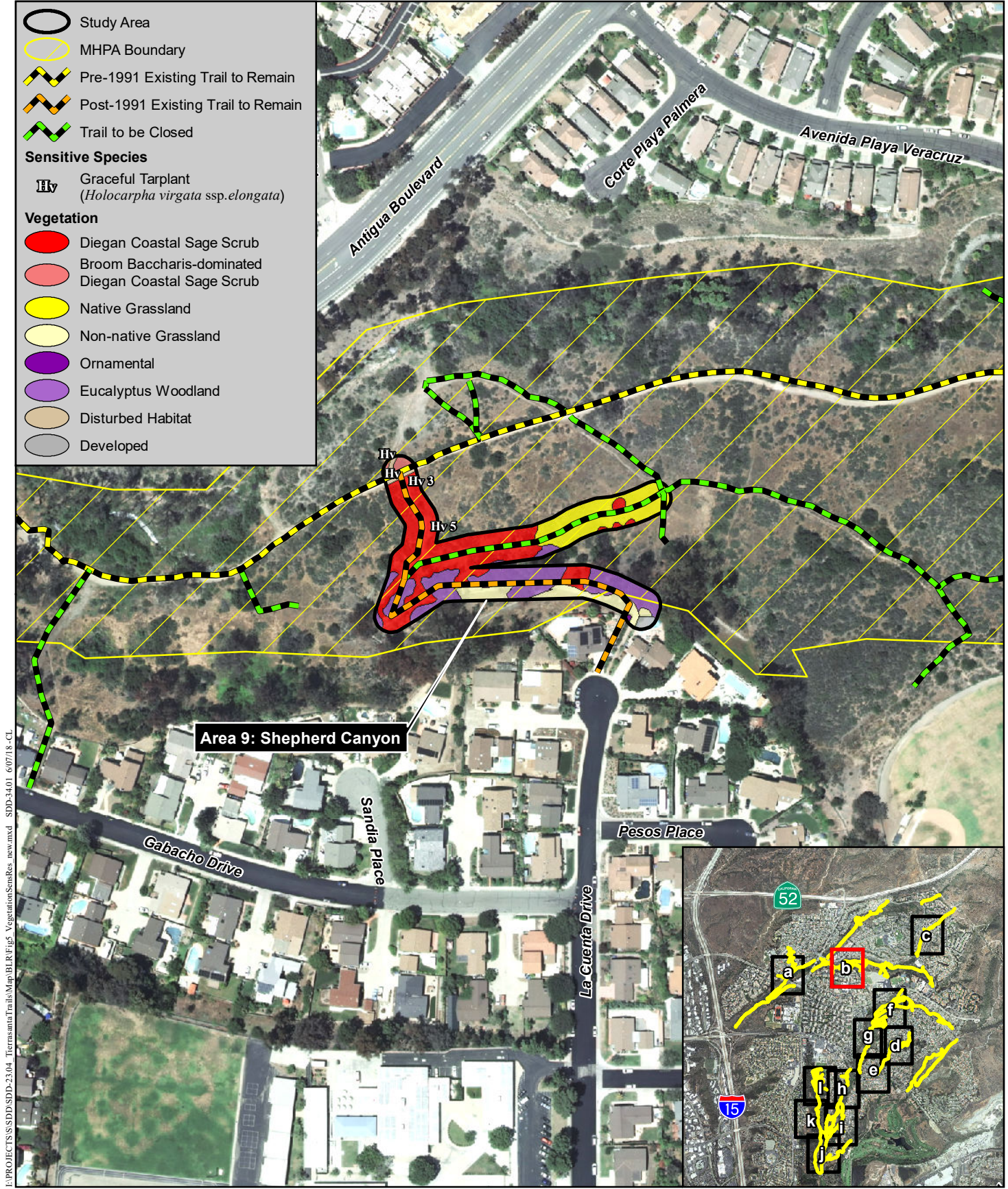


Vegetation and Sensitive Resources

TIERRASANTA TRAILS

Figure 5a

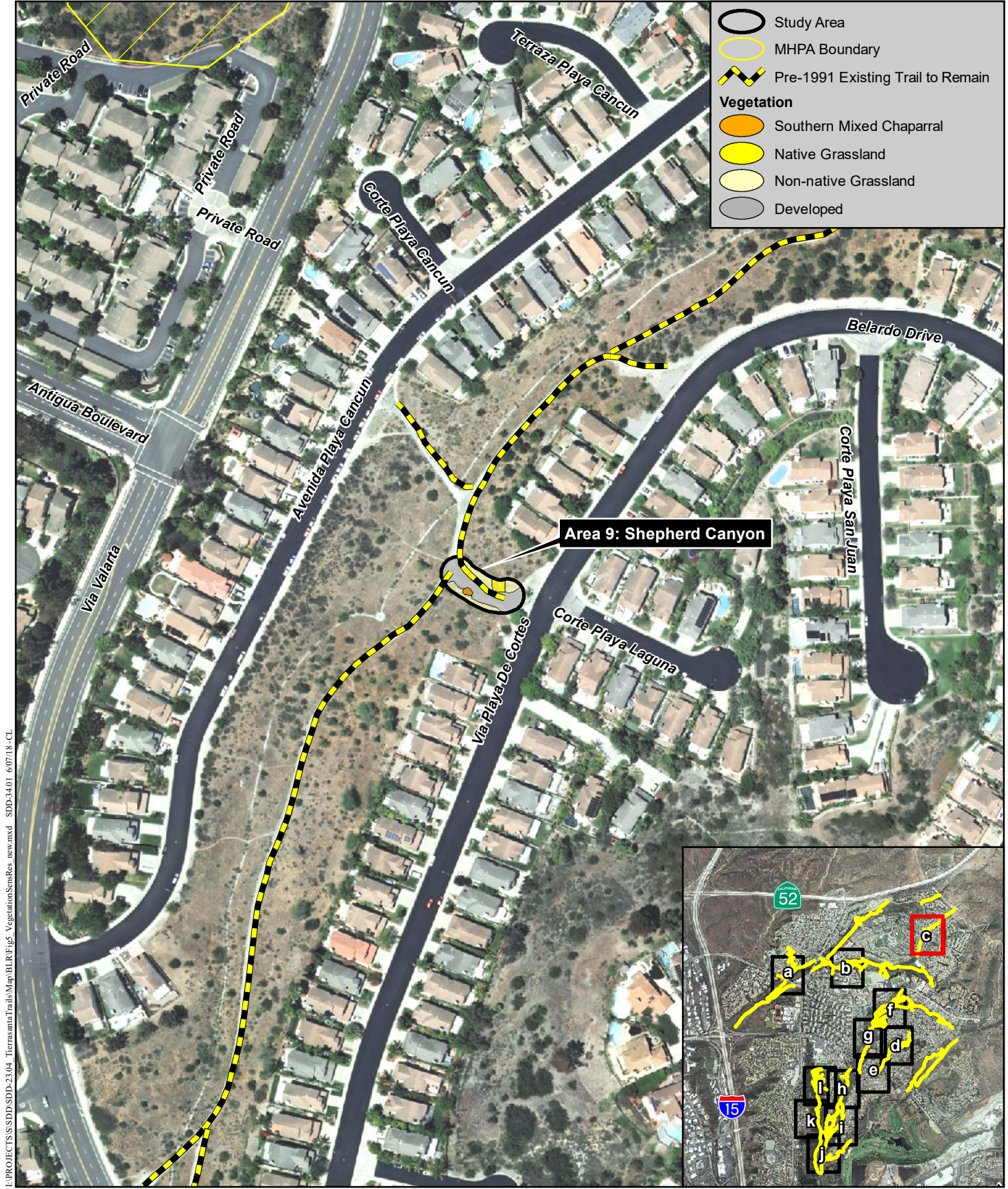
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Vegetation and Sensitive Resources

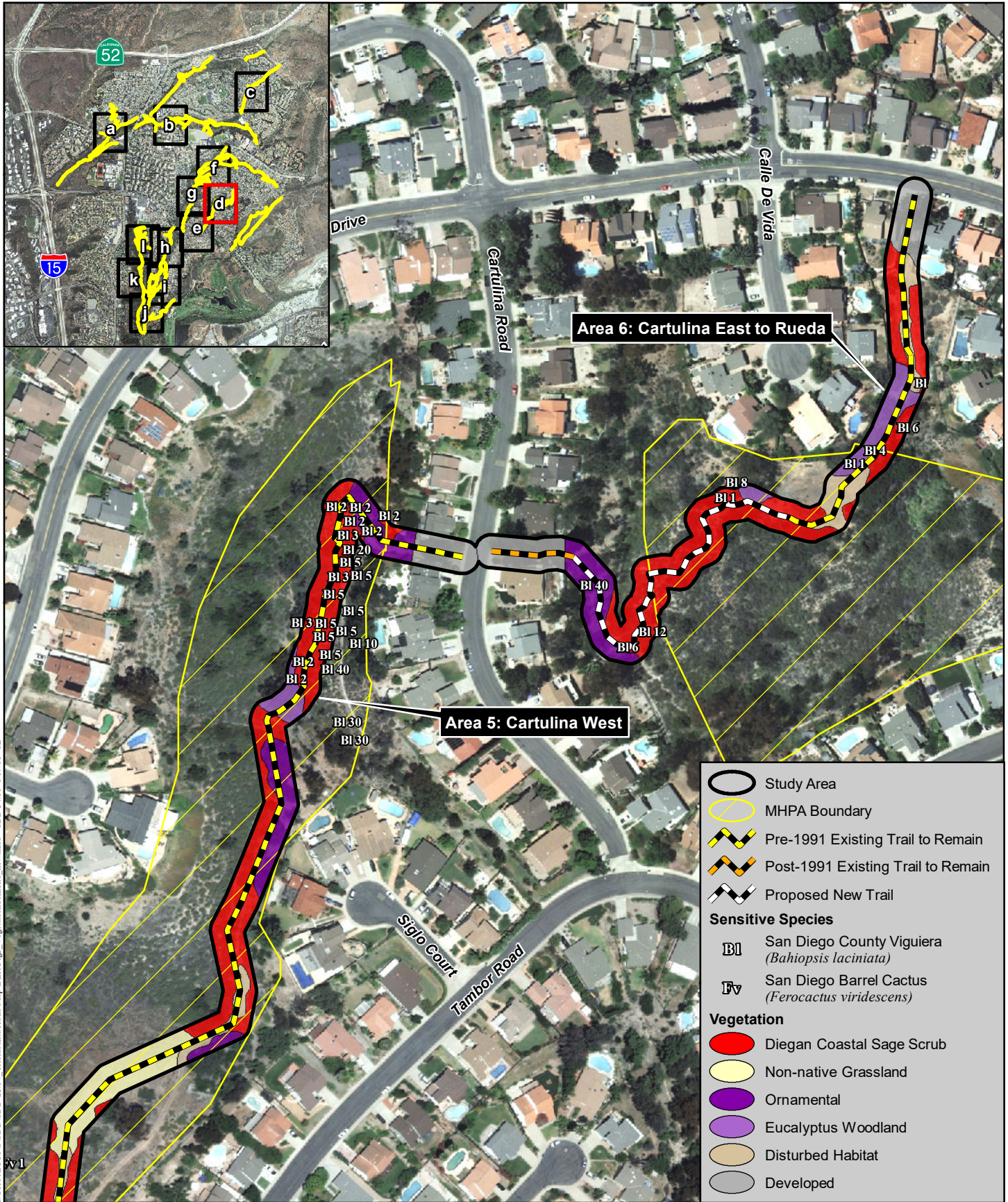
TIERRASANTA TRAILS



Vegetation and Sensitive Resources

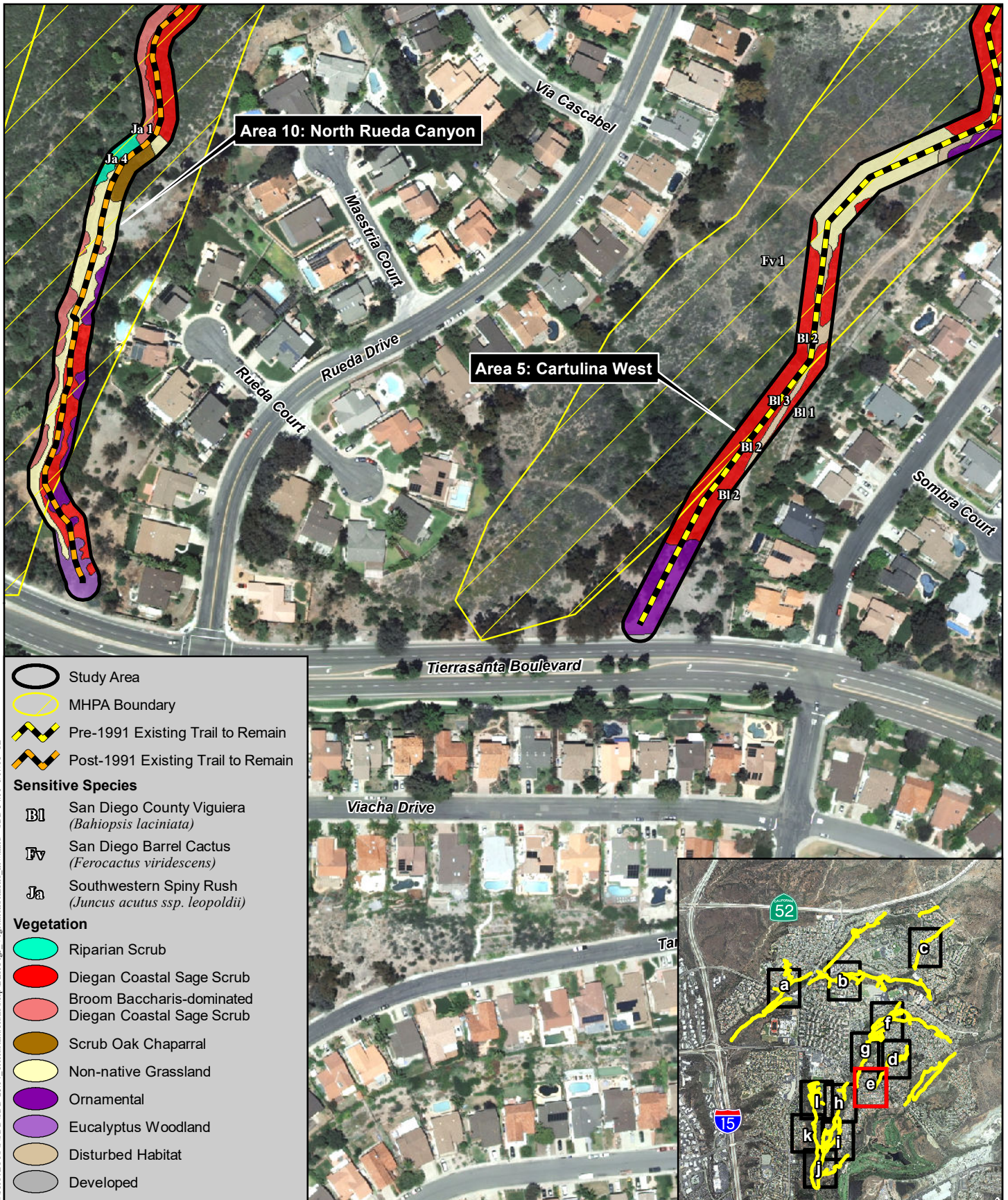
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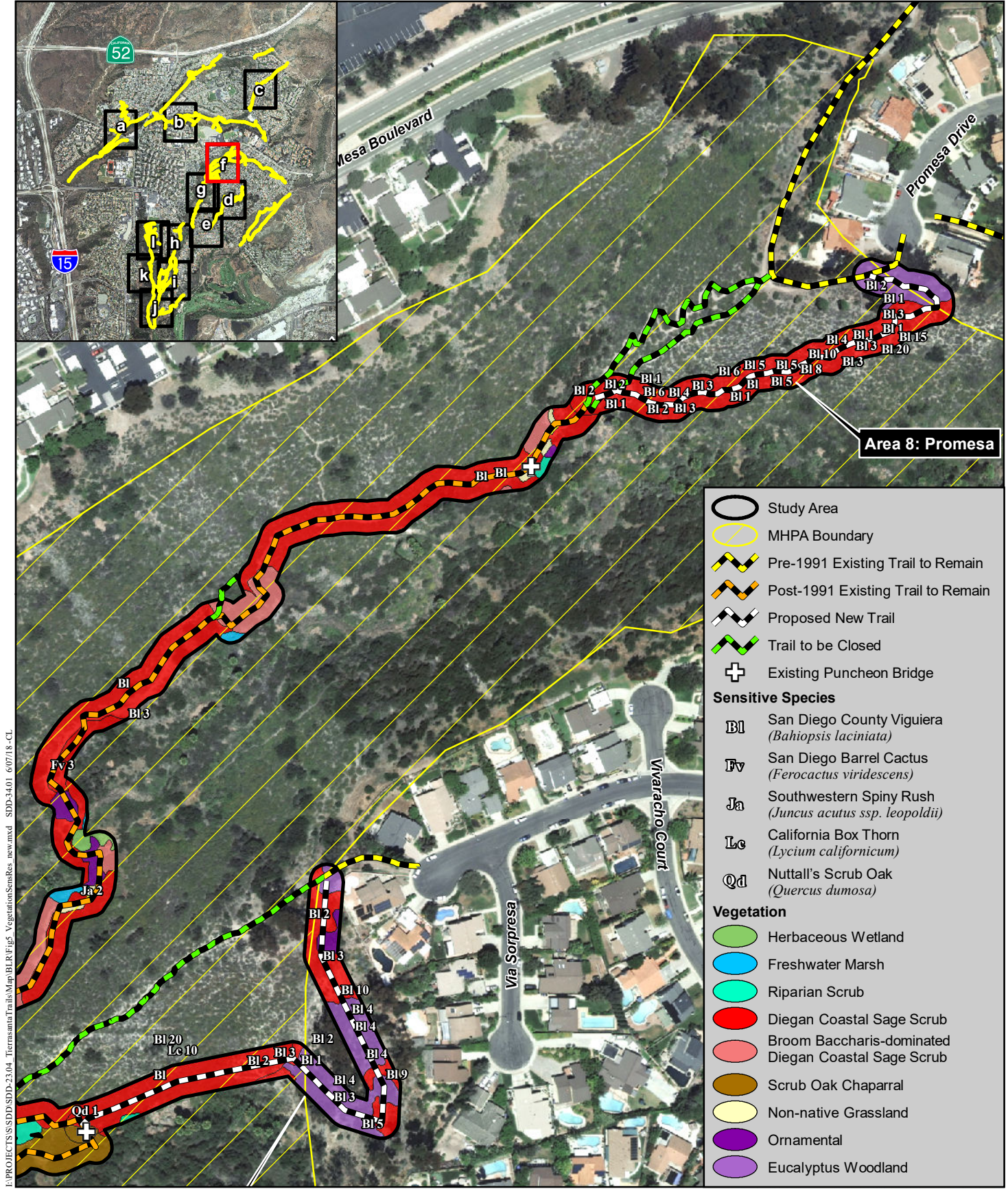
Vegetation and Sensitive Resources

TIERRASANTA TRAILS



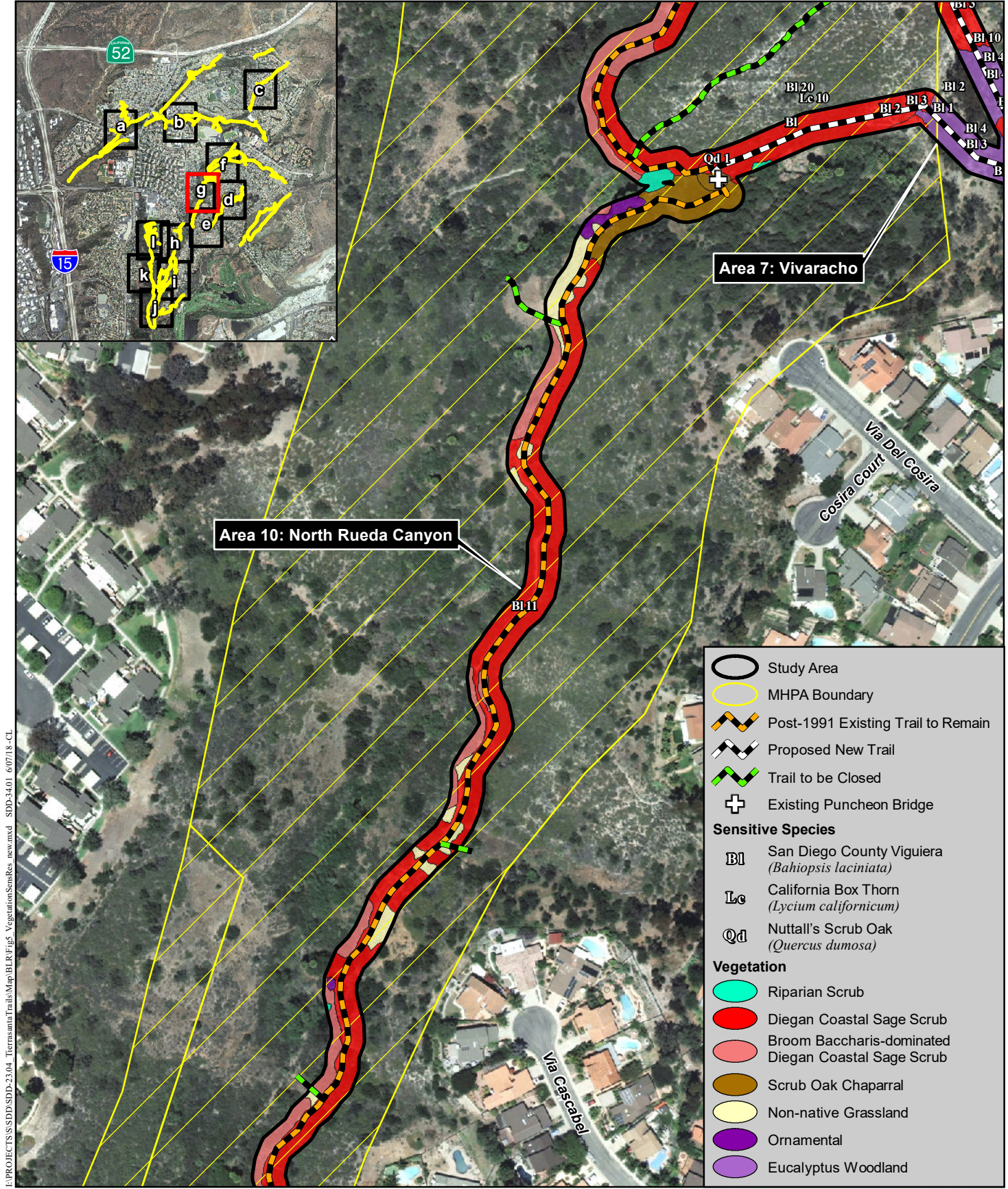
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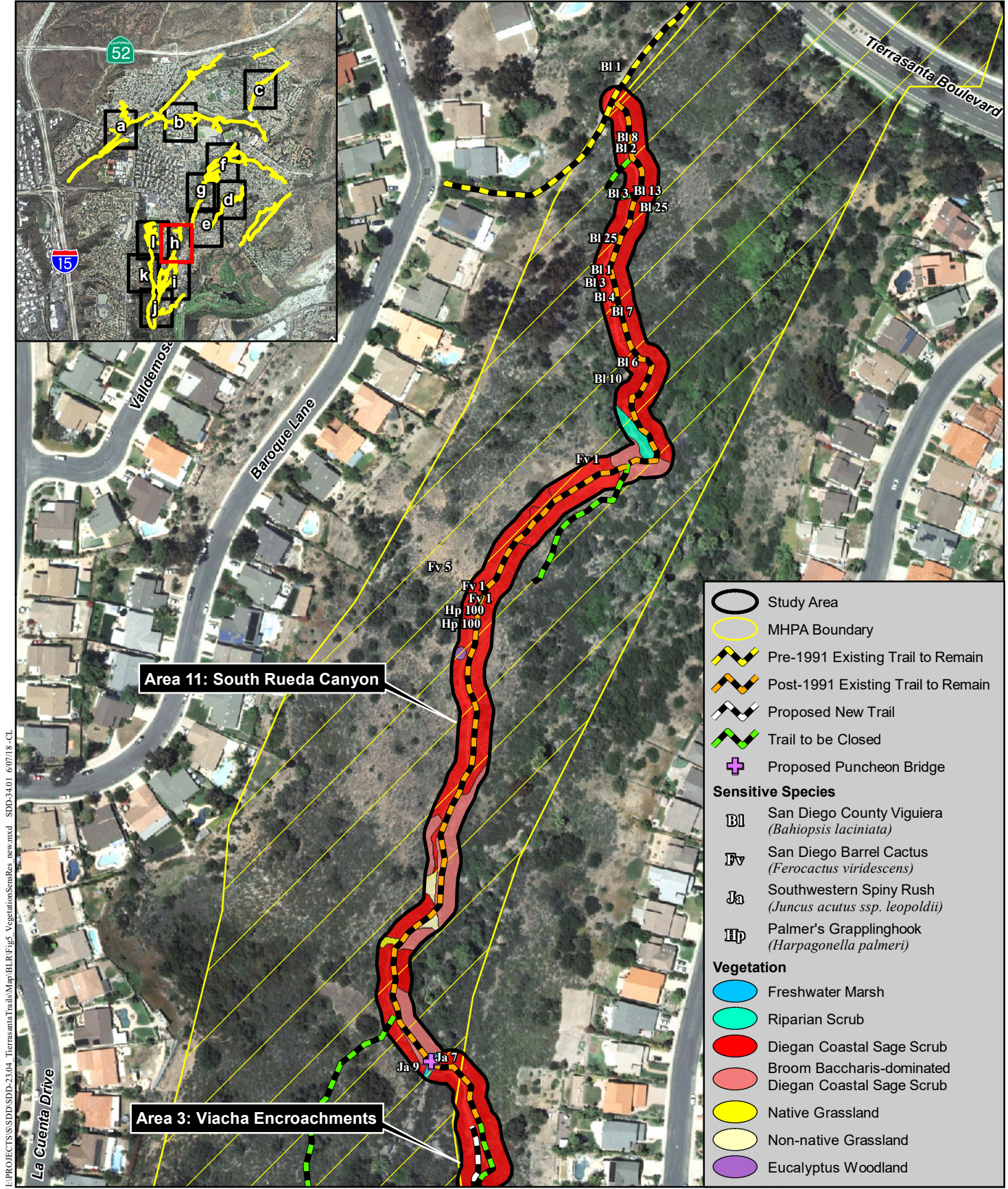
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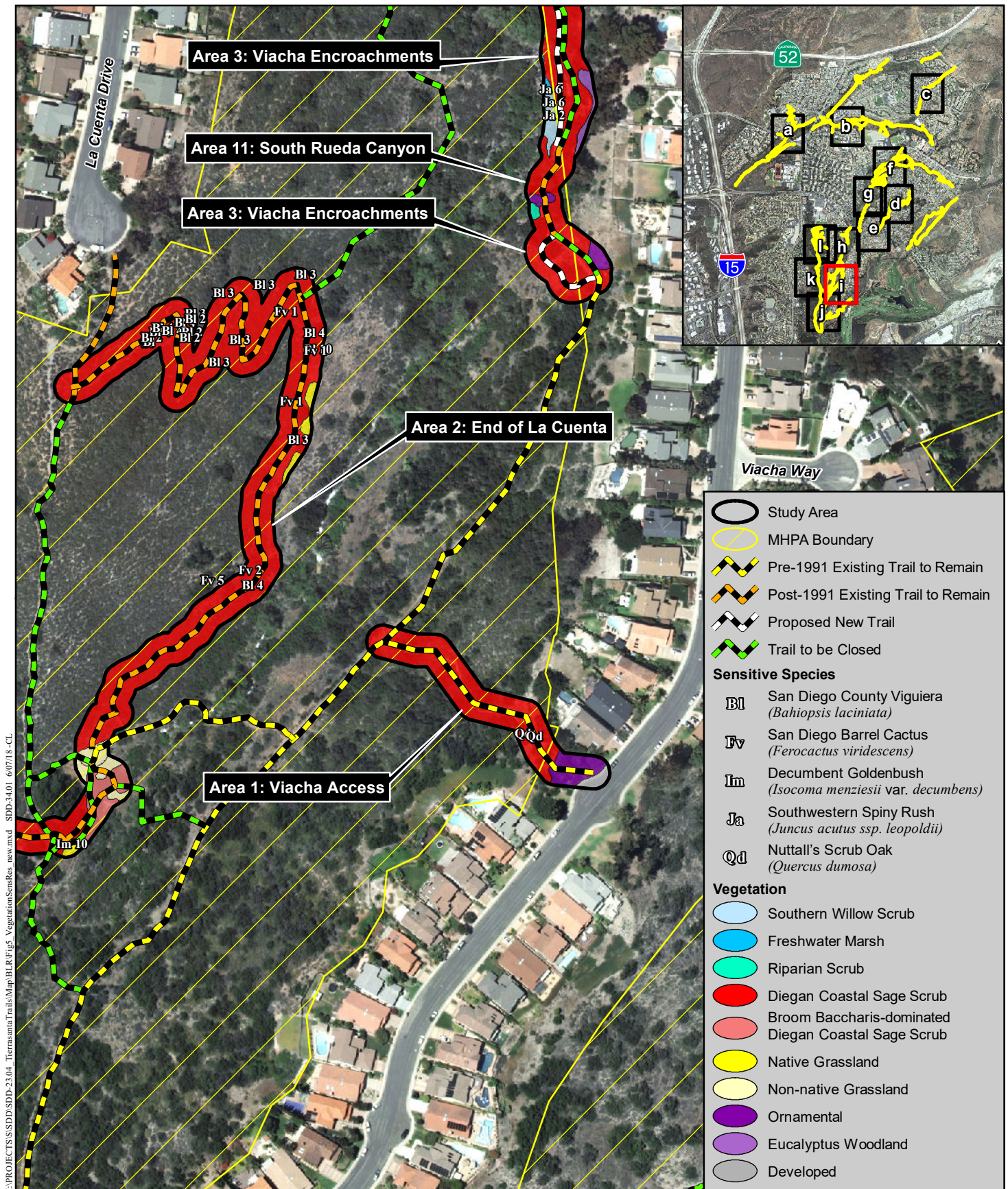
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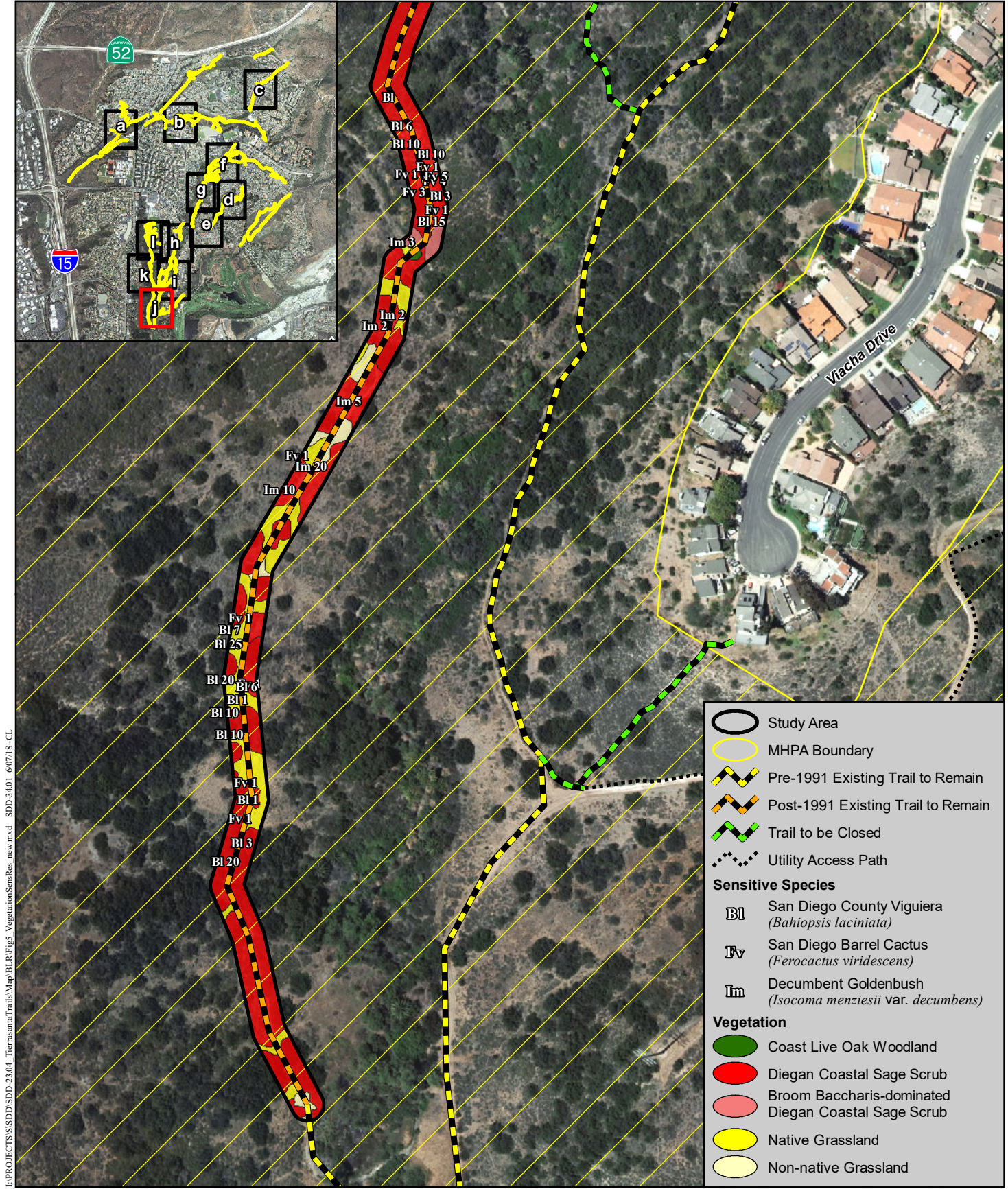
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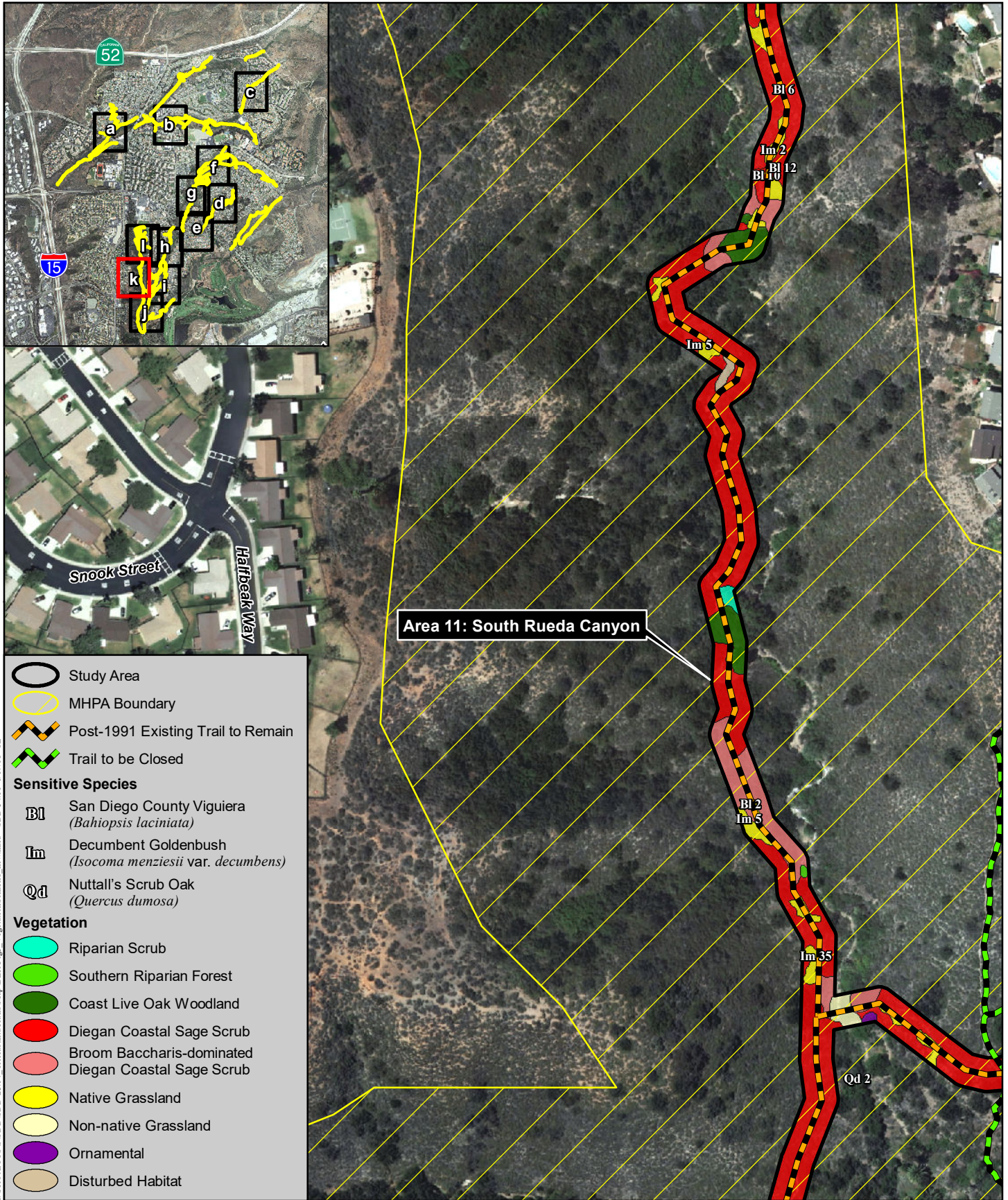
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Vegetation and Sensitive Resources

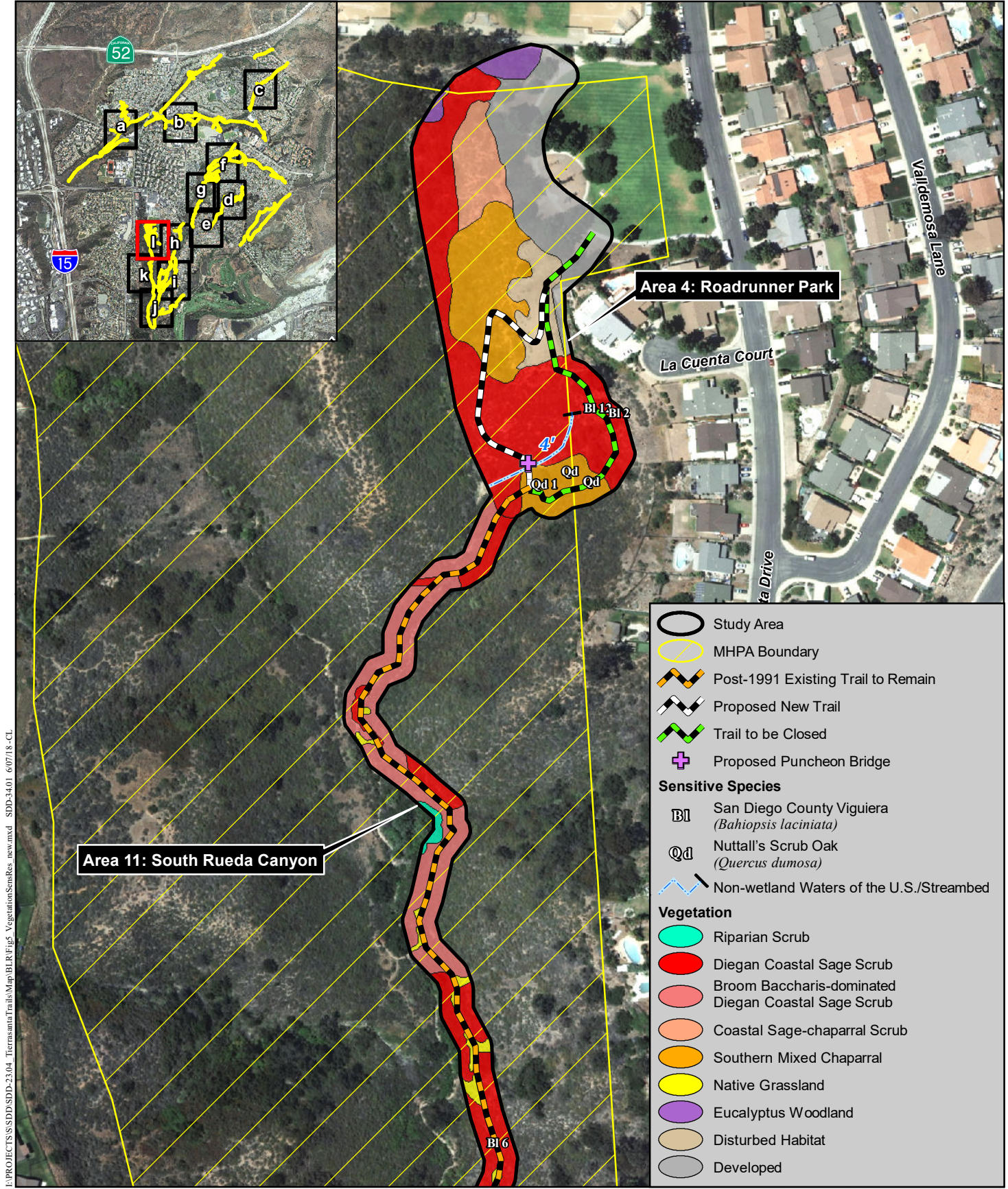
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Attachment A
PLANT SPECIES OBSERVED
TIERRASANTA TRAILS

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
Eudicots			
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>canadensis</i>	blue elderberry	DCSS, RS, SMC, SRF
Aizoaceae	<i>Carpobrotus edulis</i> *	hottentot-fig	DCSS, DH, ORN
	<i>Mesembryanthemum crystallinum</i> *	crystalline ice plant	DCSS, DH, ORN
Anacardiaceae	<i>Malosma laurina</i>	laurel sumac	CSCS, DCSS, SMC
	<i>Rhus integrifolia</i>	lemonadeberry	CSCS, DCSS, SMC
	<i>Schinus molle</i> *	Peruvian pepper tree	DCSS, ORN
	<i>Schinus terebinthifolius</i> *	Brazilian pepper tree	ORN
	<i>Toxicodendron diversilobum</i>	poison oak	DCSS, MFS, RS, SRF, SWS
Apiaceae	<i>Apiastrum angustifolium</i>	mock parsley	DCSS, NG
	<i>Foeniculum vulgare</i> *	fennel	DCSS, DH, NG, NNG
	<i>Sanicula bipinnatifida</i>	purple sanicle	NG
Asteraceae	<i>Ambrosia psilostachya</i>	western ragweed	DCSS, HW
	<i>Artemisia californica</i>	California sagebrush	CSCS, DCSS
	<i>Baccharis pilularis</i>	coyote brush	DCSS
	<i>Baccharis salicifolia</i>	mule fat	MFS, RS, SWS
	<i>Baccharis sarothroides</i>	broom baccharis	BB-CSS, DCSS, SMC
	<i>Bahiopsis laciniata</i> ‡	San Diego sunflower	BB-CSS, DCSS, EUCW, ORN
	<i>Centaurea melitensis</i> *	star-thistle	DCSS, NNG
	<i>Corethrogyne filaginifolia</i> var. <i>filaginifolia</i>	sand-aster	DCSS, NG, NNG
	<i>Cynara cardunculus</i> *	artichoke thistle	DH, NNG
	<i>Deinandra fasciculata</i>	fascicled tarweed	DCSS, NG, NNG
	<i>Encelia californica</i>	California encelia	DCSS
	<i>Eriophyllum confertiflorum</i>	golden yarrow	DCSS
	<i>Gutierrezia californica</i>	matchweed	DCSS

**Attachment A (cont.)
PLANT SPECIES OBSERVED
TIERRASANTA TRAILS**

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT	
Eudicots (cont.)				
Asteraceae (cont.)	<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	saw-toothed goldenbush	DCSS, NG, SMC	
	<i>Hedypnois cretica</i> *	Crete weed	DCSS, DH, NNG, ORN	
	<i>Helminthotheca echioides</i> *	prickly ox-tongue	DH, NNG	
	<i>Heterotheca grandiflora</i>	telegraph weed	DCSS	
	<i>Holocarpha virgata</i> ssp. <i>elongata</i> ‡	graceful tarplant	BB-CSS, DCSS	
	<i>Isocoma menziesii</i> var. <i>decumbens</i> ‡	decumbent goldenbush	DCSS, NG	
	<i>Isocoma menziesii</i> var. <i>menziesii</i>	spreading goldenbush	DCSS	
	<i>Porophyllum gracile</i>	odora	DCSS	
	<i>Pseudognaphalium californicum</i>	California everlasting	DCSS, SMC	
	<i>Silybum marianum</i> *	milk thistle	DCSS, DH, NNG, ORN	
	<i>Sonchus asper</i> *	prickly sow-thistle	DH, NNG	
	<i>Xanthium strumarium</i>	cocklebur	RS, SRF	
	Boraginaceae	<i>Amsinckia menziesii</i> var. <i>intermedia</i>	rancher's fiddleneck	DH, NG, NNG
		<i>Cryptantha intermedia</i> var. <i>intermedia</i>	nievitas cryptantha	DCSS, NG
<i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i>		common eucrypta	DCSS, NG	
<i>Harpagonella palmeri</i> ‡		Palmer's grappling- hook	DCSS, NG	
<i>Plagiobothrys collinus</i> var. <i>gracilis</i>		San Diego popcorn flower	NG, NNG	
Brassicaceae		<i>Brassica nigra</i> *	black mustard	DCSS, DH, NNG
	<i>Caulanthus heterophyllus</i>	slender-pod jewel flower	DCSS, NG, NNG	
	<i>Hirschfeldia incana</i> *	shortpod mustard	DCSS, DH, NNG	
	<i>Lepidium latifolium</i> *	peppergrass	FWM	
	<i>Lepidium virginicum</i>	Virginia peppergrass	DCSS, NG, NNG	
Cactaceae	<i>Cylindropuntia prolifera</i>	coastal cholla	CSCS, DCSS, SMC	
	<i>Ferocactus viridescens</i> ‡	coast barrel cactus	DCSS, NG	

**Attachment A (cont.)
PLANT SPECIES OBSERVED
TIERRASANTA TRAILS**

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
Eudicots (cont.)			
Cactaceae, cont.	<i>Opuntia littoralis</i>	coastal prickly pear	DCSS
Capparaceae	<i>Peritoma arborea</i>	bladderpod	DCSS
Caprifoliaceae	<i>Lonicera subspicata</i> var. <i>denudata</i>	San Diego honeysuckle	DCSS, RS, SRF
Caryophyllaceae	<i>Silene gallica</i> *	windmill pink	DH, NNG
Chenopodiaceae	<i>Atriplex semibaccata</i> *	Australian saltbush	DCSS, DH, NNG
	<i>Chenopodium californicum</i>	California goosefoot	DCSS, NG
	<i>Salsola australis</i> *	Australian tumbleweed	DH, NNG
	<i>Salsola tragus</i> *	Russian thistle	DH
Cistaceae	<i>Cistus ladanifer</i> *	gum rockrose	DCSS, DH
Convolvulaceae	<i>Calystegia macrostegia</i>	morning-glory	DCSS, NG, NNG
Crassulaceae	<i>Crassula connata</i>	pygmyweed	DCSS, NG, NNG
	<i>Dudleya pulverulenta</i>	chalk-lettuce	DCSS
Cucurbitaceae	<i>Marah macrocarpa</i>	wild cucumber	DCSS
Ericaceae	<i>Xylococcus bicolor</i>	mission manzanita	SMC
Euphorbiaceae	<i>Euphorbia maculata</i> *	spotted spurge	DCSS, DH, NNG
	<i>Euphorbia peplus</i> *	petty spurge	SWS
	<i>Euphorbia polycarpa</i>	small-seed sandmat	DCSS, NG, NNG
	<i>Euphorbia virgata</i> *	leafy spurge	DCSS, DH, NNG
Fabaceae	<i>Acacia</i> sp.*	acacia	DCSS
	<i>Acmispon glaber</i>	deerweed	DCSS, NNG
	<i>Acmispon strigosus</i>	strigose lotus	DCSS, NG, NNG
	<i>Astragalus trichopodus</i> var. <i>lonchus</i>	ocean locoweed	DCSS, NG, NNG
	<i>Medicago polymorpha</i> *	bur-clover	DH, NG, NNG
	<i>Melilotus indicus</i> *	yellow sweet-clover	DCSS, DH, NNG
	<i>Vicia villosa</i> *	winter vetch	NNG
Fagaceae	<i>Quercus agrifolia</i> var. <i>agrifolia</i>	coast live oak	CLOW
	<i>Quercus dumosa</i> ‡	Nuttall's scrub oak	DCSS, SMC, SOC

Attachment A (cont.)
PLANT SPECIES OBSERVED
TIERRASANTA TRAILS

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
Eudicots (cont.)			
Fagaceae, cont.	<i>Quercus Xacutidens</i>	Torrey's scrub oak	SOC
Geraniaceae	<i>Erodium botrys</i> *	long-beak filaree	DH, NG, NNG
	<i>Erodium cicutarium</i> *	red-stem filaree	DH, NG, NNG
Grossulariaceae	<i>Ribes speciosum</i>	fuschia-flowered gooseberry	DCSS, SOC
Lamiaceae	<i>Marrubium vulgare</i> *	horehound	DCSS, DH, EUCW, NNG
	<i>Salvia apiana</i>	white sage	DCSS
	<i>Salvia mellifera</i>	black sage	CSCS, DCSS, SMC, SOC
	<i>Stachys ajugoides</i>	hedge-nettle	RS, SRF
	<i>Stachys rigida</i>	rough hedge-nettle	FWM, SRF
Malvaceae	<i>Malacothamnus densiflorus</i>	many-flower bush mallow	DCSS
	<i>Malacothamnus fasciculatus</i>	chaparral mallow	DCSS
	<i>Sidalcea malviflora</i>	checker-bloom	DCSS, NG
Myrsinaceae	<i>Anagallis arvensis</i> *	scarlet pimpernel	DH, NNG
Myrtaceae	<i>Eucalyptus</i> sp.*	eucalyptus	DCSS, EUCW, ORN
	<i>Eucalyptus globulus</i> *	blue gum	EUCW
	<i>Eucalyptus sideroxylon</i> *	red ironbark	EUCW
Nyctaginaceae	<i>Mirabilis laevis</i> ssp. <i>crassifolia</i>	wishbone bush	DCSS, NG
Oxalidaceae	<i>Oxalis pes-caprae</i> *	Bermuda buttercup	DH, NNG
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	NG, NNG
Phrymaceae	<i>Diplacus aurantiacus</i>	bush monkey-flower	DCSS, SMC
Plantaginaceae	<i>Plantago erecta</i>	dot-seed plantain	DCSS, NG
Platanaceae	<i>Platanus racemosa</i>	western sycamore	SRF
Polemoniaceae	<i>Linanthus dianthiflorus</i>	ground pink	DCSS, NG
	<i>Navarretia hamata</i> ssp. <i>hamata</i>	hooked skunkweed	DCSS, DH, NG
Polygonaceae	<i>Chorizanthe fimbriata</i> var. <i>fimbriata</i>	fringed spineflower	DCSS, NG
	<i>Eriogonum fasciculatum</i>	buckwheat	DCSS, FTB, SMC
	<i>Pterostegia drymarioides</i>	granny's hairnet	DCSS, FTB, NG
	<i>Rumex crispus</i> *	curly dock	HW

Attachment A (cont.)
PLANT SPECIES OBSERVED
TIERRASANTA TRAILS

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
Eudicots (cont.)			
Rhamnaceae	<i>Rhamnus crocea</i>	spiny redberry	DCSS, SMC
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise	CSCS, SMC
	<i>Heteromeles arbutifolia</i>	toyon	DCSS, SMC
	<i>Rosa californica</i>	California wild rose	RS, SRF
	<i>Galium nuttallii</i> ssp. <i>nuttallii</i>	San Diego bedstraw	DCSS, SMC
Rubiaceae	<i>Galium nuttallii</i> ssp. <i>nuttallii</i>	San Diego bedstraw	DCSS, SMC
Salicaceae	<i>Populus fremontii</i>	western cottonwood	SRF
	<i>Salix gooddingii</i>	black willow	SRF
	<i>Salix laevigata</i>	red willow	SWS
	<i>Salix lasiolepis</i>	arroyo willow	RS, SWS
Solanaceae	<i>Lycium californicum</i> ‡	California box-thorn	DCSS
	<i>Nicotiana glauca</i> *	tree tobacco	DCSS, RS, SRF
	<i>Solanum parishii</i>	Parish's nightshade	DCSS
Tamaricaceae	<i>Tamarix ramosissima</i> *	tamarisk	RS, SRF
Urticaceae	<i>Urtica dioica</i> ssp. <i>holosericea</i>	stinging nettle	SWS
	<i>Urtica urens</i> *	dwarf nettle	DH, ORN
Verbenaceae	<i>Verbena lasiostachys</i>	common verbena	NG, SMC
Monocots			
Agavaceae	<i>Agave americana</i> *	century plant	DCSS, DH, ORN
	<i>Chlorogalum parviflorum</i>	small-flower soap-plant	DCSS, NG, NNG
	<i>Hesperoyucca whipplei</i>	chaparral yucca	DCSS
	<i>Yucca schidigera</i>	Mohave yucca	DCSS, SMC
Alliaceae	<i>Allium praecox</i>	early onion	DCSS, NG, NNG
Arecaceae	<i>Phoenix canariensis</i> *	Canary Island date palm	ORN
	<i>Washingtonia robusta</i> *	Mexican fan palm	ORN, SWS
Cyperaceae	<i>Cyperus eragrostis</i>	tall flatsedge	SWS
Iridaceae	<i>Sisyrinchium bellum</i>	blue-eyed grass	DCSS, NG
Juncaceae	<i>Juncus acutus</i> ssp. <i>leopoldii</i> ‡	southwestern spiny rush	FWM, SWS
Poaceae	<i>Avena</i> sp.*	oats	NNG, SWS
	<i>Bromus diandrus</i> *	common ripgut grass	DH, NNG, SWS
	<i>Bromus madritensis</i> *	red brome	DH, NNG

**Attachment A (cont.)
PLANT SPECIES OBSERVED
TIERRASANTA TRAILS**

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
Monocots (cont.)			
	<i>Cortaderia selloana</i> *	pampas grass	DCSS, DH, NNG, RS, SRF, SWS
	<i>Cynodon dactylon</i> *	Bermuda grass	DH, NNG
	<i>Elymus condensatus</i>	giant wild-rye	RS, SRF
	<i>Muhlenbergia rigens</i>	deergrass	DCSS
	<i>Pennisetum setaceum</i> *	fountain grass	DCSS, DH, NNG
	<i>Rytidosperma caespitosum</i> *	wallaby grass	DH, NNG
	<i>Schismus barbatus</i> *	Mediterranean grass	DH, NNG
	<i>Stipa miliacea</i> *	smilo grass	SWS
	<i>Stipa lepida</i>	foothill needlegrass	DCSS, NG
	<i>Stipa pulchra</i>	purple needlegrass	DCSS, NG
Themidaceae	<i>Dichelostemma capitatum</i>	blue dicks	DCSS, NG
Typhaceae	<i>Typha</i> sp.	cattail	FWM, RS, SRF
Gymnosperms			
Pinaceae	<i>Pinus</i> sp. *	pine	ORN
Pteridophytes	<i>Selaginella bigelovii</i>	Bigelow's spike-moss	DCSS

*Non-native species

†BB-CSS=broom baccharis-dominated coastal sage scrub, CLOW=coast live oak woodland, CSCS=coastal sage-chaparral scrub, DCSS=Diegan coastal sage scrub, DH=disturbed habitat, EUCW=eucalyptus woodland, FTB=flat-topped buckwheat scrub, FWM=freshwater marsh, HW=herbaceous wetland, MFS=mule fat scrub, NG=native grassland, NNG=non-native grassland, ORN=ornamental vegetation, RS=riparian scrub SMC=southern mixed chaparral, SOC=scrub oak chaparral, SRF=southern riparian forest, SWS=southern willow scrub

‡Sensitive species

Attachment B
ANIMAL SPECIES OBSERVED OR DETECTED
TIERRASANTA TRAILS

SCIENTIFIC NAME

COMMON NAME

INVERTEBRATES

<i>Anthocharis sara</i>	Sara orange tip
<i>Phoebis sennae</i>	cloudless sulphur
<i>Vanessa cardui</i>	painted lady

VERTEBRATES

Reptiles

<i>Aspidoscelis hyperythra</i>	orange-throated whiptail‡
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Uta stansburiana</i>	common side-blotched lizard

Birds

<i>Accipiter cooperi</i>	Cooper's hawk‡
<i>Aeronautes saxatalis</i>	white-throated swift
<i>Aphelocoma californica</i>	western scrub-jay
<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Callipepla californica</i>	California quail
<i>Calypte anna</i>	Anna's hummingbird
<i>Carduelis psaltria</i>	lesser goldfinch
<i>Carpodacus mexicanus</i>	house finch
<i>Chamaea fasciata</i>	wrentit
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
<i>Dendroica coronata</i>	yellow-rumped warbler
<i>Empidonax difficilis</i>	Pacific-slope flycatcher
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
<i>Lonchura punctulata</i>	nutmeg mannikin
<i>Melospiza melodia</i>	song sparrow
<i>Mimus polyglottos</i>	northern mockingbird
<i>Oreothylpis celata</i>	orange-crowned warbler
<i>Petrochelidon pyrrhonota</i>	cliff swallow
<i>Picoides nuttallii</i>	Nuttall's woodpecker
<i>Pipilo crissalis</i>	California towhee
<i>Pipilo maculatus</i>	spotted towhee
<i>Psaltirparus minimus</i>	bushtit

Attachment B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED
TIERRASANTA TRAILS

Birds (cont.)

<i>Sayornis nigricans</i>	black phoebe
<i>Sayornis saya</i>	Say's phoebe
<i>Selasphorus sasin</i>	Allen's hummingbird
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Toxostoma redivivum</i>	California thrasher
<i>Troglodytes aedon</i>	house wren
<i>Tyrannus vociferans</i>	Cassin's kingbird
<i>Zenaida macroura</i>	mourning dove
<i>Zonotrichia leucophrys</i>	white-crowned sparrow

Mammals

<i>Canis latrans</i>	coyote
<i>Neotoma</i> sp.	woodrat
<i>Spermophilus beecheyi</i>	California ground squirrel
<i>Sylvilagus audubonii</i>	desert cottontail

‡Sensitive species

Attachment C
SENSITIVE SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego Narrow Endemic Plants				
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT/SE CRPR 1B.1 MSCP Covered	Small herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Flowering period Apr – Jun.	Low. Soils and habitat in portions of the study area are suitable; however, this species was not observed during biological surveys and no records of this species exist for these canyons (Calflora 2015).
<i>Agave shawii</i>	Shaw’s agave	--/-- CRPR 2.1 MSCP Covered	Conspicuous leaf succulent. Occurs in coastal bluff scrub and coastal sage scrub. Flowering period Sep – May.	Low. Suitable habitat is present in the study area but species would likely have been observed if present. No records of this species exist for the canyons in the study area (Calflora 2015).
<i>Ambrosia pumila</i>	San Diego ambrosia	FE/-- CRPR 1B.1 MSCP Covered	Small perennial herb. Occurs on clay soils. Found in grasslands, valley bottoms and seasonally dry drainages; also can occur on slopes, disturbed places, and in coastal sage scrub. Flowering period Apr – Oct.	Low. Soils and habitat in portions of the study area are suitable; however, this species was not observed during biological surveys and is very rare. The closest presumed extant occurrence is in Mission Trails Regional Park, approximately 2.4 miles east of the study area (Calflora 2015).
<i>Aphanisma blitoides</i>	Aphanisma	--/-- CRPR 1B.2 MSCP Covered	Small herb. Occurs in coastal bluff scrub, coastal dunes, and sandy coastal scrub. Flowering period Mar – Jun.	None. The study area is not at the coast and does not include suitable sandy coastal habitat.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego Narrow Endemic Plants (cont.)				
<i>Astragalus tener</i> var. <i>titi</i>	Coastal dunes milk- vetch	FE/SE CRPR 1B.1 MSCP Covered	Medium herb. Occurs in coastal dunes and sandy places along the coast. Flowering period Mar – May.	None. The study area is not at the coast and does not include suitable sandy coastal habitat.
<i>Baccharis vanessae</i>	Encinitas baccharis	FT/SE CRPR 1B.1 MSCP Covered	Large shrub. Occurs in post-fire and mature but relatively low-growing chaparral. Also found in southern maritime and southern mixed chaparrals. Flowering period Aug – Nov.	None. Suitable habitat does not occur in the study area. Study area is outside the species' range.
<i>Cylindropuntia californica</i> var. <i>californica</i>	Snake cholla	--/-- CRPR 1B.1 MSCP Covered	Conspicuous stem succulent. Occurs in chaparral and Diegan coastal sage scrub. Flowering period Apr – Jul.	None. Would have been observed if present.
<i>Deinandra conjugens</i>	Otay tarplant	FT/SE CRPR 1B.1 MSCP Covered	Small herb. Occurs in coastal sage scrub and grassland habitats south of the Sweetwater River. Flowering period May – Jun.	None. Study area is outside the species' range.
<i>Dudleya brevifolia</i>	Short-leaved dudleya	--/SE CRPR 1B.1 MSCP Covered	Small leaf succulent. Occurs in open areas and sandstone bluffs in chamise chaparral or Torrey pine forest. Flowering period Apr – May.	None. Suitable habitat does not occur in the study area.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego Narrow Endemic Plants (cont.)				
<i>Dudleya variegata</i>	Variegated dudleya	--/-- CRPR 1B.2 MSCP Covered	Small leaf succulent. Occurs on clay soils near vernal pools, and on metavolcanic rocky soils in open coastal sage scrub, chaparral, and grasslands. Elevation range 0-3500 ft. Flowering period Apr – Jun.	None. Suitable habitat does not occur in the study area.
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE/SE CRPR 1B.1 MSCP Covered	Medium herb. Vernal pools or mima mound areas with vernal moist conditions are preferred habitat. Suitable habitat does not occur on site. Flowering period Apr – Jun.	None. Vernal pools do not occur in the study area.
<i>Navarretia fossalis</i>	Prostrate spreading navarretia	FT/-- CRPR 1B.1 MSCP Covered	Small herb. Occurs in vernal pools. Elevation range 200-3000 ft. Flowering period Apr – Jun.	None. Vernal pools do not occur in the study area.
<i>Orcuttia californica</i>	California Orcutt grass	FE/SE CRPR 1B.1 MSCP Covered	Small herb. Uncommon plant that occurs within vernal pools. Known from fewer than 20 occurrences. Flowering period Apr – Aug.	None. Vernal pools do not occur in the study area.
<i>Pogogyne abramsii</i>	San Diego mesa mint	FE/SE CRPR 1B.1 MSCP Covered	Small herb. Occurs within vernal pools. Flowering period Mar – Jul.	None. Vernal pools do not occur in the study area.
<i>Pogogyne nudiuscula</i>	Otay mesa mint	FE/SE CRPR 1B.1 MSCP Covered	Small herb. Occurs within vernal pools. Flowering period May – Jul.	None. Vernal pools do not occur in the study area.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Plants				
<i>Adolphia californica</i>	California adolphia	--/-- CRPR List 2B.1	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks. Elevation range 150 – 2,400 ft. Flowering period Dec – Apr.	Low. Suitable habitat is present in the study area; however, this conspicuous species would likely have been observed if present. No records of this species exist for the canyons in the study area (Calflora 2015).
<i>Artemisia palmeri</i>	Palmer's sagewort	--/-- CRPR List 4.2	Perennial shrub. Typically occurs along streams with riparian habitat, and may be found in sage scrub or mesic chaparral adjacent to these areas. Elevation range 50-3,000 ft. Flowering period May – Sep.	Low. Suitable habitat is present in the study area, however this conspicuous shrub would likely have been observed if present. The closest presumed extant occurrence is approximately 2.4 miles east of the study area in Mission Trails Regional Park (Calflora 2015).
<i>Bahiopsis laciniata</i>	San Diego County viguiera	--/-- CRPR 4.2	Perennial shrub. Occurs in coastal sage scrub, often at high density. Elevation range 200-2,500 ft. Flowering period Feb-Aug.	Present. A total of 611 individuals observed within Diegan coastal sage scrub, broom baccharis-dominated coastal sage scrub, eucalyptus woodland, and ornamental habitat in the study area.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Plants (cont.)				
<i>Bloomeria clevelandii</i>	San Diego goldenstar	--/-- CRPR 1B.1 MSCP Covered	Small herb. Occurs on clay soils in grasslands and coastal sage scrub. Elevation range 0-2000 ft. Flowering period Apr – May.	Low. Soils and habitat in portions of the study area are suitable; however, this species was not observed during biological surveys and no records of this species exist for these canyons (Calflora 2015).
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	--/-- CRPR 1B.1 MSCP Covered	Small herb. Occurs only on clay soils in vernal moist environments, usually near vernal pools but occasionally near streams. Elevation range 0-5000 ft. Flowering period May – Jul.	Low. Soils and habitat in portions of the study area are potentially suitable; however, no vernal pools occur in the study area. This species was not observed during biological surveys and no records of this species exist for these canyons (Calflora 2015).
<i>Ceanothus verrucosus</i>	Wart-stemmed ceanothus	--/-- CRPR 2B.2 MSCP Covered	Large shrub. Occurs in chaparral. Elevation range 0-2000 ft. Flowering period Jan – Apr.	Low. Suitable habitat is present in the study area; however, this conspicuous shrub would likely have been observed if present. Nearest reported occurrence is in Kearny Mesa.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Plants (cont.)				
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Long-spined spineflower	--/-- CRPR 1B.2	Annual herb. Typically found on clay lenses largely devoid of shrubs. Can be occasionally seen on periphery of vernal pools and in montane meadows near vernal seeps. Elevation range 100 – 5,000 ft. Flowering period Apr – Jul.	Low. Soils and habitat in portions of the study area are suitable; however, this species was not observed during biological surveys and no records of this species exist for these canyons (Calflora 2015).
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer-holly	--/-- CRPR 1B.2	Large shrub. Occurs in coastal chaparral. Elevation range 100-2700 ft. Flowering period Apr – Jun.	Low. Suitable habitat is present in the study area; however, this conspicuous shrub would likely have been observed if present. Nearest reported occurrence is in Mission Trails Regional Park.
<i>Ericameria palmeri</i> var. <i>palmeri</i>	Palmer's goldenbush	--/-- CRPR 1B.1 MSCP Covered	Large shrub. Occurs in coastal drainages, mesic chaparral, and occasionally in coastal sage scrub. Elevation range 0-1500 ft. Flowering period Sep – Nov.	Low. Suitable habitat is present in the study area; however, this conspicuous shrub would likely have been observed if present. Nearest reported extant occurrence is near SR 94 and I-15.
<i>Ferocactus viridescens</i>	San Diego barrel cactus	--/-- CRPR 2B.1 MSCP Covered	Conspicuous stem succulent. Occurs in coastal sage scrub, chaparral, and valley grasslands. Elevation range 0-1300 ft. Flowering period May – Jun.	Present. A total of 30 individuals observed within native grassland and Diegan coastal sage scrub in the study area.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Plants (cont.)				
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	--/-- CRPR 4.2	Annual herb. Occurs on clay soils in open grassy areas within shrub habitats. Elevation range 65 – 3,100 ft. Flowering period Mar – May.	Present. A total of 200 individuals observed within native grassland and Diegan coastal sage scrub in the study area.
<i>Holocarpha virgata</i> ssp. <i>elongata</i>	Graceful tarplant	--/-- CRPR 4.2	Annual herb. Occurs on coastal mesas and foothills in grassland and scrub communities. Elevation range 260 – 3,280 ft. Flowering period May – November.	Present. A total of 10 individuals observed within Diegan coastal sage scrub and broom baccharis-dominated sage scrub in the study area.
<i>Isocoma menziesii</i> var. <i>decumbens</i>	Decumbent goldenbush	--/-- CRPR 1B.2	Conspicuous shrub. Occurs in disturbed areas of coastal sage scrub and riparian areas. Elevation range 0-1500 ft. Flowering period Apr – Nov.	Present. A total of 89 individuals observed within native grassland and Diegan coastal sage scrub in the study area.
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern spiny rush	--/-- CRPR 4.2	Perennial rhizomatous herb. Occurs in alkaline meadows and seeps, marshes, and coastal dunes. Elevation 10-3,000 ft. Flowering period Mar – Jun.	Present. A total of 37 individuals observed within freshwater marsh and southern willow scrub in the study area.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's peppergrass	--/-- CRPR 4.3	Annual herb. Grows in openings in chaparral and sage scrub at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy or along creeks. Elevation range 1-2,900 ft. Flowering period is Jan -July.	High. Suitable habitat occurs in the study area and species has been recorded approximately 0.5 mile east of the study area, south of the intersection of Rueda Drive and Calle de Vida (Calflora 2015).

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Plants (cont.)				
<i>Lycium californicum</i>	California box-thorn	--/-- CRPR 4.2	Perennial shrub. Occurs in coastal scrub habitats. Elevation range 15-1500 ft. Flowering period Dec – Aug.	Low. Species was observed near the study area boundary during biological surveys but was not observed within the study area. Would likely have been observed if present.
<i>Monardella viminea</i>	Willow monardella	FE/SE CRPR 1B.1	Perennial herb. Occurs in alluvial ephemeral washes in sage scrub, chaparral, and riparian habitats. Elevation range 165-740 ft. Flowering period Jun – Aug.	Low. Small areas of marginally suitable habitat occur in the study area. The only extant species record occurring south of SR 52 is west of Santo Road on MCAS Miramar, and is considered the southernmost population (Calflora 2015). The study area is south of this population.
<i>Quercus dumosa</i>	Nuttall's scrub oak	--/-- CRPR 1B.1	Perennial evergreen shrub/small tree. Occurs in chaparral and coastal sage scrub near the coast. Elevation range 50-1,300 ft. Flowering period Feb – Aug.	Present. Species is dominant in scrub oak chaparral in the study area; scattered individuals observed in other habitats.
<i>Senecio aphanactis</i>	Chaparral ragwort	--/-- CRPR 2B.2	Small herb. Occurs in coastal sage scrub and foothill woodland. Elevation range 50-3,900 ft. Flowering period Jan – Apr.	Low. Some suitable habitat occurs on the study area, but the species was not observed during surveys. Reported from Mission Trails Regional Park.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Plants (cont.)				
<i>Stemodia durantifolia</i>	Purple stemodia	--/-- CRPR 2B.1	Small herb. Occurs in wet sand along small creeks and seasonal streams. Elevation range 165-5,800 ft. Flowering period Jan – Dec.	Low. Some suitable habitat occurs on the study area, but the species was not observed during surveys. Reported from Mission Trails Regional Park.
Animals				
Invertebrates				
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/-- MSCP Covered	Restricted to vernal pools and seasonal ponds that hold water for several weeks during and after the rainy season.	None. Restricted to vernal pools and basins, which do not occur in the study area.
Amphibians and Reptiles				
<i>Aspidoscelis hyperthya</i>	Orange-throated whiptail	--/-- WL MSCP Covered	Common in sage scrub and grassland areas in San Diego.	Present. One individual was observed within Diegan coastal sage scrub in the study area.
<i>Phrynosoma blainvillii</i>	Coast horned lizard	--/-- SSC MSCP Covered	Coastal sage scrub, chaparral, grassland, and woodlands up to 6,000 ft. Not common where Argentine ants (<i>Linepithema humile</i>) have excluded native harvester ants (<i>Pogonomyrmex</i> sp.).	High. Suitable habitat occurs in the study area and species has been recorded in the vicinity.
<i>Spea hammondi</i>	Western spadefoot	--/-- SSC	Restricted to vernal pools and seasonal ponds that hold water for several weeks during and after the rainy season.	None. Restricted to vernal pools and basins, which do not occur in the study area.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Animals (cont.)				
Birds				
<i>Accipiter cooperi</i>	Cooper's hawk	--/-- WL MSCP Covered	Occurs year-round throughout San Diego County's coastal slope where stands of trees are present. Found in oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.	Present. One individual was observed within eucalyptus woodland in the study area.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	--/-- SSC MSCP Covered	Found in coastal sage scrub and open chaparral communities.	High. Species was not detected during biological surveys but suitable habitat is present in much of the study area. Species records exist for the project vicinity.
<i>Falco mexicanus</i>	Prairie falcon	--/-- WL	Nests on cliff or bluff ledges or occasionally in old hawk or raven nests; forages in grassland or desert habitats. Observed year-round in San Diego County but more commonly during winter.	Not expected. Suitable breeding areas do not occur in the study area and preferred foraging habitat is limited. Several historic records for this species occur in the project vicinity; however, all known nest sites are at least 23 miles from the coast and wintering birds tend to stay inland as well (Unitt 2004).

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Animals (cont.)				
Birds (cont.)				
<i>Icteria virens</i>	Yellow-breasted chat	--/-- SSC	Occurs in mature riparian woodland, typically returning to San Diego County in mid-April to breed.	Low. Suitable riparian habitat is restricted within the study area and no records exist for this species in the area.
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT/-- SSC MSCP Covered	Occurs in coastal sage scrub.	Assumed Present. Suitable habitat occurs in many portions of the study area and species is known from the vicinity.
<i>Setophaga petechia</i>	Yellow warbler	--/-- SSC	Occurs in riparian woodland.	High. Although little riparian habitat is present within the study area and occurs in a scattered distribution along various alignments, this species is widespread in riparian habitats in the region and is frequently documented in relatively small patches of habitat.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE/SE MSCP Covered	Occurs in riparian thickets, usually willow and cottonwood. Typically arrives in San Diego County during the third week of March (Unitt 2004).	Low. Little riparian habitat occurs within the study area and species has not been documented in these canyons. Closest recorded occurrences are in the San Diego River.

**Attachment C (cont.)
SENSITIVE SPECIES POTENTIAL TO OCCUR¹**

Species Name	Common Name	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Animals (cont.)				
Mammals				
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	--/-- SSC	Occurs in coastal sage scrub and other xeric habitats	Low. Suitable habitat is present in the study area, however, conspicuous nests of this species were not observed. Species is likely to occur in portions of the canyons located outside of the study area.
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed bat	--/-- SSC	Colonial species that roosts primarily in crevices of rugged cliffs, high rocky outcrops and slopes. It has been found in a variety of plant associations, including desert shrub and pine-oak forests. The species may also roost in buildings, caves, and under roof tiles.	Not Expected. Reported from Mission Gorge; suitable habitat does not occur in the study area.

¹Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare; SSC = State Species of Special Concern; WL = Watch List. CRPR = California Rare Plant Rank: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California but more common elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered

²Potential to Occur is assessed as follows. **None:** Species is either sessile (*i.e.* plants) or so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the study area; **Not Expected:** Species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur in the study area; **Low:** Suitable habitat is present in the study area but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the study area and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the study area.

Attachment D
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

FE	Federally listed endangered
FT	Federally listed threatened
BCC	Birds of Conservation Concern (see more information below)
WL	Watch List (see more information below)

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2002) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to “identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973.” The BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS’ highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at <http://www.fws.gov/migratorybirds/reports/BCC2002.pdf>.

American Bird Conservancy: U.S. WatchList (WL)

The United States *WatchList* is a joint project between the American Bird Conservancy and the National Audubon Society. It reflects a comprehensive analysis of all the bird species in the United States. It reveals those in greatest need of immediate conservation attention to survive a convergence of environmental challenges, including habitat loss, invasive species, and global warming. The list builds on the species assessments conducted for many years by Partners in Flight (PIF) for land birds. It uses those same PIF standards but it is expanded to cover all bird species, not just land birds. The list is based on the latest available research and assessments from the bird conservation community, along with data from the Christmas Bird Count and Breeding Bird Survey. More information is available online at:
<http://www.abcbirds.org/abcprograms/science/watchlist/index.html>

Attachment D (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Department of Fish and Wildlife (CDFW)

SE State listed endangered

SR State listed rare

ST State listed threatened

SSC State species of special concern

Fully Protected Fully Protected species refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

OTHER CODES AND ABBREVIATIONS

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the City has take authorization within the MSCP area.

Narrow Endemic (NE) Species

Some native species (primarily plants with restricted geographic distributions, soil affinities, and/or habitats) are referred to as a narrow endemic species. For vernal pools and identified narrow endemic species, the jurisdictions will specify measures in their respective subarea plans to ensure that impacts to these resources are avoided to the maximum extent practicable.

Attachment D (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Rare Plant Rank (CRPR)

CA Endemic A “CA Endemic” entry is displayed in the CNPS *Inventory* entries for those taxa that only occur in California. This clearly highlights endemic taxa.

Lists

- 1A = Presumed extinct.
- 1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.
- 2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.
- 3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.
- 4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

- .1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 = Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 = Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A “CA Endemic” entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

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