



Diamond Bar – Pomona Valley Sierra Club Task Force
Angeles Chapter

B6-1

October 31, 2019

TO: Ms. Grace Lee, Senior Planner, City of Diamond Bar [delivered electronically]

CC: City of Diamond Bar, Community Development Director, Mr. Greg Gubman

RE: City of Diamond Bar, General Plan, DEIR Comments

Dear Ms. Lee,

The purpose and goals of the Diamond Bar – Pomona Valley Sierra Club Task Force, Angeles Chapter, are dedicated to local conservation: to educate environmental literacy to all, especially the youth; to explore, enjoy and protect local wildlife habitats, to advocate biodiversity, natural open spaces and sustainable communities. Our group activities and contributions are locally focused.

B6-2

We are grateful for the opportunity to comment on the General Plan 2040/DEIR. We think forward-thinking, community-based partnerships are foundational to guard against error and to reach for extraordinary levels of quality and economic productivity in conservation planning.

Here are our concerns, which also include a personal point of input:

B6-3

1. **Wildlife Habitat and Circulation:** The Resource Conservation element and DEIR fails to regard or thoroughly explain wildlife circulation throughout the mid and northern part of the city. Example: my own property which is mapped as oak woodland on DEIR figure 5.2 is partially correct (because the coastal scrub is missing) has been a consistent “wildlife corridor” these 30 years past (or more?). There is an established “game trail” where we routinely observe deer families arrive from traversing the native green belt tracing throughout the Diamond Ridge neighborhood near Pantera Park. The Hamilton report accurately depicts this region as area #3, in the natural communities map. Therefore, Hamilton’s approach to mapping natural communities according to their existence rather than human boundaries is correct. Please explain what scientific basis the city claims wildlife circulation only happens at the Puente Chino Hills Wildlife Corridor? Recall, 2013 Diamond Bar city hall sighted a mountain lion, which may have arrived from Upper Tonner Canyon/Tres Hermanos or Powder Canyon. Here are pictures of my own property, north face ridgeline, oak/walnut, sage scrub habitat.



2. The DEIR city environmental location description is inadequate. There appears to be no geomorphic, geological or floristic references to where the city of Diamond Bar is. For example, Dibblee maps indicate the city of Diamond Bar is located in: Brea Canyon, in the Puente Hills, which are at the tip of the Peninsular Ranges, in the Southern California Mountains & Valleys Ecoregion. These terms hold meaningful descriptions by which to assess, soils, native plant communities, climate patterns. How else can specific ecological features and conditions be discovered or understood? Will the city of Diamond Bar update the environmental location of the city in all general plan documents?

B6-4

3. Geologic Constraints: The DEIR omits describing geologic constraints of the city. Example: The City's landscape comprises a system of canyons, streams, floodplains, ridges, and hillsides. Prominent knolls and ridges reach elevations of 1,300 to 1,400 feet above sea level. Most hillsides contain slopes in excess of 25%. These hillside areas are underlain by bedrock of the Puente Formation. The rocks of this formation are folded and dip between 10 and 20 degrees horizontal. Locally, beds of Puente Formation dip as steep as 45 to 60 degrees. The folded nature of these rocks combined with the steepness of the terrain makes Diamond Bar one of the most landslide-prone areas in Southern California. I cannot located descriptions which help us to understand safety risk, such as landslide potential.

B6-5

4. Is it meaningful to include the California Deep Landslide Inventory? If not, why not? Again, isn't this relevant to safety concerns and mitigation solutions?

B6-6

5. Proposal for new city tree codes including recommendations for oak woodland protection, walnut woodland protections and productive measures to improve the city urban canopy. Existing codes are sorely outdated. Based on current science of natural communities and alliances, per the California Vegetation Manual, Hamilton Biologic analyzed in February 2019, a new proposed tree code. Attached. A year previous, a red line draft of the previous tree codes was performed by State Urban Forester, John Melvin's recommended local urban forester, David Haas to assist me in analyzing and correcting/improving the city's existing tree codes. Attached. I respectfully request the city review this material to achieve updated tree codes to serve the quality of life in the City of Diamond Bar; and to preserve best practice.

B6-7

Respectfully,

B6-8

C. Robin Smith

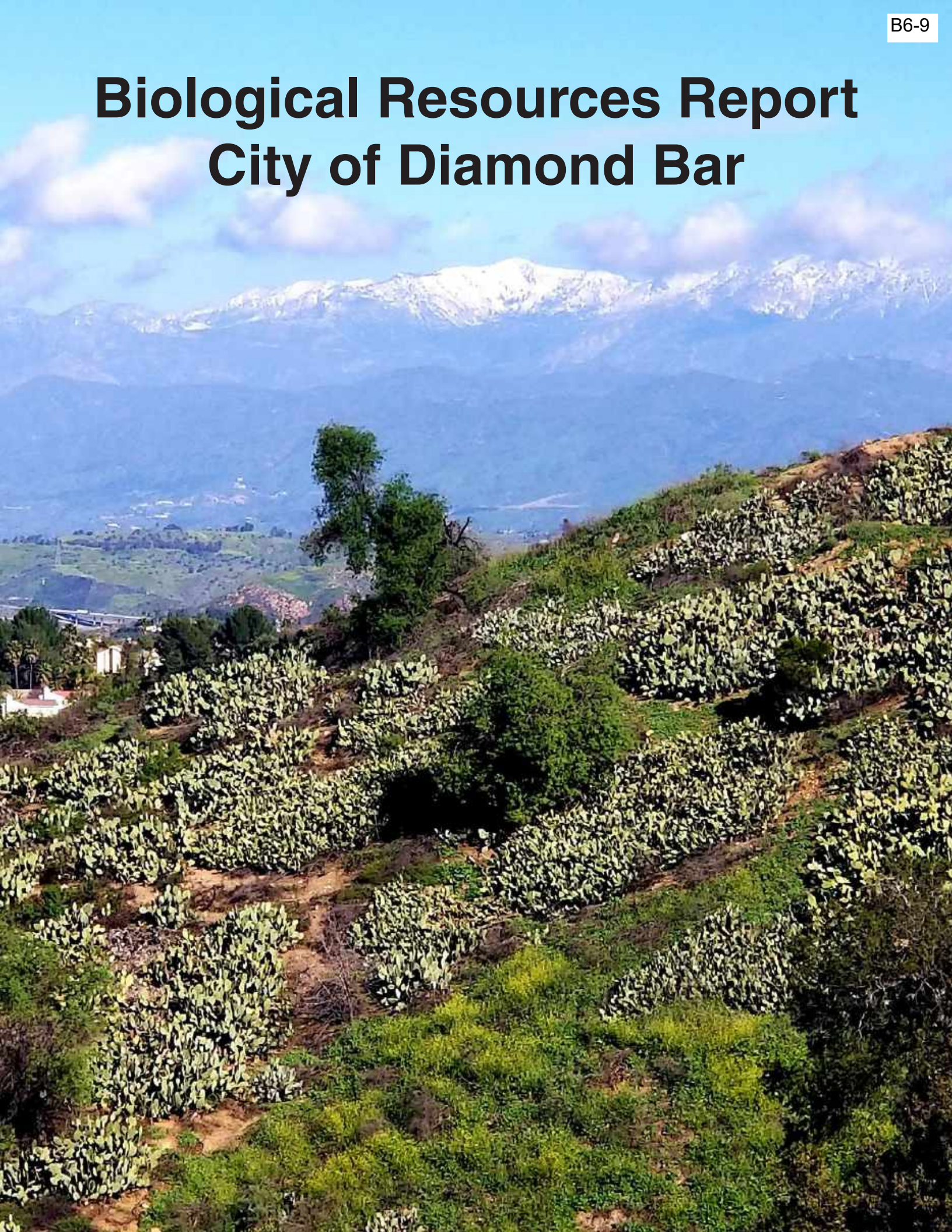
C. Robin Smith, Chair

Cc: Sierra Club Angeles Chapter, Senior Chapter Director, George Watland
DBPV Sierra Club Task Force, Vice Chair, David Warren
Sierra Club, Angeles Chapter, Conservation Chair, Angelica Gonzales
Sierra Club, San Gabriel Valley Task Force, Chair, Joan Licari

References:

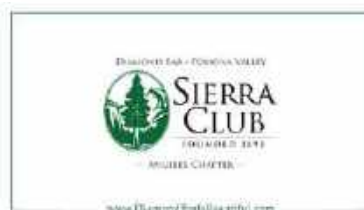
Dibblee Maps, Peninsular Ranges, Ecoregion map

Biological Resources Report City of Diamond Bar



“This work is dedicated to the City of Diamond Bar, to its residents --- especially the children.”

Dedicated & Funded by a consortium of Diamond Bar residents and:



Cover Photo by Diamond Bar Resident, Eraina Olson, 2019.
Photos for Resource Protection Recommendations, by Robert Hamilton 2019.

February, 2019

Biological Resources Report City of Diamond Bar

Prepared By

Hamilton Biological, Inc.
Robert A. Hamilton, President
316 Monrovia Avenue
Long Beach, CA 90803
<http://hamiltonbiological.com>

February 25, 2019

TABLE OF CONTENTS

TABLE OF CONTENTS.....	II
INTRODUCTION.....	1
METHODS & TECHNICAL INFORMATION	2
VISIONS, GOALS, OBJECTIVES.....	2
HISTORY & LAND USE	5
SCENIC RESOURCES	5
HYDROLOGY/WATERWAYS.....	6
DIAMOND BAR WATERSHEDS	8
FLOODING	9
BIOLOGICAL RESOURCES	9
NATURAL COMMUNITIES.....	9
Annual and Perennial Grasslands, Vernal Pools/Seasonal Pools	10
Coastal Sage Scrub, Cactus Scrub.....	10
Chaparral	11
Coast Live Oak Woodland, Savannah	11
California Walnut Woodland, Savannah	11
Riparian Scrub and Woodlands.....	12
Human-altered Habitats	12
NATURAL OPEN SPACE AREAS	12
RESOURCE PROTECTION RECOMMENDATIONS	17
SENSITIVE RESOURCES	19
Sensitive Natural Communities	20
Special-Status Species	20
EFFECTS OF DEVELOPMENT ON BIOLOGICAL RESOURCES.....	29
EDGE/FRAGMENTATION EFFECTS ON WILDLIFE MOVEMENT	30
Wildlife Movement Issues in the Puente-Chino Hills	30
NATURAL RESOURCE CONSERVATION POLICIES.....	32
GOALS AND POLICIES OF THE OPEN SPACE AND CONSERVATION ELEMENT.....	32
LITERATURE CITED	34

FIGURES

1: Waterways	6
2: Lower San Gabriel River Watershed	7
3a: Natural Open Space Areas, Part 1	13
3b: Natural Open Space Areas, Part 2	14
3c: Natural Open Space Areas, Part 3	15
3d: Natural Open Space Areas, Part 4	16

TABLES

A: Resource Protection Recommendations.....	17
B: Special Status Species.....	22

APPENDICES

A: Methods & Technical Information	
------------------------------------	--

INTRODUCTION

Hamilton Biological, Inc., was retained by a consortium of Diamond Bar residents to prepare this biological resources report addressing the conservation and preservation of sensitive biological resources in the City of Diamond Bar (City) and its Sphere of Influence. It is intended that the City incorporate the information and analyses in this report into the next update of its general plan, currently in preparation.

Sections 65302(d) and 65302(e) of the California Government Code states that a city's general plan shall include goals and policies for management of open spaces, including natural lands and recreation areas. The Open Space Element addresses such categories as preservation of natural resources and managed production of resources. The Conservation Element addresses protection and maintenance of natural resources, including soils, water, plants, wildlife, and mineral resources. Recognizing that the subjects covered under the Open Space Element and Conservation Element substantially overlap, Appendix 1 to the California Government Code allows these two elements to be combined in one section of the General Plan.

The Open Space and Conservation Element identifies and describes the irreplaceable biotic resources that make up the natural environment that people rely upon for breathable air, clean water, viable populations of native plants and wildlife, and the natural beauty that pervades and defines Diamond Bar. The Open Space and Conservation Element guides city decision-makers and the public in their efforts to take the natural world into account during deliberations over development proposals, as required to realize the overall vision laid out in the General Plan.

The Open Space and Conservation Element guides the development and implementation of programs involving conservation of open space, biological resources, visual resources, and parks and recreation. Approaches for managing environmental impacts are identified, with particular emphasis on contributing to achievement of the General Plan's stated goals, including:

- Create and retain an open space system which will conserve natural resources, preserve scenic beauty, promote a healthy community atmosphere, provide open space for outdoor recreation, and protect the public safety.
- Identify limits on the natural resources needed to support urban and rural development within the City and its Sphere of Influence, and ensure that those resources are used wisely and not abused.
- Provide a park, recreation and open space system which enhances the livability of urban and suburban areas by providing parks for residential neighborhoods; preserving significant natural, scenic, and other open space resources; and meeting the open space and recreational needs of Diamond Bar residents.

Methods & Technical Information

Please refer to Appendix A, which describes the methods for preparing this biological resources report, as well as providing technical information that underpins the analyses, conclusions, and policies contained herein.

Visions, Goals, Objectives

The General Plan identifies “a strongly held goal among the residents to **maintain and protect the distinctive physical attributes of Diamond Bar which make it a desirable place in which to live.**” To achieve this overarching goal of safeguarding open spaces and significant natural features, as well as retaining the City’s distinctive natural character, the Open Space and Conservation Element focuses on supporting the following visions, goals and objectives, building upon language contained in the original 1995 General Plan:

- **Vision 1.** Retention of the rural/country living community character. There is a strong, long-held goal among residents to maintain and protect the distinctive, physical attributes of Diamond Bar which make it a desirable place in which to live, through a careful balance of housing, businesses and services, public facilities, and preservation of natural environmental resources.
- **Vision 2.** Preservation of open space. Significant privately and publicly owned natural lands that remain in Diamond Bar and its 3,591-acre Sphere of Influence support numerous rare species and perform important ecological functions. The preservation of sensitive natural resources contributes to the goal of retaining the City’s distinctive rustic character and offers unique educational and recreational opportunities. The County of Los Angeles has identified the Sphere of Influence and adjacent lands, some of which lie within the City, as Significant Ecological Area (SEA) 15. SEA 15 is recognized as a major significant ecological asset to the community. The City will play a proactive role in the preservation of SEA 15 by assuring that extensive analysis and review precede any changes from its current uses and possibilities.
 - **Goal 1.** Consistent with the Vision Statement, maintain a mix of land uses which enhance the quality of life of Diamond Bar residents, providing a balance of development and preservation of significant open space areas to assure both economic viability and retention of distinctive natural features of the community.
 - **Objective 1.1** Establish a land use classification system to guide the public and private use of land within the City and its Sphere of Influence.
 - **Objective 1.2** Preserve and maintain the quality of existing residential neighborhoods while offering a variety of housing opportunities, including mixed land uses.

- **Objective 1.3** Designate adequate land for retail and service commercial, professional services, and other revenue generating uses in sufficient quantity to meet the City's needs.
 - **Objective 1.4** Designate adequate land for educational, cultural, recreational, and public service activities to meet the needs of Diamond Bar residents.
 - **Objective 1.5** Maintain a feeling of open space within the community by identifying and preserving an adequate amount of open land.
 - **Objective 1.6** Consistent with the Vision Statement, provide flexibility in the planning of new development as a means of encouraging superior land use by means such as open space and public amenities.
- **Goal 2.** Consistent with the Vision Statement, manage land use with respect to the location, density and intensity, and quality of development. Maintain consistency with the capabilities of the City and special districts to provide essential services which achieve sustainable use of environmental and manmade resources.
 - **Objective 2.1** Promote land use patterns and intensities which are consistent with the Resource Management Element and Circulation Element.
 - **Objective 2.2** Maintain an organized pattern of land use which minimizes conflicts between adjacent land uses.
 - **Objective 2.3** Ensure that future development occurs only when consistent with the availability and adequacy of public services and facilities.
 - **Goal 3.** Consistent with the Vision Statement, maintain recognition within Diamond Bar and the surrounding region as being a community with a well-planned and aesthetically pleasing physical environment.
 - **Objective 3.1** Create visual points of interest as a means of highlighting community identity.
 - **Objective 3.2** Ensure that new development, and intensification of existing development, yields a pleasant living, working, or shopping environment, and attracts interest of residents, workers, shoppers, and visitors as the result of consistent exemplary design.
 - **Objective 3.3** Protect the visual quality and character of remaining natural areas, and ensure that hillside development does not create unsafe conditions.

- **Goal 4.** Consistent with the Vision Statement, encourage long-term and regional perspectives in local land use decisions, but not at the expense of the Quality of Life for Diamond Bar residents.
 - **Objective 4.1** Promote and cooperate in efforts to provide reasonable regional land use and transportation/circulation planning programs.
- **Goal 5.** Consistent with the Vision Statement, recognize that oak trees, oak woodlands, and associated habitats have intrinsic aesthetic, environmental, ecological, wildlife, and economic values; that conservation of oak-dominated landscapes is important to the health, safety and general welfare of the citizens of Diamond Bar¹; that that the General Plan must contain adequate policies to protect the oak habitats from unnecessary damage, removal or destruction; that native oak trees should be planted, where appropriate, to enhance or restore damaged or degraded oak woodland habitats and mitigate unavoidable losses.
 - **Objective 5.1** Protect and extend the diversity of oak woodlands and associated habitats (defined as lands on which the majority of the trees are of the genus *Quercus*) through site design and land use regulations.
 - **Objective 5.2** Reduce in scale, redesign, modify, or if no other alternative exists, deny any project which cannot sufficiently mitigate significant adverse impacts to oak woodlands.
 - **Objective 5.3** Encourage property owners to establish Open Space Easements or deed restrictions for areas containing oak woodlands, and to allow access to enable scientific study.
 - **Objective 5.4** Encourage concentration of development on minimum number of acres (density exemptions) in exchange for maximizing long term open space.
 - **Objective 5.5** As a mitigation option, allow as a condition of development approval, restoration of any area of oak woodland that is in a degraded condition, with the magnitude of restoration to be commensurate with the scope of the project. This may include planting of oak trees and removal of non-native species, with consideration for long-term viability, management, and protection, and/or modification of existing land uses. The object of habitat restoration shall be to enhance the ecological function of the oak woodland and to restore it to a condition where it can be self-sustaining through natural occurrences such as fire, natural hydrological processes, etc.

¹ Woodlands are defined as lands with tree cover of at least 10%, and oak woodlands exist where the majority of trees are of the genus *Quercus*.

History & Land Use

Set within the Puente Hills of southeastern Los Angeles County, the City of Diamond Bar covers 14.9 square miles. Neighboring cities include Walnut, Pomona, Industry, La Puente, Rowland Heights, Brea, and Chino Hills. The region now occupied by Diamond Bar was inhabited by the Kizh people until the mid-eighteenth century, when the Spaniards settled in the area, establishing Mission San Gabriel in 1771 (City of Diamond Bar and Diamond Bar Historical Society 2014; Housing element 2014). The land experienced a series of ownership changes involving various land grants and purchases (e.g., the Los Nogales Grant; purchases by Luz Linares, Vejar and Palomares, Louis Phillip, Frederick E. Lewis II, William Bartholome), eventually growing into one of the largest and respected ranches in southern California and gaining its name. This lasted until 1956, during which two subsidiaries of Transamerica Corporation (Christiana Oil Corp and the Capital Oil Company) purchased the area, aiming to make it among the first and largest master-planned community in Los Angeles County (City of Diamond Bar and Diamond Bar Historical Society 2014).

Despite initial intentions as a “master-planned” community, uncoordinated patterns of development through the late twentieth century have introduced areas of incongruence, such as single- and detached multi-family residential tracts being established alongside limited commercial and other non-residential sections. Most suburban construction was already established prior to the city’s incorporation in 1989, and commercial development has continued expand within the city limit. A few blocks away from the primary arterials (57 and 60 Freeways) the majority of retail and housing space is largely concealed by the natural topography, contributing to Diamond Bar’s quiet, semi-rural character and pleasant atmosphere.

Scenic Resources

Today, Diamond Bar is primarily a hillside residential community, composed of steep and moderate sloping hills separated by ridges and flat plateaus. Although most of the land was developed prior to the city’s incorporation, its remaining natural hillsides and ridgelines provide a picturesque backdrop and strong visual ties to the area’s long history of ranching. The views from these natural areas comprise powerful and valuable scenic resources, adding ambiance and aesthetics that give Diamond Bar a unique and compelling visual identity. In addition, views of trees, rolling hills and the pine- and often snow-covered peaks of the San Gabriel Mountains are visible in the distance from the 57 and 60 Freeways.

Planning decisions must recognize the existing aesthetic value of the city’s open space as well as the external viewsheds of the surrounding region. These include the oak and walnut wooded ridgelines, unique topography, and natural open spaces at the edges of the community.

HYDROLOGY/WATERWAYS

Diamond Bar lies within of the San Gabriel River watershed, which is the largest watershed in the drainage system of the San Gabriel Mountains at 441,000 acres (Lower San Gabriel River Watershed Group 2015). The San Gabriel River is one of seven major watersheds partly or completely within Los Angeles County. Most of the river lies in southeastern Los Angeles County, but a portion of this watershed originates in northern Orange County. The northern portion of the San Gabriel River, where it emerges from the mountains, has retained some natural features, such as a sandy bottom and native vegetation. Farther south, however, flood-control and channel stabilization measures needed to accommodate intensive urbanization led to the river being lined with concrete (US Army Corps of Engineers 1991; Neal 2011).

Water runs through Diamond Bar via numerous channels, creeks and canyons. A small part of the northwestern part of the city drains to the San Gabriel River via the San Jose Creek channel, which follows the route of Valley Boulevard west from Diamond Bar. Most of Diamond Bar drains south to the San Gabriel River through the Coyote Creek watershed (see Figure 1).

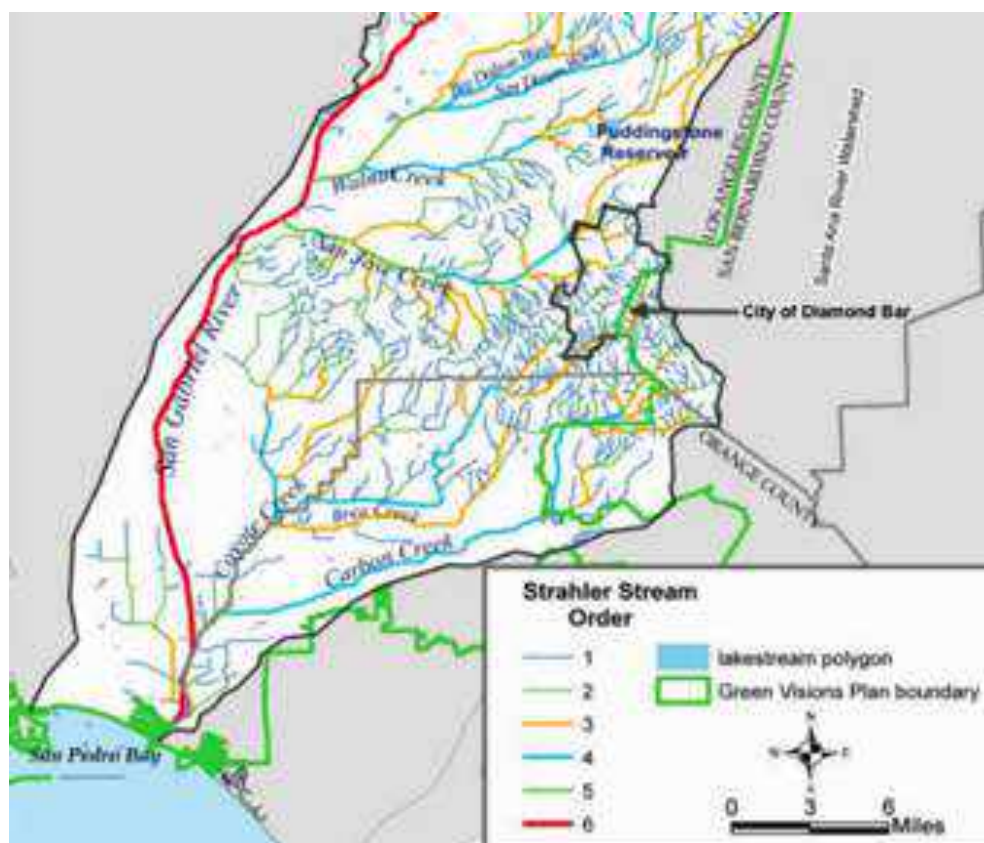


Figure 1, Waterways. Diamond Bar lies mostly within the watershed of Coyote Creek, but the northwestern part of the city discharges to the west, through the San Jose Creek channel.

Source: National Hydrology Dataset. <http://www.horizon-systems.com/nhdplus/NHDPlusV1download.php>

Coyote Creek and San Jose Creek drain approximately 165 square miles and 83 square miles, respectively, of highly urbanized commercial, residential, and industrial zones, plus limited natural open space areas (Sheng & Wilson 2000, using Horton-Strahler Stream Order).

In 2013, Diamond Bar joined 12 other cities and the Los Angeles County Flood Control District to develop a Watershed Monitoring Program (WMP) and Coordinated Integrated Monitoring Program (CIMP) to address the lower portion of the San Gabriel River, which includes Reaches 1 and 2 of the San Gabriel River Watershed and portions of Coyote Creek that originate from jurisdictions within Los Angeles County, including the City of Diamond Bar. A small portion of Diamond Bar that discharges to the San Gabriel River via San Jose Creek is also addressed by this CIMP. See Figure 2, below.

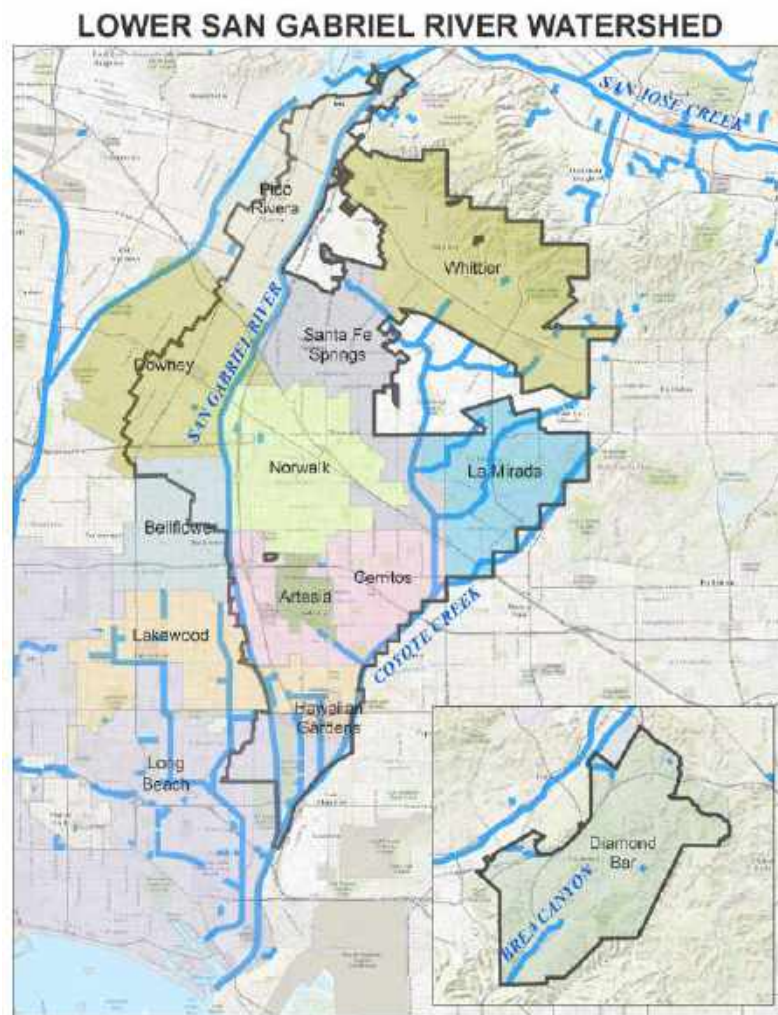


Figure 2, Lower San Gabriel River Watershed. Diamond Bar occupies the most northeasterly part of the Lower San Gabriel River Coordinated Integrated Monitoring Program.

Source: Gateway Water Management Authority. <https://gatewaywater.org/services/lsgf/>

Diamond Bar Watersheds

Diamond Bar is served by four watersheds, all with some channelization/urbanization: Tonner Canyon Creek, Diamond Bar Creek, Brea Canyon Creek, and San Jose Creek. Each system supports riparian habitat that provides resources for protected/special-status species. The following discussions describe each of these four drainage systems.

1. Tonner Canyon

With a watershed of 5,000 acres and very little development, Tonner Canyon ranks among the most ecologically significant, unchannelized, largely undisturbed drainages in the Los Angeles area (HFE 2018). Occupying parts of Los Angeles, San Bernardino and Orange Counties, Tonner Canyon drains the southeastern side of Diamond Bar and the northwestern side of the City of Chino Hills. The flow rate, controlled by natural rills, gullies and washes, varies throughout the year. The canyon's headwaters lie in a bowl of low hills just south of Diamond Ranch High School. Roughly 1.4 miles downstream, Grand Avenue cuts across the watershed, and just downstream from that road crossing lies the small Arnold Reservoir. Below the reservoir's dam, water flows southwest through natural open space lands the City of Industry has purchased from the Boy Scouts of America in recent years. After flowing for approximately a mile through open, rolling hills, the creek then enters a narrower canyon, with steeper hills on either side. At that point, the willow-, sycamore-, and oak-dominated riparian vegetation becomes more developed. The creek flows another six miles south and west to empty into Brea Creek, located near the 57 Freeway in the Coyote Creek drainage basin of Orange County.

2. Diamond Bar Creek

Originating in the neighborhoods west of Diamond Ranch High School, Diamond Bar Creek runs approximately 1.2 miles to the west, through Sycamore Canyon Park, and then continues west of Golden Springs Road through Diamond Bar Golf Course, and from there underneath the 57 and 60 Freeways, to a channel east of the freeway that is tributary to San Jose Creek. The upper segment, from Leyland Drive through the Sycamore Canyon Park, supports well-developed native sycamore/oak/willow riparian woodlands. The segment passing through Diamond Bar Golf Course supports broken, partially native riparian habitat.

3. Brea Canyon Creek

The southwestern part of Diamond Bar, including the "Brea Canyons" neighborhood east of the 57 Freeway, drains south toward Coyote Creek via Brea Canyon Creek. Most of this watershed is fully developed within the limits of Diamond Bar, but the southernmost portion, near the terminus of Castle Rock Road, is a soft-bottomed perennial creek that supports riparian vegetation.

4. San Jose Creek – South Branch/Fork

Located at Diamond Bar’s northwestern edge, the southern branch of San Jose Creek is a concrete-lined, trapezoidal channel that collects a small portion of urban runoff that is discharged north of the intersection of Sunset Crossing Road and North Diamond Bar Blvd. Runoff collected from catch basins drains west toward San Jose Creek in the City of Industry. At the eastern terminus of Back Lot Lane, in the City of Walnut, lies very small patch of riparian vegetation consisting of native and exotic trees and shrubs.

Flooding

Flood insurance maps issued by the Federal Emergency Management Agency (FEMA)², showing areas that may be subject to flooding in 100-year storm events, indicate that Diamond Bar is at low risk for major flood events. Only a limited section of the City, located north of SR-60 (Reed Canyon Channel at Brea Canyon Road and Lycoming Street) are a slightly elevated flood potential. Surrounding areas at potentially elevated risk of flooding include locations north of the 57 Freeway (across Baker Parkway) and an area covering roughly 2,000 acres near the border with Pomona.

An extensive system of concrete-lined drainages, many of which are independent of the natural streambeds, carries runoff through the City. Areas considered to be at elevated risk of flooding may require maintenance of drainage channels, which can include removal of native wetland and riparian vegetation, to maintain the flow of water through the stormwater system. Diamond Bar’s generally low risk for flooding allows for native riparian vegetation to be retained in natural streambeds, which can develop into important habitat for various wildlife species.

BIOLOGICAL RESOURCES

Natural Communities

This section briefly describes the Natural Communities (also known as “plant communities” or “vegetation types”) that occur in Diamond Bar and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits). The following discussions of Natural Communities refer to Natural Open Space Areas in the City and its Sphere of Influence, which are mapped subsequently (see Figures 3a–3d, starting on page 12). Please refer also to Appendix A, which describes the State-recommended methods used to classify Natural Communities for this report.

² Los Angeles county Flood Zone Definitions, See <http://dpw.lacounty.gov/wmd/floodzone/docs/FZDLegend.pdf>

ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS

Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence

The bottom of Tonner Canyon supports extensive grasslands. Most alliances of the widespread “California annual grassland” are not identified as Sensitive by CDFW, as they generally represent areas disturbed over long periods (e.g., by grazing) that no longer support many native plant species. Among the most prevalent alliances in the Diamond Bar area is “annual brome grassland.” Dominant species include ripgut brome (*Bromus diandrus*), foxtail brome (*Bromus madritensis* ssp. *rubens*), wild oats (*Avena fatua*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), shortpod mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), Italian thistle (*Carduus pycnocephalus*), and tocalote (*Centaurea melitensis*). Some disturbance-adapted native forbs, such as common fiddleneck (*Amsinckia intermedia*) and arroyo lupine (*Lupinus succulentus*), may also occur.

Areas of perennial grassland, distinguished by possessing non-trace cover of native grasses, are identified as Sensitive by CDFW. As examples, the *Nassella* spp. – *Melica* spp. herbaceous alliance is characterized by having at least 2–5 percent cover of native needlegrass (*Nassella* spp.) or other native grasses³; and the *Bromus carinatus* – *Elymus glaucus* herbaceous alliance has California brome (*Bromus carinatus*) characteristically present, with native plants providing more than 10 percent relative cover.⁴ It is likely that vernal pools/seasonal ponds occur in the site’s grasslands, and/or along dirt roads that pass through other Natural Communities.

Special-status species known to occur in Diamond Bar’s grasslands, or that have potential to occur there, include Catalina mariposa lily (*Calochortus catalinae*) small-flowered microseris (*Microseris douglasii* ssp. *platycarpa*), Golden Eagle (*Aquila chrysaetos*), and Grasshopper Sparrow (*Ammodramus savannarum*).

COASTAL SAGE SCRUB, CACTUS SCRUB

Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence

Hillsides throughout the Puente Hills support stands of coastal sage scrub and cactus scrub, and this includes the dry, exposed slopes of Diamond Bar. Dominant native shrubs species in coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), coyote brush (*Baccharis pilularis*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Within the Study Area, cactus scrub is dominated by a combination of coastal prickly-pear (*Opuntia littoralis*) and shrubs characteristic of coastal sage scrub. The CDFW recognizes most of these scrub/cactus

³ <http://vegetation.cnps.org/alliance/536>

⁴ <http://vegetation.cnps.org/alliance/499>

alliances as Sensitive Natural Communities⁵ in their own right, and they often support special-status plant and/or wildlife species, such as intermediate mariposa lily (*Calochortus weedii* ssp. *intermedius*), Hubby's phacelia (*Phacelia hubbyi*), Coastal California Gnatcatcher (*Polioptila californica californica*), and Cactus Wren (*Campylorhynchus brunneicapillus*).

CHAPARRAL

Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence

On Diamond Bar's north- and east-facing slopes, coastal sage scrub is replaced by taller and denser shrubs and trees with greater requirements for moisture and shade. The mosaic consists of three main Natural Communities: chaparral, oak woodland, and walnut woodland. The lowland form of chaparral found in the study area is dominated by such species as laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), sugarbush (*Rhus ovata*), chaparral honeysuckle (*Lonicera subspicata*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Special-status species associated potentially found in chaparral in Diamond Bar include Fish's milkwort (*Polygala cornuta* var. *fishiae*) and the San Bernardino Ringneck Snake (*Diadophis punctatus modestus*).

COAST LIVE OAK WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence

Coast Live Oak Woodland, several associations of which are recognized as Sensitive by CDFW, is characterized by stands of coast live oak (*Quercus agrifolia*), and in some areas Engelmann oak (*Quercus engelmannii*), often growing together with chaparral and walnut woodland, on Diamond Bar's north- and east-facing slopes, as well as in the bottoms of some drainage courses. Oak savannah, characterized by scattered oaks growing in grassland, occurs in limited pockets and may be associated with human disturbance of oak woodlands. Coast live oaks are valuable to a variety of native wildlife, and are frequently utilized by nesting owls and hawks. Special-status species that may be found in oak woodlands in the Study Area include the Southern California Shoulderband Snail (*Helminthoglypta tudiculata*), Trask's Shoulderband Snail (*Helminthoglypta traskii*), and Long-eared Owl (*Asio otus*).

CALIFORNIA WALNUT WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence

This Natural Community, recognized as Sensitive by CDFW, is characterized by stands of southern California black walnut (*Juglans californica*) growing in association with chaparral and coast live oak woodland on Diamond Bar's north- and east-facing slopes. Walnut savannah, characterized by scattered walnuts growing in grassland, occurs in limited pockets and may be associated with human disturbance of walnut woodlands.

⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609>

Special-status species that may be found in walnut woodlands and walnut savannah in Diamond Bar include the species indicated previously for oak woodlands and chaparral.

RIPARIAN SCRUB AND WOODLANDS

Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence

Various forms of riparian scrub and woodland, nearly all of them recognized as Sensitive by CDFW, grow along streambeds in Diamond Bar. The dominant vegetation consists of willows, such as arroyo willow (*Salix lasiolepis*) and red willow (*S. laevigata*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), southern California black walnut (*Juglans californica*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Special-status species that may be found in riparian woodlands in Diamond Bar include the rough hedge-nettle (*Stachys rigida* var. *rigida*), Western Pond Turtle (*Emys marmorata*), Yellow-breasted Chat (*Icteria virens*), and Yellow Warbler (*Setophaga petechia*).

HUMAN-ALTERED HABITATS

Developed areas, such as turfed/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident ducks and other waterfowl.

Natural Open Space Areas

Figures 3a–3d, starting on the next page, depict 13 areas of extensive (>25 acres) native/naturalized habitat in Diamond Bar. Also depicted are Diamond Bar Golf Course and Tonner Canyon/Significant Ecological Area 15, within the city's Sphere of Influence. The figures also show potential habitat connections/choke points for wildlife movement between blocks of natural open space. Figures 3a–3d provide a basis for generally characterizing the existing ecological conditions within Diamond Bar and its Sphere of Influence, without accounting for such distinctions as the boundaries of parklands or private lots.

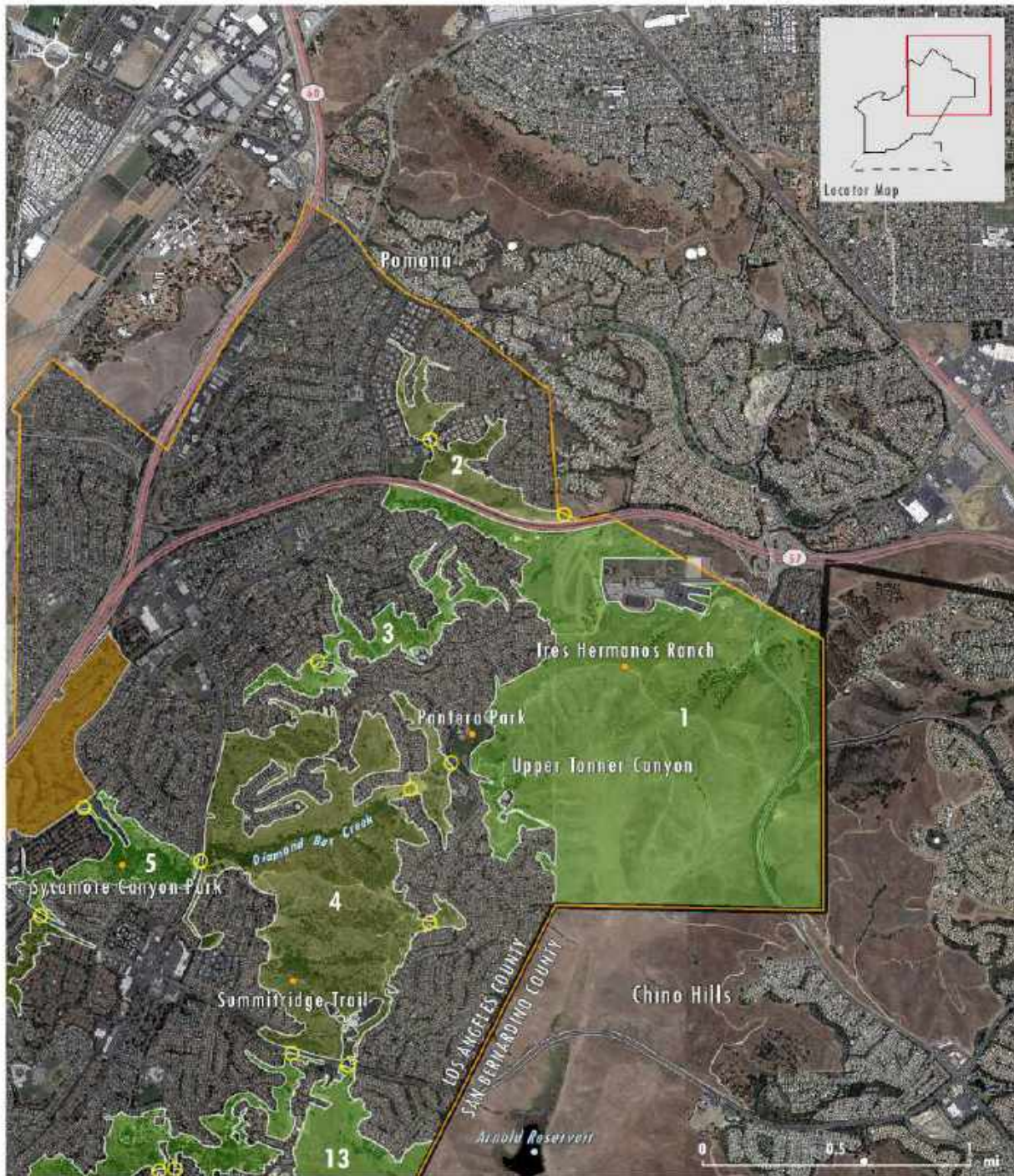


Figure 3a. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000, Graphic Scale Units: Miles.



Figure 3b. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000, Graphic Scale Units: Miles.

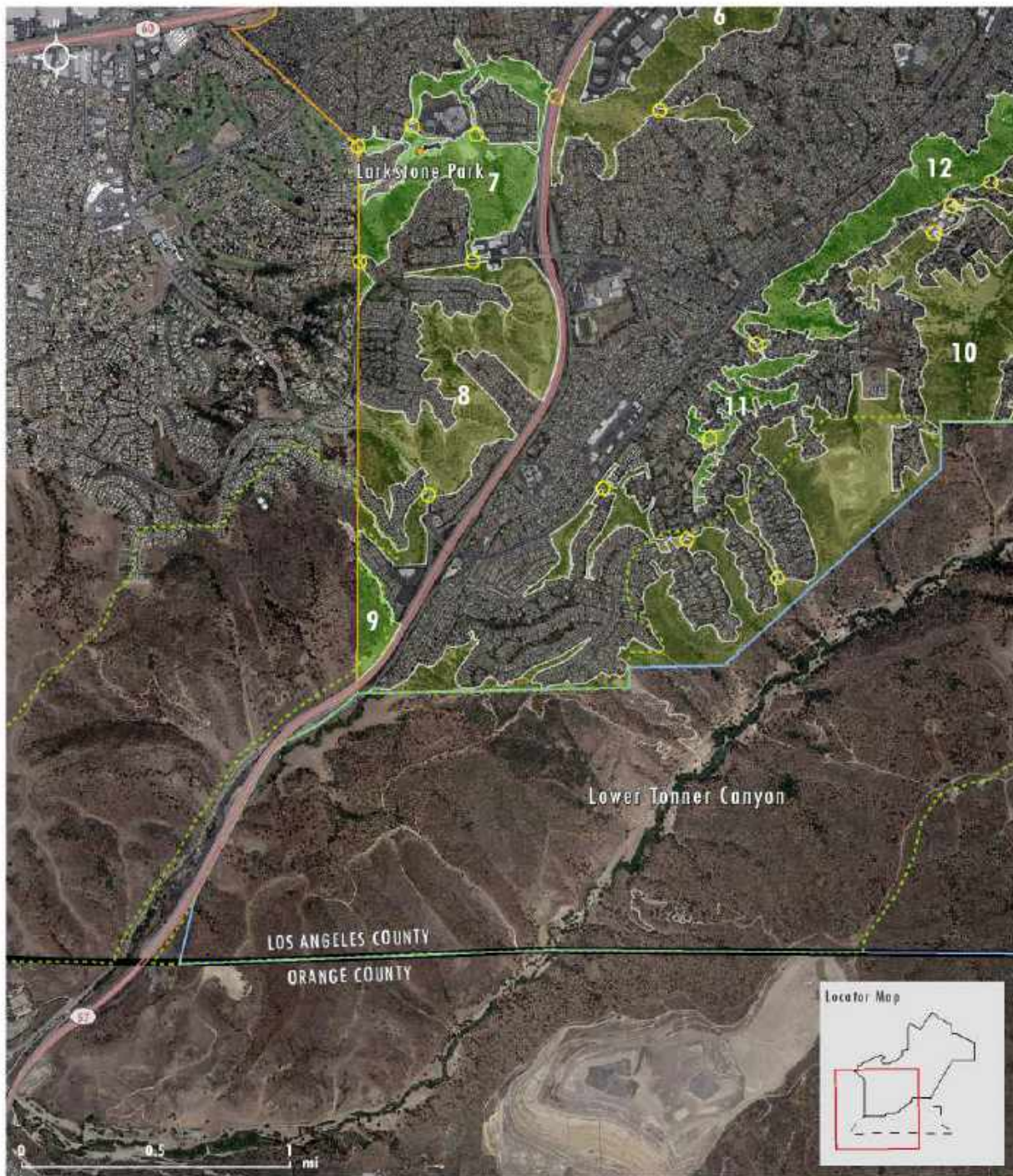



Figure 3c. Natural Open Space Areas

- | | | | |
|---|-------------------------|---|---|
|  | Diamond Bar City Limits |  | Natural Open Space Area |
|  | Sphere of Influence |  | SEA 15 |
|  | Diamond Bar Golf Course |  | Potential Habitat Linkages/Choke Points |
|  | County Line | | |


HAMILTON BIOLOGICAL
 World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits; Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator; Datum: WGS84; Map Scale 1:38,000. Graphic Scale Units: Miles.

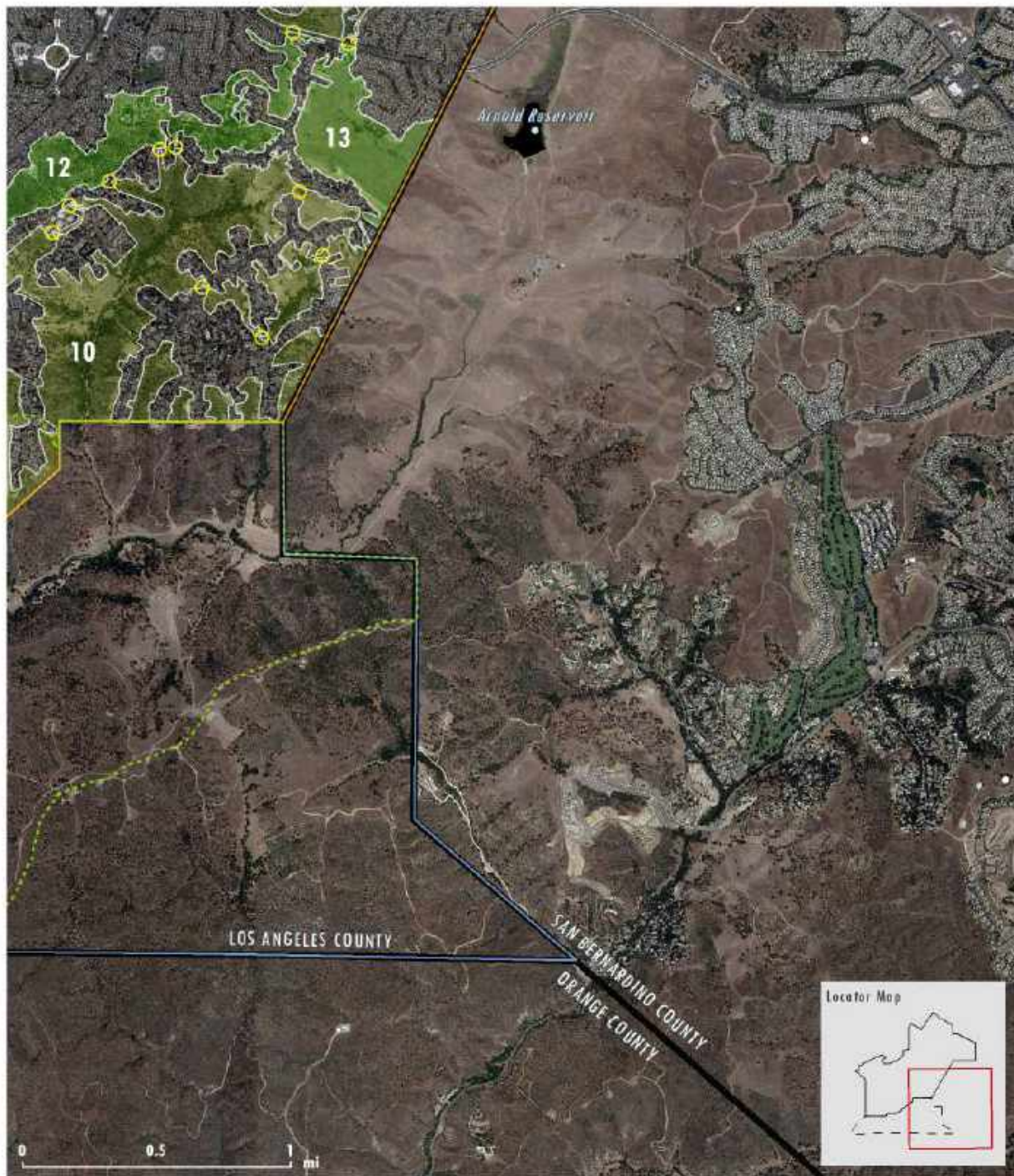


Figure 3d. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000. Graphic Scale Units: Miles.



Resource Protection Recommendations

Resource Protection Recommendations

Table A, below, describes and characterizes the ecological characteristics of each mapped natural open space area at a general level of detail appropriate for a General Plan. Recommendations are made for the establishment of biological protection overlays for sensitive habitat areas with high ecological values (e.g., native woodlands and coastal sage scrub). Note that sensitive natural resources (e.g., special-status species) and/or important ecological functions (e.g., movement of wildlife) could also occur outside of the identified areas. More detailed, project-specific surveys would be required to accurately and adequately describe the ecological resources found in any open space area.

Table A. Resource Protection Recommendations

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
1	926	<p>Largest block of natural open space in Diamond Bar, including Pantera Park and northern part of Tres Hermanos Ranch.</p> <p>Grassland, Coastal Sage Scrub, Cactus Scrub, Chaparral, Oak Woodland, Walnut Woodland, Riparian, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) native scrub habitats with documented populations of California Gnatcatcher and Cactus Wren, (c) wetland and riparian habitats, and (d) native woodlands; maintain and fortify habitat connections and wildlife movement opportunities; minimize loss, fragmentation, and degradation of Natural Communities.</p>
2	64	<p>Only large block of natural open space in Diamond Bar north of 60 Freeway.</p> <p>Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak Woodland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
3	72	<p>“Island” of natural open space between Charmingdale Road and Armitos Place.</p> <p>Coast Live Oak Woodland, Coastal Sage Scrub, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>
4	438	<p>Includes Summitridge Park and Steep Canyon/Diamond Bar Creek.</p> <p>Coastal Sage Scrub, Cactus Scrub, Oak Woodland, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats with documented populations of California Gnatcatcher and Cactus Wren, wetland and riparian habitats, and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
5	62	<p>Includes Sycamore Canyon Park/Diamond Bar Creek.</p> <p>Coastal Sage Scrub, Cactus Scrub, Oak Woodland, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats, wetland and riparian habitats, and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
6	196	<p>Slopes east of City Hall.</p> <p>Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Chaparral, Grassland, Coastal Sage Scrub, Human-altered Habitats, Riparian.</p> <p>Establish biological protection overlay to conserve native woodlands and savannah; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
7	154	<p>Includes Larkstone Park.</p> <p>Coast Live Oak Woodland, Oak Savannah, Coastal Sage Scrub, Chaparral, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native woodlands, wetland and riparian habitats, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
8	231	<p>West of 57 Freeway, south of Pathfinder Road.</p> <p>Oak Woodland, Oak/Walnut Savannah, Coastal Sage Scrub, Chaparral, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native woodlands and savannah, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
9	27	<p>Southwestern corner.</p> <p>Oak Woodland, Chaparral, Grassland.</p> <p>Establish biological protection overlay to conserve native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>
10	712	<p>Tonner Canyon tributaries.</p> <p>Chaparral, Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Coastal Sage Scrub, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats, wetland and riparian habitats, and native woodlands and savannah; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
11	39	<p>Southwestern section of The Country; part of Significant Ecological Area 15.</p> <p>Oak Woodland, Chaparral, Grassland.</p> <p>Establish biological protection overlay to conserve native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
12	197	<p>Slopes west of Ridge Line Road.</p> <p>Oak Woodland, Walnut Woodland, Chaparral, Grassland, Coastal Sage Scrub, Human-altered Habitats, Riparian.</p> <p>Establish biological protection overlay to conserve native woodlands, wetland and riparian habitats, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
13	100	<p>Northeastern part of The Country, adjacent to Tres Hermanos Ranch.</p> <p>Grassland, Coastal Sage Scrub, Chaparral, Oak Woodland, Riparian, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) wetland and riparian habitats, and (c) native woodlands; maintain and fortify habitat connections and wildlife movement opportunities; minimize loss, fragmentation, and degradation of Natural Communities.</p>
Diamond Bar GC	174	<p>Golf course that provides wildlife habitat.</p> <p>Riparian, Human-altered Habitats (including man-made pond).</p> <p>Conserve wetland and riparian habitats; maintain and fortify habitat connections and wildlife movement opportunities.</p>
Sphere of Influence	3,513	<p>Large and important area of natural open space south of Diamond Bar, including Pantera Park and northern part of Tres Hermanos Ranch; heart of Significant Ecological Area 15.</p> <p>Chaparral, Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Riparian, Grassland, Coastal Sage Scrub.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) wetland and riparian habitats, (c) native woodlands, and (d) native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities.</p>

Sensitive Resources

This biological resources report acknowledges federal, state, and local laws and ordinances designed to protect and conserve sensitive resources, and identifies City policies designed to help achieve this objective. For purposes of this report, a sensitive resource refers to any of the following:

- A Natural Community recognized as having special-status by federal, State, and/or local governments, and requiring a permit or agreement prior to its disturbance.
- A plant or animal species identified by federal or state governments as endangered, threatened, rare, protected, sensitive, or a Species of Special Concern.
- A plant or animal that listed by a state or federal agency as a candidate species or proposed for state or federal listing.

SENSITIVE NATURAL COMMUNITIES

The State of California identifies as “Sensitive” the following Natural Communities that occur in Diamond Bar and its Sphere of Influence:

- Native Grasslands.
- Coastal Sage Scrub.
- Coast Live Oak Woodland (*Q. agrifolia/Juglans californica*; *Q. agrifolia/Q. berberidifolia/x acutidens*; *Q. agrifolia/Salvia leucophylla – Artemisia californica*; *Q. agrifolia/Salix lasiolepis*)⁶.
- California Walnut Woodland.
- Riparian Scrub and Woodland.

SPECIAL-STATUS SPECIES

In the following Table B, special-status plants and wildlife judged to have potential to occur within Diamond Bar and its Sphere of Influence are identified and briefly discussed. The potential for occurrence (low, moderate, high, or known to be present) is based upon consideration of the species’ habitat requirements and the distribution of previous verified or highly credible records.

Table B uses the following abbreviations:

- **E** **Endangered** (listed by State or Federal governments). “Take” of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **FP** **Fully Protected** by the State of California. These species may not be taken or possessed at any time, although take may be authorized for necessary scientific research.
- **T** **Threatened** (listed by State or Federal governments). “Take” of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **SSC** **Species of Special Concern.** The California Department of Fish and Wildlife has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as Species of Special Concern is to halt or reverse their decline by

⁶ In addition to the four coast live oak associations designated as “Sensitive” by CDFW, oak woodlands within the unincorporated Sphere of Influence are subject to the Los Angeles County Oak Woodlands Conservation Management Plan pursuant to California Public Resources Code Section 21083 (requires a county, when acting as a CEQA Lead Agency, to determine whether a proposed project “may result in a conversion of oak woodlands that will have a significant effect on the environment”).

calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all Species of Special Concern have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a Threatened or Endangered species under the State and/or Federal Endangered Species Acts.

- **CNPS California Native Plant Society.** Table B includes plant species assigned the following ranks by CNPS:
 - **1B.1**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
 - **1B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat).
 - **1B.3**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; not very threatened in California (less than 20% of occurrences threatened / moderate degree and immediacy of threat).
 - **2B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California, but more common elsewhere; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.1**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (>80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.2**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.3**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).
- **NatureServe Element Rankings.** In some cases, species have not been granted special status by state or federal agencies, but they may be recognized as ecologically sensitive by the California Natural Diversity Database (CNDDB), which uses a ranking methodology maintained by NatureServe. Species are given a Global rank (G-rank) that applies to the taxon's entire distribution, and a State rank (S-rank) that applies to the taxon's state distribution. Taxa with rankings of G1, G2, G3, S1, S2, or S3 may be considered "sensitive" and potentially worthy of special consideration in resource planning. NatureServe Element Rankings are identified in Table B only for taxa that have no other federal or state special status.

NatureServe Ranks:

- **G1, Critically Imperiled**, referring to taxa at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- **G2, Imperiled**, referring to taxa at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- **G3, Vulnerable**, referring to taxa at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- **S1, Critically Imperiled**, referring to taxa critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- **S2, Imperiled**, referring to taxa imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- **S3, Vulnerable**, referring to taxa vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

Table B. Special-Status Species

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
Plants						
<i>Astragalus brauntonii</i>	Braunton's Milk-Vetch	E	—	1B.1	Associated with calcareous soils. Unrecorded in the Puente Hills, but populations to the northwest (San Gabriel Mts.) and southeast (Chino Hills, Santa Ana Mts.).	Moderate potential to occur in calcareous substrate, if present. Detectable only after fire or other disturbance.
<i>Brodiaea filifolia</i>	Thread-leaved Brodiaea	—	—	1B.1	Associated with clay soils. Unrecorded in the Puente Hills, but populations to the north (San Gabriel Mts.) and southeast (Santiago Hills).	Low potential to occur in vernal pools, grasslands, or openings in coastal sage scrub.
<i>Calochortus catalinae</i>	Catalina Mariposa Lily	—	—	4.2	Widespread in region, occurring in clay soils.	Occurs in grasslands or openings in coastal scrub or chaparral.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender Mariposa Lily	—	—	1B.2	Unrecorded in the Puente Hills; populations to the northwest (San Gabriel Mts.).	Low potential to occur in openings in coastal scrub or chaparral.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Calochortus plummerae</i>	Plummer's Mariposa Lily	—	—	4.2	Several recent records of <i>C. weedii intermedius</i> from hills south of Diamond Bar, within the City's Sphere of Influence, may be <i>C. plummerae</i> hybrids.	Potentially present. Occurs in openings in coastal sage scrub or chaparral.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate Mariposa Lily	—	—	1B.2	Several recent records from hills south of Diamond Bar, within the City's Sphere of Influence, identified as <i>C. weedii intermedius</i> , but with potential for hybridization with <i>C. plummerae</i> .	Occurs in openings in coastal sage scrub and chaparral.
<i>Convolvulus simulans</i>	Small-flowered Morning-glory	—	—	4.2	Scattered records from the region, including an old record from 1 mile east of Brea.	Moderate potential to occur in grasslands or openings in coastal sage scrub. Found in moist areas.
<i>Dudleya multicaulis</i>	Many-stemmed Dudleya	—	—	1B.2	Recorded close to Diamond Bar, in west Pomona.	Moderate potential to occur in openings in coastal sage scrub or chaparral.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa Horkelia	—	—	1B.1	Unrecorded in the Puente Hills; scattered records across the region.	Low to moderate potential to occur in sandy openings in chaparral and oak woodland.
<i>Juglans californica</i>	Southern California Black Walnut	—	—	4.2	Widespread in region, including Diamond Bar and its Sphere of Influence.	Walnut and oak/walnut woodlands occur throughout Diamond Bar and surrounding hills.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's Peppergrass	—	—	4.3	Numerous historical records from the county's interior foothills, including the western Puente Hills; a few recent records in and near Diamond Bar.	Occurs in openings in coastal sage scrub and chaparral.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i>	Small-flowered Microseris	—	—	4.2	Recorded in Diamond Bar, south of Diamond Ranch High School.	Occurs in grasslands.
<i>Phacelia hubbii</i>	Hubby's Phacelia	—	—	4.2	Several recent records from Pomona, Whittier, and the Santa Ana Mountain foothills.	High potential to occur in openings in chaparral or coastal scrub, such as along edges of roads and trails.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Piperia cooperi</i>	Cooper's Rein-Orchid	—	—	4.2	Unrecorded in the Puente Hills; historical records from as close as Claremont and the Santa Ana River Canyon.	Low potential to occur in oak/walnut woodlands, chaparral, or coastal sage scrub.
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's Milkwort	—	—	4.3	Recorded in Chino Hills State Park and San Gabriel Mts.	Moderate to high potential to occur in oak/walnut woodlands or chaparral.
<i>Pseudognaphalium leucocephalum</i>	White Rabbit-tobacco	—	—	2B.2	Unrecorded in the Puente Hills; few recent records from surrounding areas.	Low potential to occur in any sandy wash habitat that may exist in the study area.
<i>Quercus engelmannii</i>	Engelmann Oak	—	—	4.2	Recorded in the Chino/Puente Hills, La Habra and Yorba Linda USGS quads.	Moderate potential to occur in oak/walnut woodlands.
<i>Senecio aphanactis</i>	California Groundsel	—	—	2B.2	Historical records from San Dimas; few recent records from surrounding areas.	Moderate potential to occur in chaparral, oak/walnut woodlands, or coastal sage scrub.
<i>Symphyotrichum defoliatum</i>	San Bernardino Aster	—	—	1B.2	Historical records from southeastern Los Angeles County. Presumed extirpated.	Very low potential to occur in moist areas, meadows.
Invertebrates						
<i>Bombas crotchii</i>	Crotch's Bumblebee	—	S1S2	—	Historical and recent records scattered around southern California.	High potential to occur in various habitats.
<i>Helminthoglypta tudiculata</i>	Southern California Shoulder-band Snail	—	S1S2	—	Numerous records from coastal slope of southern California.	High potential to occur in various habitats.
<i>Helminthoglypta traskii traskii</i>	Trask's Shoulder-band Snail	—	G1G2 S1	—	Numerous records from coastal slope of southern California.	High potential to occur in various habitats.
Amphibians						
<i>Taricha torosa</i>	Coast Range Newt	—	SSC	—	Not known from Chino Hills. Nearest records in San Gabriel Mts.	Low potential to occur in and around permanent water.
<i>Spea hammondi</i>	Western Spadefoot	—	SSC	—	Widespread in region but limited to expansive natural open space areas.	Moderate to high potential to occur in extensive grasslands and adjacent communities with temporary rain-pools for breeding.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
Reptiles						
<i>Emys marmorata</i>	Western Pond Turtle	—	SSC	—	Found in expansive natural areas, in and around permanent water that lacks non-native turtles or exotic predators.	Large population known from Brea Creek; probably occurs elsewhere in the study area. Occurs in creeks and ponds; lays eggs in nearby uplands.
<i>Phrynosoma blainvillii</i>	Coast Horned Lizard	—	SSC	—	Found in expansive natural areas with sandy openings and native harvester ants.	High potential to occur in areas of extensive chaparral, coastal sage scrub, and grassland.
<i>Aspidoscelis tigris stejnegeri</i>	Coastal Whiptail	—	SSC	—	Widespread in the region, in various habitats.	Occurs in chaparral and coastal sage scrub.
<i>Anniella stebbinsi</i>	So. California Legless Lizard	—	SSC	—	Local in a variety of habitats with sandy soil or deep leaf-litter.	Moderate potential in chaparral and chaparral/oak habitats.
<i>Lampropeltis zonata pulchra</i>	San Diego Mountain Kingsnake	—	SSC	—	Widespread in the region, in various habitats.	Moderate potential to occur in chaparral, coastal sage scrub, oak woodlands, and along streams.
<i>Arizona elegans occidentalis</i>	California Glossy Snake	—	SSC	—	Widespread, but uncommon, in habitats with soil loose enough for easy burrowing.	Moderate potential to occur in areas that have extensive patches of loose soil.
<i>Salvadora hexalepis virgulata</i>	Coast Patch-nosed Snake	—	SSC	—	Widespread in the region, in brushy and rocky habitats.	Moderate potential to occur in chaparral, coastal sage scrub, oak woodlands, and along streams.
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	—	SSC	—	Widespread in the region, in and around perennial water.	Moderate potential to occur near perennial water.
<i>Crotalus ruber</i>	Red Diamond Rattlesnake	—	SSC	—	Widespread in the region.	Occurs in cactus scrub, coastal sage scrub, and chaparral.
Birds						
<i>Geococcyx californianus</i>	Greater Roadrunner	—	—	—	Widespread in expansive natural areas with shrub cover. Sensitive species in Los Angeles County (Allen et al. 2009).	Resident in coastal sage scrub and chaparral habitats.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Aquila chrysaetos</i>	Golden Eagle	—	FP	—	Formerly widespread in many habitats, but now limited to expansive natural areas. Nests on cliffs and in tall trees away from settlements.	Regularly observed foraging in northeastern part of study area. Pair appears to be resident in the Chino Hills/Diamond Bar area; nesting status unknown. Additional birds may occur during migration/winter.
<i>Circus hudsonius</i>	Northern Harrier	—	SSC	—	Nests on the ground in expansive open space areas; more widespread during migration and winter.	Winters in open grassland habitats. Moderate potential to nest in the northeastern and southern parts of study area.
<i>Elanus leucurus</i>	White-tailed Kite	—	FP	—	Nests in trees within expansive open space areas; more widespread during migration and winter. Forages in rangelands and marshy areas.	One or more observed near Diamond Ranch High School on unspecified date (Sage Environmental Group 2012). High potential to occur in migration and winter, especially in northeastern and southern parts of study area. Moderate potential to nest in the northeastern or southeastern parts of the study area.
<i>Buteo regalis</i>	Ferruginous Hawk	—	—	—	Winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Moderate to high potential to occur in migration and winter, in northeastern and southern parts of study area. Does not nest in the region.
<i>Athene cunicularia</i>	Burrowing Owl	—	SSC	—	Nesting population west of the deserts nearly extirpated. Winters rarely and locally, usually in expansive open space areas.	Likely extirpated as nesting species in Diamond Bar area. Moderate potential to occur in migration and winter, especially in northeastern and southern parts of study area.
<i>Asio otus</i>	Long-eared Owl	—	SSC	—	Resident in oak woodlands, typically >1 km from urban areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Low to moderate potential to occur in woodlands in southeastern part of study area.
<i>Asio flammeus</i>	Short-eared Owl	—	SSC	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Low potential to occur in migration and winter, in northeastern and southern parts of study area. Does not nest in the region.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Falco mexicanus</i>	Prairie Falcon	—	—	—	Winters in expansive rangelands and agricultural areas in the region. Nests on remote cliffs. Sensitive species in Los Angeles County (Allen et al. 2009).	Low to moderate potential to occur in migration and winter, in northeastern and southern parts of study area. Unlikely to nest due to lack of remote cliffs.
<i>Empidonax traillii</i>	Willow Flycatcher	E	E	—	Does not nest in the local area. Uncommon during migration.	No potential for nesting. Species occurs in the study area regularly during migration periods.
<i>Lanius ludovicianus</i>	Loggerhead Shrike	—	SSC	—	Nests rarely in the region, in expansive open space areas; more widespread in migration and winter. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur in migration and winter, especially in northeastern and southern parts of study area. Low to moderate potential to nest in the study area.
<i>Vireo bellii bellii</i>	Least Bell's Vireo	E	E	—	Nests uncommonly in riparian scrub and woodlands, often in mulefat (<i>Baccharis salicifolia</i>) or willow (<i>Salix</i> spp.).	Moderate potential to nest in riparian habitats, especially in Tonner Canyon.
<i>Eremophila alpestris</i>	Horned Lark	—	—	—	Nests and winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Low potential to occur in the northeastern and southern parts of study area.
<i>Campylorhynchus brunneicapillus</i>	Cactus Wren, coastal populations	—	SSC	—	Rare and declining resident of cactus scrub habitat.	Resident in well-developed cactus scrub, including Summitridge Park, Pantera Park, Steep Canyon, and hills south of Diamond Ranch High School.
<i>Poliophtila californica californica</i>	Coastal California Gnatcatcher	T	SSC	—	Uncommon resident in coastal sage scrub habitat, favoring shallow slopes and elevations below 1,500 feet.	Resident in coastal sage scrub and cactus scrub, including Summitridge Park, Pantera Park, Steep Canyon, and hills south of Diamond Ranch High School.
<i>Sialia currucoides</i>	Mountain Bluebird	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur, at least during some winters, in northeastern and southern parts of study area. Does not nest in the region.
<i>Icteria virens</i>	Yellow-breasted Chat	—	SSC	—	Nests uncommonly in riparian scrub and woodlands.	High potential to nest in riparian habitats, especially in Tonner Canyon.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Setophaga petechia</i>	Yellow Warbler	—	SSC	—	Nests in riparian woodlands.	High potential to nest in riparian habitats, especially in Tonner Canyon.
<i>Poocetes gramineus</i>	Vesper Sparrow	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur in northeastern and southern parts of study area. Does not nest in the region.
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	—	SSC	—	Nests in expansive grasslands and rangelands.	High potential to nest in open grassland and rangeland habitat. Several eBird records from the Diamond Bar area in the 1990s; lack of recent records probably reflects lack of survey effort.
<i>Sturnella neglecta</i>	Western Meadowlark	—	—	—	Nests rarely in the region, in expansive open space areas; widespread in migration and winter. Sensitive species in Los Angeles County (Allen et al. 2009).	Occurs in open areas throughout the study area; moderate potential to nest in the northeastern or southern parts of study area.
<i>Agelaius tricolor</i>	Tricolored Blackbird	—	SSC	—	Nests in wetlands adjacent to expansive grasslands and rangelands required for foraging. Winters in rangelands and parks.	Low potential to nest in the study area. Moderate potential to forage in open grassland and rangeland habitat during the nesting season. Recorded in winter at parks in the study area.
Mammals						
<i>Antrozous pallidus</i>	Pallid Bat	None	SSC	—	Widespread in chaparral and similar habitats, foraging on the ground and in vegetation. Roosts in rock crevices and under tree bark. Maternal roosts active between March and August.	High potential; chaparral and scrub on the site are potentially suitable for foraging and oaks provide potential roosting sites under exfoliating bark and in cavities.
<i>Eumops perotis californicus</i>	Western Mastiff Bat	None	SSC	—	Roosts in cliff crevices and in buildings.	Low potential; the species may fly over the site occasionally while foraging, but suitable cliff roosting habitat probably absent.
<i>Lasiurus blossevillii</i>	Western Red Bat	None	SSC	—	Roosts in foliage of many types of tree; feeds over a wide variety of habitats.	Moderate potential to roost in oak woodlands or landscape trees; high potential to forage over undeveloped areas.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Lasiurus xanthinus</i>	Western Yellow Bat	None	SSC	—	Roosts primarily or entirely in palms; often forages over water.	Moderate potential to roost in palm trees and to forage over water features.
<i>Chaetodipus fallax fallax</i>	NW San Diego Pocket Mouse	None	SSC	—	Scrub habitats with sandy or gravelly soils.	High potential to occur in cactus scrub and coastal sage scrub habitats with suitable soils.
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	None	SSC	—	Widespread in scrub habitats, especially those with cactus.	High potential to occur in cactus-containing scrub.
<i>Lepus californicus bennettii</i>	San Diego Black-tailed Jackrabbit	None	SSC	—	Occurs in various open habitats, usually in expansive open space areas.	Low potential to occur in the northeastern and southern parts of the study area.
<i>Taxidea taxus</i>	American Badger	None	SSC		Occurs in various habitats, usually in expansive open space areas.	Moderate to high potential to occur in the northeastern and southern parts of the study area.

EFFECTS OF DEVELOPMENT ON BIOLOGICAL RESOURCES

The capacity for a given natural open space area to maintain its ecological integrity (e.g., its resistance to invasion by exotic species, capacity to support special-status species) depends upon such considerations as (a) size, with larger natural areas generally possessing greater ecological value than do smaller ones; (b) plant communities represented, with relatively undisturbed native communities generally being more valuable than disturbed non-native communities; and (c) proximity to adjacent open spaces, with areas linked to other natural areas generally possessing greater ecological value compared with areas of similar size that are functionally isolated from other natural areas.

A small, functionally isolated area that provides habitat for a rare plant or wildlife species may have some ecological value, but conservation of such areas may prove to be practically infeasible due to habitat degradation that often occurs near development edges. Ecologically damaging “edge effects” include repeated clearing of habitat for fuel modification leading to replacement of native plants with disturbance-adapted exotic weeds; invasion of natural habitat by exotic ants facilitated by artificial irrigation near homes; predation of birds, reptiles, and mammals by outdoor cats; and changes in wildlife patterns associated with exterior lighting. To avoid perpetuating damaging patterns of development that result in ever-smaller blocks of functionally isolated habitat, the Open Space and Conservation Element must contain land-use policies that encourage the preservation, restoration, and appropriate management of larger blocks of well-connected habitat.

Readers seeking detailed information on these topics, with relevant citations from the scientific literature, should refer to Appendix A.

Edge/Fragmentation Effects on Wildlife Movement

Constricting the movement of wildlife and plant seeds increases the risk of local extinctions. Habitat fragmentation consequently threatens the viability of native plant and wildlife populations in preserved areas. Large areas of habitat, or narrower linkages of habitat between large areas, provide movement opportunities for wildlife. Movement serves to facilitate the geographic distribution of genetic material, thus maintaining a level of variability in the gene pool of an animal population. Influxes of animals from nearby larger populations contribute to the genetic diversity of a local population, helping to ensure the population's ability to adapt to changing environmental conditions. This is mainly accomplished through the dispersal of juveniles from their natal territories, but may also involve movements in response to drought or other adverse environmental conditions, or in response to wildfires or other catastrophic events. Many plant species that depend on relatively sedentary insects for pollination also benefit from habitat linkages that allow for genetic exchange and dispersal. Likewise, plant seeds and propagules can be transported via the feces, fur, or feathers of birds or mammals. Fragmentation effects are not limited to the physical severing of movement routes, such as through the construction of a road or housing development, but can include "edge effects" reviewed and described above. For example, increases in night lighting and noise can disrupt the movement patterns of species not well-adapted to such effects.

WILDLIFE MOVEMENT ISSUES IN THE PUENTE-CHINO HILLS

The Puente-Chino Hills ecosystem encompasses portions of four counties, and the open space network in this area is sometimes referred to as the "Puente-Chino Hills Wildlife Corridor." Preserving land in the corridor has been a cooperative endeavor with other public agencies and many nonprofit organizations. An important analysis by the Conservation Biology Institute (2005), *Maintaining Ecological Connectivity Across the "Missing Middle" of the Puente-Chino Hills Wildlife Corridor*, describes the situation as follows (page v):

The Puente-Chino Hills Wildlife Corridor is a peninsula of mostly undeveloped hills jutting about 42 km (26 miles) from the Santa Ana Mountains into the heart of the densely urbanized Los Angeles Basin. Intense public interest in conserving open space here has created a series of reserves and parks along most of the corridor's length, but significant gaps in protection remain. These natural habitat areas support a surprising diversity of native wildlife, from mountain lions and mule deer to walnut groves, roadrunners, and horned lizards. But maintaining this diversity of life requires maintaining functional connections along the entire length of the corridor, so that wildlife can move between reserves—from one end of the hills to the other.

Already the corridor is fragmented by development and crossed by numerous busy roads, which create hazards and in some cases barriers to wildlife movement. Proposed developments threaten to further degrade or even sever the movement corridor, especially within its so-called "Missing Middle." This mid-section of the corridor system, stretching from Tonner Canyon on the east to Harbor Boulevard on the west, includes several large properties proposed for new housing, roads, golf courses, and reservoirs. Such

developments would reduce habitat area and the capacity to support area-dependent species and, if poorly designed, could block wildlife movement through the corridor.

The above-quoted report considered numerous studies of wildlife movement conducted in the Puente-Chino Hills, and other relevant literature on wildlife movement corridors, and recommended “conservation and management actions to prevent further loss of ecological connectivity and retain native species.” The “Missing Middle” analysis identified the following wildlife movement issues specifically relevant to Diamond Bar and its Sphere of Influence:

- Tonner Canyon Bridge represents the only viable location for deer, mountain lions, bobcats, and other species to pass under the 57 Freeway.
- Any development in middle and especially lower Tonner Canyon could have severe impacts on corridor function, especially if wildlife access to Tonner Canyon Bridge is reduced. Any development that blocks access through the bridge area would make the 57 Freeway a complete barrier to many species and would likely lead to wildlife extirpations in segments farther west.
- An earlier plan to build a road running the length of Tonner Canyon would have split the Chino-Tonner “subcore” in two, potentially rendering dysfunctional the critical Tonner Bridge wildlife undercrossing for wide-ranging species such as the mountain lion, bobcat, and mule deer.
- At least the middle and lower portions of Tonner Canyon should be conserved, including a prohibition on any new road or other development that would fragment this critical habitat block.
- No project should be approved that would increase traffic under the Tonner Bridge or add any new impediments (structures, lights, noise, etc.) to the vicinity of the bridge.
- Restore riparian vegetation along Tonner Creek, where degraded by oil development activities.
- Fencing may be warranted along the 57 Freeway if monitoring suggests road mortality is high.

Planning of any future development in Diamond Bar and its Sphere of Influence should take exceptional care to preserve and enhance the viability of the Puente-Chino Hills Wildlife Corridor.

Regional Planning in the Puente-Chino Hills Wildlife Corridor

Two agencies are specifically involved in planning development and taking conservation actions in and around the Puente-Chino Hills Wildlife Corridor.

The **Wildlife Corridor Conservation Authority (WCCA)** was established to provide for the proper planning, conservation, environmental protection, and maintenance of lands

within and around the Puente-Chino Hills Wildlife Corridor. Its goal is to assure that sufficient continuity of habitat can be preserved to maintain a functioning wildlife corridor made up of about 40,000 acres of land located between the Santa Ana Mountains and Whittier Hills. The governing board of the WCCA consists of representatives from the cities of Brea, Whittier, Diamond Bar, La Habra Heights, the Santa Monica Mountains Conservancy, California Department of Parks and Recreation, California Department of Fish and Game (*ex officio* member), Los Angeles County, and two public members. A large Advisory Committee meets separately to provide input. The WCCA consistently provides comments on development proposals and other projects to support environmentally sensitive activities in the Puente-Chino Hills Wildlife Corridor.

The **Puente Hills Habitat Preservation Authority (PHHPA)** is a public agency, Joint Powers Authority, with a Board of Directors consisting of the City of Whittier, County of Los Angeles, Sanitation Districts of Los Angeles County, and the Hacienda Heights Improvement Association. The jurisdiction of the PHHPA extends from the intersection of the 605 and 60 Freeways east to Harbor Boulevard. The PHHPA is dedicated to the acquisition, restoration, and management of open space in the Puente Hills for preservation of the land in perpetuity, with the primary purpose to protect the biological diversity.

NATURAL RESOURCE CONSERVATION POLICIES

The City of Diamond Bar has developed a suite of conservation measures, presented in this section, designed to allow for the planned growth of the City while protecting and conserving irreplaceable natural communities and their component species. These policies align the local approach to development with the conservation regulations and policies set forth by the federal government (e.g., the federal Endangered Species Act); the State of California (e.g., the California Environmental Quality Act and the California Fish and Game Code); and local entities (e.g., the Los Angeles County Oak Woodlands Conservation Plan; see Los Angeles County Oak Woodlands Habitat Conservation Strategic Alliance 2011, Los Angeles County Dept. of Regional Planning 2014). Prioritizing the identification and protection of sensitive natural resources facilitates efforts of City planners and elected officials to ensure that Diamond Bar remains a beautiful and desirable place to live.

Goals and Policies of the Open Space and Conservation Element

- **RC-I-1.** Obtain and designate Open Space land through acquisition techniques, such as:
 - a. Design new development projects emphasizing preservation of sensitive natural resources, natural geological features, and wildlife corridors and habitat linkages, through site design approaches that include greenbelts, landscaping with locally native, drought-adapted plants, and dedication of a portion of the site as natural open space.

- b. Allow for acquisition of open space lands during the entitlement process through the transfer of densities among land uses of like designation.
 - c. Identify ecologically sensitive/unique habitats, including habitat linkages and choke-points, within the City of Diamond Bar and prioritize their acquisition/preservation/restoration as a preferred form of mitigation for future development.
 - d. Collaborate with land trusts, joint-power authorities, and other conservation groups to acquire and restore open space land through, but not limited to, conservation easements and conservation plans.
- **RC-I-2.** As future parks are developed or open space is acquired/dedicated:
 - a. Preserve sensitive natural communities to maintain ecological integrity and provide for passive recreation opportunities, such as hiking and bird-watching.
 - b. Site trails to avoid removal or fragmentation of sensitive natural communities and to minimize erosion.
 - c. Prohibit the application of use of outdoor pesticide bait stations, or similar, within 500 feet of any natural open space.
- **RC-G-4.** Provide recreational and cultural opportunities to the public in a manner that maintains, restores, protects, and preserves sensitive natural resources in the City of Diamond Bar and its Sphere of Influence.
- **RC-I-12.** Support and cooperate with efforts to identify and preserve environmentally sensitive and strategically located canyon areas and hillsides that serve as wildlife corridors and habitat linkages/choke points within Diamond Bar and its Sphere of Influence, including components of the Puente-Chino Hills Wildlife Corridor, Tres Hermanos Ranch, Tonner Canyon, and Significant Ecological Area (SEA) 15, to provide regional connectivity, and to sustain the ecological function of natural habitats and biological resources.
 - a. Establish appropriate resource protection overlays for ecologically sensitive areas (see page 18 of this report).
 - b. Require adequate biological resources surveys as part of planning of development proposed in any area with potential for special-status species or sensitive natural communities to occur.
 - c. Discourage development in areas with identified sensitive natural resources, natural geological features, and wildlife corridors and habitat linkages/choke points, in order to preserve them in a natural state, unaltered by grading, fill, or diversion activities (except as may be desirable for purposes of habitat restoration and/or facilitation of wildlife movement).

- d. Preserve and restore native woodlands in perpetuity, with a goal of no net loss of existing woodlands, through compliance with Chapter 22.38 of the Diamond Bar – Tree Preservation and Protection.
 - e. In the unincorporated Sphere of Influence, require that impacts to native oak trees be treated in a manner consistent with Section 22.46.2100 of the County of Los Angeles Code of Ordinances, except that in-lieu fees shall not be accepted as mitigation for removal of regulated oaks. If replacement of oaks is determined to be necessary, this should be conducted under a City-administered Tree Mitigation Program developed in consultation with a qualified biologist and Certified Arborist or Certified Urban Forester to establish a to ensure that replacement trees are planted on public property in areas that (a) shall not impact any existing sensitive habitat areas; (b) are appropriate for the long-term survival of native trees planted as mitigation; and (c) shall be maintained and preserved by the city, in perpetuity, as natural open space for the mitigation trees and any associated understory species deemed appropriate to provide valuable woodland habitat.
 - f. For development proposed adjacent to natural open space, require use of highly fire-resistant building materials and methods, which minimize fuel modification treatments.
 - g. In areas adjacent to natural open space, require use of highly fire-resistant building materials and architecture for public safety and to minimize requirements for damaging fuel modification treatments.
 - h. Fuel modification adjacent to natural open spaces should employ exclusively native plant species approved for use in fuel modification zones, which provide important habitat for native wildlife and minimize ongoing irrigation and disturbance of the exterior slopes, reducing the potential for exotic ants and weeds to become established on the site and then spread to nearby natural open space areas.
- **RC-I-28.5.** Conserve natural open spaces, biological resources, and vegetation, recognizing their roles in the reduction and mitigation of air pollution impacts, and the promotion of carbon sequestration.

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
- City of Diamond Bar and Diamond Bar Historical Society. 2014. *Images of America, Diamond Bar*. Arcadia Publishing, Charleston, South Carolina.
- Conservation Biology Institute. 2005. *Maintaining Ecological Connectivity Across the "Missing Middle" of the Puente-Chino Hills Wildlife Corridor*. Encinitas, CA.
<https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/pcmismissingmiddle.pdf>

- Dyett & Bhatia. 2017. City of Diamond Bar General Plan Update, Existing Conditions Report – Volume III. Redline draft dated February 21, 2017, prepared for City of Diamond Bar.
- Los Angeles County, Dept. of Regional Planning. 2014. Los Angeles County Oak Woodlands Conservation Management Plan Guide. Report dated March 18, 2014.
http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf
- Los Angeles County Oak Woodlands Habitat Conservation Strategic Alliance. 2011. Los Angeles County Oak Woodlands Conservation Management Plan. Report dated May 2011.
https://file.lacounty.gov/SDSInter/bos/bc/162273_official_20110620_oak-woodlands.pdf
- Lower San Gabriel River Watershed Group. 2015. Lower San Gabriel River Watershed Management Program.
<https://www.waterboards.ca.gov/rwqcb4/waterissues/programs/stormwater/municipal/watershedmanagement/sangabriel/lowersangabriel/LowerSGRiverFinalWMP.pdf>
- Neal, S. 2011. Brea History – the Brea Creek. Brea Historical Society Brea Museum & Heritage Center.
- Sage Environmental Group. 2012. Affordable Housing Land Use and Zoning Designation Project, Biological Survey Report. Report dated August 2012 prepared for City of Diamond Bar.
- Sheng, J. and J. P. Wilson. 2008. The Green Visions Plan for 21st Century Southern California. 16. Watershed Assets Assessment Report. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, CA.
- U.S. Army Corps of Engineers. 1991. Los Angeles County Drainage Area Review, Final Feasibility Study, Interim Report and Environmental Impact Statement. Vandergast, A. G., A. J. Bohonak, D. B. Weissman, and R. N. Fisher. 2006. Understanding the genetic effects of recent habitat fragmentation in the context of evolutionary history: Phylogeography and landscape genetics of a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus*). *Molecular Ecology* 16:977–92.



HAMILTON BIOLOGICAL

February 20, 2019

Greg Gubman
Director of Community Development
City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

**SUBJECT: APPENDIX A TO OPEN SPACE AND CONSERVATION ELEMENT
DIAMOND BAR GENERAL PLAN UPDATE
METHODS AND TECHNICAL INFORMATION**

Dear Mr. Gubman,

A consortium of Diamond Bar residents retained Hamilton Biological, Inc., (hereafter “Hamilton Biological”) to prepare an Open Space and Conservation Element for the City of Diamond Bar (hereafter the “City”) to consider incorporating into a forthcoming update to its General Plan. This letter describes the methods used to prepare the proposed Open Space and Conservation Element, and provides technical biological information that underpins the report’s findings and recommendations.

METHODS

Literature Review

As an initial step, Robert Hamilton, President of Hamilton Biological, reviewed the Biological Resources section of Dyett & Bhatia (2017) and a partial rough draft of an Open Space and Conservation Element prepared by Cooper Ecological Monitoring, Inc. Mr. Hamilton also reviewed a biological report prepared by Sage Environmental Group (2012) for an Affordable Housing Land Use and Zoning Designation Project proposed on a site covering 78 acres in the northeastern part of the City, near Diamond Ranch High School.

Special-status species with potential to occur in Diamond Bar and adjacent areas were identified through review of the California Natural Diversity Database (2018a, 2018b, 2018c) and searches of eBird (<https://ebird.org>); California Native Plant Society’s Online Inventory of Rare and Endangered Plants (www.rareplants.cnps.org); review of the list of Los Angeles County’s Sensitive Bird Species (Allen et al. 2009; https://losangelesaudubon.org/images/stories/pdf/WesternTanager_pdfs/Vol.75/vol75no03jan-feb2009.pdf); the Consortium of California Herbaria web page (www.ucjeps.berkeley.edu/consortium); Sage Environmental Group (2012); Dyett &

Bhatia (2017); and the online *Flora of the Skyline Trail, Puente Hills, Los Angeles County* (Muns, B., 1982; http://tchester.org/plants/muns/pr/skyline_trail.html).

Mapping and Field Surveys

Robert A. Hamilton mapped the natural open space areas throughout the City and its Sphere of Influence using Google Earth Pro. Potential habitat linkages and/or choke-points for wildlife movement were identified by examination of aerial imagery. Mr. Hamilton conducted reconnaissance field surveys on January 4 and 8, and February 4 and 8, 2019, to field-check the mapping and to observe the existing conditions throughout most of Diamond Bar. Mr. Hamilton has visited the portion of Tonner Canyon that lies within the City's Sphere of Influence on numerous occasions in recent years, and thus has viewed the natural resources found in that part of the study area, as well.

Classification of Natural Communities

Since the mid-1990s, CDFW and its partners, including the California Native Plant Society (CNPS), have been working on classifying vegetation types using standards embodied in the Survey of California Vegetation, which comply with the National Vegetation Classification Standard (NVCS; <http://usnvc.org/explore-classification/>). The NVCS is a hierarchical classification, with the most granular level being the Association. Associations are grouped into Alliances, Alliances into Groups, and upward, as follows: Formation Class > Formation Subclass > Formation > Division > Macrogroup > Group > Alliance > Association. For purposes of this Open Space and Conservation Element, Natural Communities are generally classified at the more generalized levels (e.g., Group), but for environmental review of specific projects in Diamond Bar, Natural Communities should be classified and mapped at the more detailed Alliance or Association level.

The method recommended by CDFW for classifying Natural Communities and conducting CEQA review reads as follows:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California Vegetation, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 1. Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.

2. Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 3. Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 4. Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
 5. Vegetation types that are not on the state's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).
- If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP (Todd Keeler-Wolf or Diana Hickson) about documenting the Natural Community.
 - If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.

Identifying Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW), at its VegCAMP page, provides guidance on appropriate methods for “Addressing Sensitive Natural Communities in Environmental Review”:

<https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities>

The State's guidance consists of the following steps:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 - Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.

- Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 - Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 - Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
- Vegetation types that are not on the State's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).
 - If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP (Todd Keeler-Wolf or Diana Hickson) about documenting the Natural Community.
 - If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.
 - The Department's document, [Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities](#) (PDF) provides information on reporting.

The City of Diamond Bar should employ the above-described methods to ensure the thoroughness and adequacy of CEQA documentation completed within the City and its Sphere of Influence.

Important Considerations for Oak Woodlands

As of January 2005, California Public Resources Code Section 21083.4 (2004 Senate Bill 1334) requires that when a county is determining the applicability of CEQA to a project, it must determine whether that project "may result in a conversion of oak woodlands that will have a significant effect on the environment." If such effects (either individual impacts or cumulative) are identified, the law requires that they be mitigated. Acceptable mitigation measures include, but are not limited to, conservation of other oak woodlands through the use of conservation easements and planting replacement trees, which must be maintained for seven years.

Diamond Bar's Sphere of Influence, south of the city limits, lies within unincorporated Los Angeles County, and thus the City's General Plan should acknowledge that the County of Los Angeles Department of Regional Planning issued in 2014 an Oak Woodlands Conservation Management Plan Guide¹, with three important objectives: (1) pri-

¹ http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

oritize the preservation of oak woodlands; (2) promote conservation by integrating oak woodlands into the development process in a sustainable manner; and (3) effectively mitigate the loss of oak woodlands.

ADVERSE EFFECTS OF DEVELOPMENT ON PRESERVED HABITAT AREAS

One purpose of a General Plan is to guide future development so as to minimize adverse effects upon sensitive Natural Communities and declining native plant and wildlife populations, to the extent feasible. Beyond the outright removal of natural areas, which obviously impacts natural resources, development projects inevitably degrade and fragment habitats along the urban/wildland interface. Such secondary, or indirect, impacts have been subject to intensive study in recent years, to (a) understand and characterize them, and (b) develop strategies for minimizing and mitigating them. The following discussions, including citations from the scientific literature, provide the basis for the General Plan's land-use policies concerning edge and fragmentation effects.

Urbanization typically includes residential, commercial, industrial, and road-related development. At the perimeter of the built environment is an area known as the urban/wildland interface, or "development edge." Edges are places where natural communities interface, vegetation or ecological conditions within natural communities interact (Noss 1983), or patches with differing qualities abut one another (Ries and Sisk 2004). "Edge effects" are spillover effects from the adjacent human-modified matrix that cause physical gradients in light, moisture, noise, etc. (Camargo and Kapos 1995; Murcia 1995; Sisk et al. 1997) and/or changes in biotic factors such as predator communities, density of human-adapted species, and food availability (Soulé et al. 1988; Matlack 1994; Murcia 1995; Ries and Sisk 2004). Loss, degradation, and fragmentation of habitat due to urbanization are the most pervasive threats to biodiversity in southern California (Soulé 1991). Edge-related impacts may include:

- Introduction/expansion of invasive exotic vegetation carried in from vehicles, people, animals or spread from backyards or fuel modification zones adjacent to wildlands.
- Increased frequency and/or severity of fire as compared to natural fire cycles or intensities.
- Companion animals (pets) that often act as predators of, and/or competitors with, native wildlife.
- Creation and use of trails that often significantly degrade intact ecosystems through such changes as increases in soil disturbance, vegetation damage, and noise.
- Introduction of or increased use by exotic animals which compete with or prey on native animals.
- Pesticide exposure can be linked to cancer, endocrine disruption, reproductive effects, neurotoxicity, kidney and liver damage, birth defects, and developmental changes in a wide range of species, from insects to top predators.

- Influence on earth systems and ecosystem processes, such as solar radiation, soil richness and erosion, wind damage, hydrologic cycle, and water pollution that can affect the natural environment.

Any of these impacts, individually or in combination, can result in the effective loss or degradation of habitats used for foraging, breeding or resting, with concomitant effects on population demographic rates of sensitive species.

The coastal slope of southern California is among the most highly fragmented and urbanized regions in North America (Atwood 1993). Urbanization has already claimed more than 90 percent of the region's coastal sage scrub habitat, 99 percent of the coastal prairie, and 95 percent of the vernal pools (McCaull 1994; Mattoni & Longcore 1997; Bauder & McMillan 1998). A review of studies completed by Harrison and Bruna (1999) identified a general pattern of reduction of biological diversity in fragmented habitats compared with more intact ones, particularly with regard to habitat specialists. While physical effects associated with edges were predominant among species impacts, they found evidence for indirect effects including altered ecological interactions. Fletcher et al. (2007) found that distance from edge had a stronger effect on species than did habitat patch size, but they acknowledged the difficulty in separating those effects empirically. Many southern California plant and animal species are known to be sensitive to fragmentation and edge effects; that is, their abundance declines with fragment size and proximity to an edge (Wilcove 1985; Soulé et al. 1992; Bolger et al. 1997a,b; Suarez et al. 1998; Burke and Nol 2000).

Wildlife populations are typically changed in proximity to edges, either by changes in their demographic rates (survival and fecundity), or through behavioral avoidance of or attraction to the edge (Sisk et al. 1997; Ries and Sisk 2004). For example, coastal sage scrub areas within 250 meters of urban edges consistently contain significantly less bare ground and more coarse vegetative litter than do more "intermediate" or "interior" areas, presumably due increased human activity/disturbance of the vegetation structure near edges (Kristan et al. 2003). Increases in vegetative litter often facilitate growth of non-native plants (particularly grasses), resulting in a positive feedback loop likely to enhance plant invasion success (Wolkovich et al. 2009). In another coastal southern California example, the abundance of native bird species sensitive to disturbance is typically depressed within 200 to 500 meters (650 to 1640 feet) of an urban edge, and the abundance of disturbance-tolerant species is elevated up to 1000 meters (3280 feet) from an urban edge, depending on the species (Bolger et al. 1997a).

Habitat fragmentation is usually defined as a landscape scale process involving habitat loss and breaking apart of habitats (Fahrig 2003). Habitat fragmentation is among the most important of all threats to global biodiversity; edge effects (particularly the diverse physical and biotic alterations associated with the artificial boundaries of fragments) are dominant drivers of change in many fragmented landscapes (Laurance and Bierregaard 1997; Laurance et al. 2007).

Fragmentation decreases the connectivity of the landscape while increasing both edge and remnant habitats. Urban and agricultural development often fragments wildland ecosystems and creates sharp edges between the natural and human-altered habitats. Edge effects for many species indirectly reduce available habitat use or utility in surrounding remaining areas; these species experience fine-scale functional habitat losses (e.g., see Bolger et al. 2000; Kristan et al. 2003; Drolet et al. 2016). Losses of coastal sage scrub in southern California have increased isolation of the remaining habitat fragments (O’Leary 1990) and led to calls to preserve and restore landscape connectivity to permit long-term persistence of native species with low vagility (e.g., Vandergast et al. 2006).

Fragmentation has a greater relative negative impact on specialist species (e.g., coastal populations of the Cactus Wren, *Campylorhynchus brunneicapillus*) that have strict vegetation structure and area habitat requirements (Soulé et al. 1992). Specialist species have an increased risk of extirpation in isolated habitat remnants because the specialized vegetative structures and/or interspecific relationships on which they depend are more vulnerable to disruption in these areas (Vaughan 2010). In studies of the coastal sage scrub and chaparral systems of coastal southern California, fragment area and age (time since isolation) were the most important landscape predictors of the distribution and abundance of native plants (Soulé et al. 1993), scrub-breeding birds (Soulé et al. 1988; Crooks et al. 2001), native rodents (Bolger et al. 1997b), and invertebrates (Suarez et al. 1998; Bolger et al. 2000).

Edge effects that emanate from the human-dominated matrix can increase the extinction probability of isolated populations (Murcia 1995; Woodroffe and Ginsberg 1998). In studies of coastal sage scrub urban fragments, exotic cover and distance to the urban edge were the strongest local predictors of native and exotic carnivore distribution and abundance (Crooks 2002). These two variables were correlated, with more exotic cover and less native shrub cover closer to the urban edge (Crooks 2002).

The increased presence of human-tolerant “mesopredators” in southern California represents an edge effect of development; they occur within the developed matrix and are thus more abundant along the edges of habitat fragments, and they are effective predators on birds, bird nests, and other vertebrates in coastal sage scrub and chaparral systems and elsewhere (Crooks and Soulé 1999). The mammalian carnivores more typically detected in coastal southern California habitat fragments are resource generalists that likely benefit from the supplemental food resources (e.g., garden fruits and vegetables, garbage, direct feeding by humans) associated with residential developments. As a result, the overall mesopredator abundance, of such species as raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), and domestic cats (*Felis catus*), increases at sites with more exotic plant cover and closer to the urban edge (Crooks 2002). Although some carnivores within coastal sage scrub fragments seem tolerant of disturbance, many fragments have (either actually or effectively) already lost an entire suite of predator species, including mountain lion, bobcats (*Lynx rufus*), spotted skunks (*Spilogale gracilis*), long-tailed weasels (*Mustela frenata*), and badgers (*Taxidea taxus*) (Crooks 2002). Most

“interior” sites within such fragments are still relatively near (within 250 meters of) urban edges (Crooks 2002).

Fragmentation generally increases the amount of edge per unit land area, and species that are adversely affected by edges can experience reduced effective area of suitable habitat (Temple and Cary 1988), which can lead to increased probability of extirpation/extinction in fragmented landscapes (Woodroffe and Ginsberg 1998). For example, diversity of native bees (Hung et al. 2015) and native rodents (Bolger et al. 1997b) is lower, and decomposition and nutrient cycling are significantly reduced (Treseder and McGuire 2009), within fragmented coastal sage scrub ecosystems as compared to larger core reserves. Similarly, habitat fragmentation and alterations of sage scrub habitats likely have reduced both the genetic connectivity and diversity of coastal-slope populations of the Cactus Wren in southern California (Barr et al. 2015). Both Bell’s Sparrows (*Artemisiospiza belli*) and California Thrashers (*Toxostoma redivivum*) show strong evidence of direct, negative behavioral responses to edges in coastal sage scrub; that is, they are edge-averse (Kristan et al. 2003), and California Thrashers and California Quail (*Callipepla californica*) were found to be more vulnerable to extirpation with smaller fragment size of the habitat patch (Bolger et al. 1991), demonstrating that both behavioral and demographic parameters can be involved. Other species in coastal sage scrub ecosystems, particularly the Cactus Wren and likely the California Gnatcatcher and San Diego Pocket Mouse (*Chaetodipus fallax*), are likely vulnerable to fragmentation, but for these species the mechanism is likely to be associated only with extirpation vulnerability from habitat degradation and isolation rather than aversion to the habitat edge (Kristan et al. 2003). Bolger (et al. 1997b) found that San Diego coastal sage scrub and chaparral canyon fragments under 60 acres that had been isolated for at least 30 years support very few populations of native rodents, and they suggested that fragments larger than 200 acres in size are needed to sustain native rodent species populations.

The penetration of exotic species into natural areas can reduce the effective size of a reserve in proportion to the distance they penetrate within the reserve: Argentine Ants serve as an in-depth example of edge effects and fragmentation. Spatial patterns of Argentine Ant abundance in scrub communities of southern California indicate that they are likely invading native habitats from adjacent developed areas, as most areas sampled greater than 200 to 250 meters from an urban edge contained relatively few or no Argentine Ants (Bolger 2007, Mitrovich et al. 2010). The extent of Argentine Ant invasions in natural environments is determined in part by inputs of urban and agricultural water run off (Holway and Suarez 2006). Native ant species were more abundant away from edges and in areas with predominately native vegetation. Post-fragmentation edge effects likely reduce the ability of fragments to retain native ant species; fragments had fewer native ant species than similar-sized plots within large unfragmented areas, and fragments with Argentine ant-free refugia had more native ant species than those without refugia (Suarez et al. 1998). They displace nearly all surface-foraging native ant species (Holway and Suarez 2006) and strongly affect all native ant communities within about 150 to 200 meters from fragment edges (Suarez et al. 1998; Holway 2005; Fisher et al. 2002; Bolger 2007; Mitrovich et al. 2010). Argentine Ants are widespread in frag-

mented coastal scrub habitats in southern California, and much of the remaining potential habitat for Blainville's Horned Lizards (*Phrynosoma blainvillii*) is effectively unsuitable due to the penetration of Argentine ants and the subsequent displacement of the native ant species that Coastal Horned Lizards need as prey (Fisher et al. 2002). Invasion of Argentine Ants into coastal sage scrub has also shown a strong negative effect on the abundance of the gray shrew (*Notiosorex crawfordi*) (Laakkonen et al. 2001).

An evaluation by the U.S. Environmental Protection Agency (2008) concluded that each of ten of the most common active ingredients in rodenticides "poses significant risks to non-target wildlife when applied as grain-based bait products. The risks to wildlife are from primary exposure (direct consumption of rodenticide bait) for all compounds and secondary exposure (consumption of prey by predators or scavengers with rodenticide stored in body tissues) from the anticoagulants." Thus, the common practice of setting out bait within or near natural areas can be expected to have adverse effects upon a range of native wildlife species.

Finally, in the Santa Monica Mountains of Los Angeles County, populations of such native amphibians as the California newt (*Taricha torosa*) and California treefrog (*Pseudacris cadaverina*) were found to decline with urbanization of as little as 8% of a given watershed (Riley et al. 2005). Such faunal community changes appear to be related to changes in physical stream habitat, such as fewer pool and more run habitats and increased water depth and flow. These changes are associated with increased erosion and with invasion by damaging exotic species, such as the red swamp crayfish (*Procambarus clarkii*).

CONCLUSION

I appreciate the opportunity to provide this technical information in support of the Open Space and Conservation Element for the Diamond Bar General Plan. If you have questions, please call me at (562) 477-2181 or send e-mail to robb@hamiltonbiological.com.

Sincerely,



Robert A. Hamilton
President, Hamilton Biological, Inc.

316 Monrovia Avenue
Long Beach, CA 90803
562-477-2181
robb@hamiltonbiological.com

Attached: Literature Cited

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
- Barr, K. R., B. E. Kus, K. L. Preston, S. Howell, E. Perkins, and A. G. Vandergast. 2015. Habitat fragmentation in coastal southern California disrupts genetic connectivity in the Cactus Wren (*Campylorhynchus brunneicapillus*). *Molecular Ecology* 24:2349–2363.
- Bauder, E. T., and S. McMillan. 1998. Current distribution and historical extent of vernal pools in southern California and northern Baja California, Mexico. Pp. 56–70 in *Ecology, Conservation and Management of Vernal Pool Ecosystems* (C. W. Witham, E. T. Bauder, D. Belk, W. R. Ferren Jr., and R. Ornduffm, editors). California Native Plant Society, Sacramento.
- Bolger, D. T. 2007. Spatial and temporal variation in the Argentine ant edge effect: implications for the mechanism of edge limitation. *Biological Conservation* 136:295–305.
- Bolger, D. T., A. C. Alberts, and M. E. Soulé. 1991. Occurrence patterns of bird species in habitat fragments: sampling, extinction, and nested species subsets. *The American Naturalist* 137(2):155–166.
- Bolger, D. T., T. A. Scott, and J. T. Rotenberry. 1997a. Breeding bird abundance in an urbanizing landscape in coastal southern California. *Conservation Biology* 11(2):406–421.
- Bolger, D. T., A. C. Alberts, R. M. Sauvajot, P. Potenza, C. McCalvin, D. Tran, S. Mazzoni, and M. E. Soulé. 1997b. Response of rodents to habitat fragmentation in coastal southern California. *Ecological Applications* 7(2):552–563.
- Bolger, D. T., A. V. Suarez, K. R. Crooks, S. A. Morrison, and T. J. Case. 2000. Arthropods in urban habitat fragments in southern California: area, age, and edge effects. *Ecological Applications* 10(4):1230–1248.
- Burke, D. M., and E. Nol. 2000. Landscape and fragment size effects on reproductive success of forest-breeding birds in Ontario. *Ecological Applications* 10(6):1749–1761.
- California Natural Diversity Database. 2018a. Special Vascular Plants, Bryophytes, and Lichens List. Current list of vegetative taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated November 2018.
- California Natural Diversity Database. 2018b. Special Animals List. Current list of wildlife taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated November 2018.
- California Natural Diversity Data Base. 2018c. Rarefind data accessed online on July 6, 2018, for the U.S. Geologic Survey's Yorba Linda, San Dimas, Ontario, and Prado Dam 7.5' topographic quadrangles.
- Camargo, J. L. C., and V. Kapos. 1995. Complex edge effects on soil moisture and microclimate in central Amazonian forest. *Journal of Tropical Ecology* 11(2):205–221.
- Conservation Biology Institute. 2005. Maintaining Ecological Connectivity Across the “Missing Middle” of the Puente-Chino Hills Wildlife Corridor. Encinitas, CA.
https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/pc_missing_middle.pdf
- Crooks, K. R. 2002. Relative sensitivities of mammalian carnivores to habitat fragmentation. *Conservation Biology* 16(2):488–502.

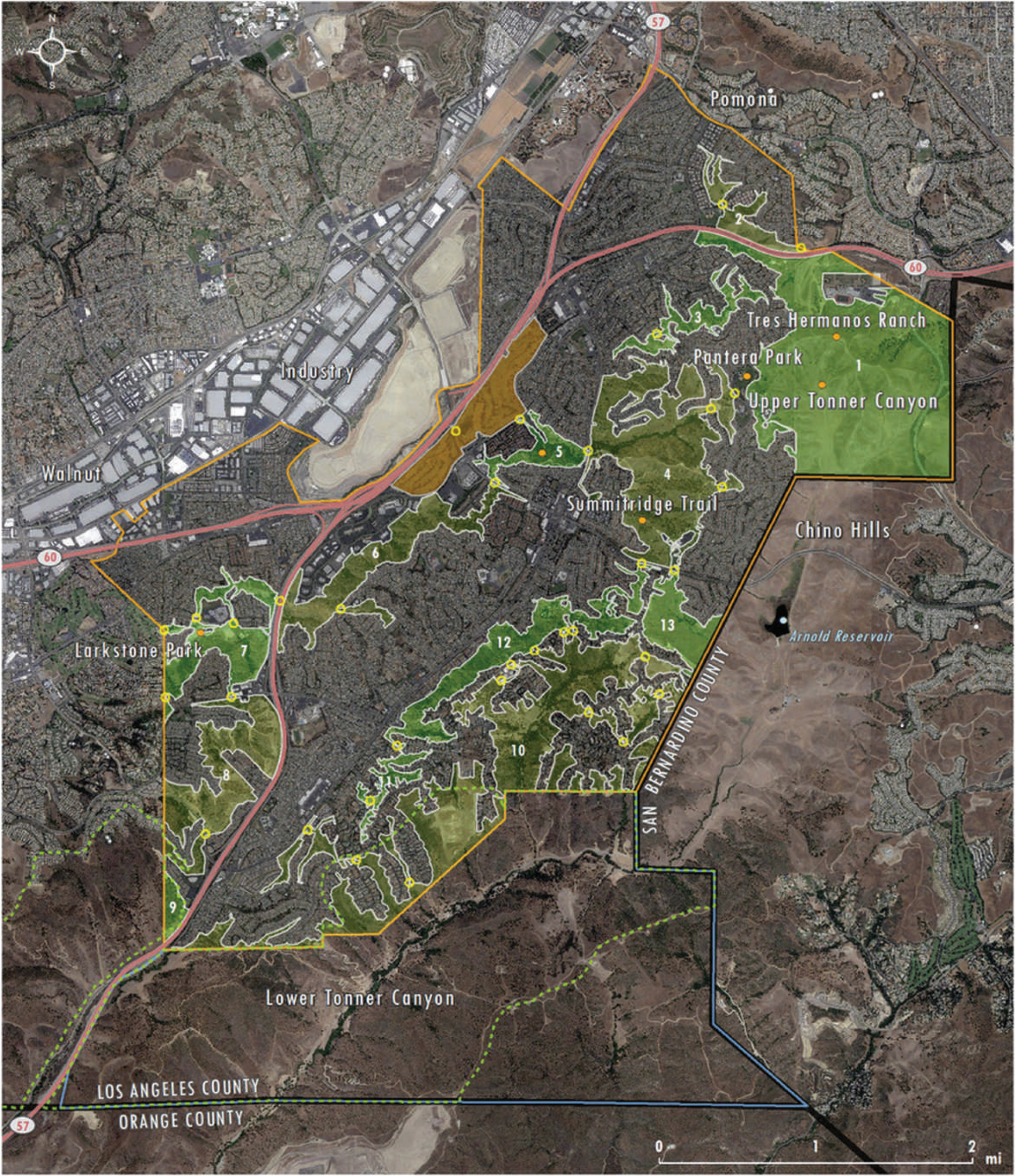
- Crooks, K. R., and M. E. Soulé. 1999. Mesopredator release and avian extinctions in a fragmented system. *Nature* 400:563–566.
- Crooks, K. R., A. V. Suarez, D. T. Bolger, and M. E. Soulé. 2001. Extinction and colonization of birds on habitat islands. *Conservation Biology* 15(1):159–172.
- Drolet, A., C. Dussault, and S. D. Côté. 2016. Simulated drilling noise affects the space use of a large terrestrial mammal. *Wildlife Biology* 22(6):284–293.
- Dyett & Bhatia. 2017. City of Diamond Bar General Plan Update, Existing Conditions Report – Volume III. Redline draft dated February 21, 2017, prepared for City of Diamond Bar.
- Fahrig, L. 2003. Effects of habitat fragmentation on biodiversity. *Annual Review of Ecology, Evolution, and Systematics* 34:487–515.
- Fisher, R. N., A. V. Suarez, and T. J. Case. 2002. Spatial patterns in the abundance of the Coastal Horned Lizard. *Conservation Biology* 16(1):205–215.
- Fletcher Jr., R. J., L. Ries, J. Battin, and A. D. Chalfoun. 2007. The role of habitat area and edge in fragmented landscapes: definitively distinct or inevitably intertwined? *Canadian Journal of Zoology* 85:1017–1030.
- Haas, C., and K. Crooks. 1999. Carnivore Abundance and Distribution Throughout the Puente-Chino Hills, Final Report – 1999. Report prepared for The Mountains Recreation and Conservation Authority and State of California Department of Transportation.
- Haas, C., and G. Turschak. 2002. Responses of Large and Medium-bodied Mammals to Recreation Activities: the Colima Road Underpass. Final report prepared by US Geological Survey for Puente Hills Landfill Native Habitat Preservation Authority.
- Haas, C. D., A. R. Backlin, C. Rochester, and R. N. Fisher. 2006. Monitoring Reptiles and Amphibians at Long-Term Biodiversity Monitoring Stations: the Puente-Chino Hills. Final report prepared by US Geological Survey for Mountains Recreation and Conservation Authority, Puente Hills Landfill Native Habitat Preservation Authority, and California State Parks.
- Harrison, S., and E. Bruna. 1999. Habitat fragmentation and large-scale conservation: what do we know for sure? *Ecography* 22(3):225–232.
- Holway, D. A. 2005. Edge effects of an invasive species across a natural ecological boundary. *Biological Conservation* 121:561–567.
- Holway, D. A. and A. V. Suarez. 2006. Homogenization of ant communities in Mediterranean California: the effects of urbanization and invasion. *Biological Conservation* 127:319–326.
- Hung, K. J., J. S. Ascher, J. Gibbs, R. E. Irwin, and D. T. Bolger. 2015. Effects of fragmentation on a distinctive coastal sage scrub bee fauna revealed through incidental captures by pitfall traps. *Journal of Insect Conservation* DOI 10.1007.
- Kristan, W. B. III, A. J. Lynam, M. V. Price, and J. T. Rotenberry. 2003. Alternative causes of edge-abundance relationships in birds and small mammals of California coastal sage scrub. *Ecography* 26:29–44.
- Laakkonen, J., R. N. Fisher, and T. J. Case. 2001. Effect of land cover, habitat fragmentation and ant colonies on the distribution and abundance of shrews in southern California. *Journal of Animal Ecology* 70(5):776–788.
- Laurance, W. F., and R. O. Bierregaard Jr., eds. 1997. Tropical forest remnants: ecology, management, and

- conservation of fragmented communities. University of Chicago Press, Chicago.
- Laurance, W. F., H. E. M. Nascimento, S. G. Laurance, A. Andrade, R. M. Ewers, K. E. Harms, R. C. C. Luizão, and J. E. Ribeiro. 2007. Habitat fragmentation, variable edge effects, and the landscape-divergence hypothesis. *PLoS ONE* 2(10):e1017.
- Los Angeles County, Dept. of Regional Planning. 2014. Los Angeles County Oak Woodlands Conservation Management Plan Guide. Report dated March 18, 2014. Described as a "resource for assisting County staff when processing development applications that are not exempt from the California Environmental Quality Act (CEQA) and may impact oak woodlands. The Guide includes definitions, application procedures, case processing, project mitigation and mitigation monitoring."
http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf
- Matlack, G. R. 1994. Vegetation dynamics of the forest edge – trends in space and successional time. *Journal of Ecology* 82(1):113–123.
- Mattoni, R., and T. Longcore. 1997. The Los Angeles coastal prairie, a vanished community. *Crossosoma* 23:71–102.
- McCaull, J. 1994. The natural community conservation planning program and the coastal sage scrub ecosystem of southern California. *In* Environmental Policy and Biodiversity (R. E. Grumbine, editor). Island Press, Washington, D.C.
- Mitrovich, M., T. Matsuda, K. H. Pease, and R. N. Fisher. 2010. Ants as a measure of effectiveness of habitat conservation planning in southern California. *Conservation Biology* 24:1239–1248.
- Murcia, C. 1995. Edge effects in fragmented forests: implications for conservation. *Trends in Ecology & Evolution* 10(2):58–62.
- Noss, R. F. 1983. A regional landscape approach to maintain diversity. *BioScience* 33(11):700–706.
- O’Leary, J. F. 1990. California coastal sage scrub: general characteristics and considerations for biological conservation. *In*: A. A. Schoenherr (ed.). *Endangered Plant Communities of Southern California*, Southern California Botanists Special Publication No. 3.
- Ries, L., and T. D. Sisk. 2004. A predictive model of edge effects. *Ecology* 85(11):2917–2926.
- Riley, S. P. D., G. T. Busteed, L. B. Kats, T. L. Vandergon, L. F. S. Lee, R. G. Dagit, J. L. Kerby, R. N. Fisher, and R. M. Sauvajot. 2005. Effects of urbanization on the distribution and abundance of amphibians and invasive species in southern California streams. *Conservation Biology* 19:1894–1907.
- Sage Environmental Group. 2012. Affordable Housing Land Use and Zoning Designation Project, Biological Survey Report. Report dated August 2012 prepared for City of Diamond Bar.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. *A Manual of California Vegetation*, second edition. California Native Plant Society, Sacramento.
- Sisk, T. D., N. M. Haddad, and P. R. Ehrlich. 1997. Bird assemblages in patchy woodlands: modeling the effects of edge and matrix habitats. *Ecological Applications* 7(4):1170–1180.
- Soulé, M. E. 1991. Theory and strategy. *In*: W. E. Hudson (ed.). *Landscape Linkages and Biodiversity*. Island Press, Covello, CA.
- Soulé, M. E., A. C. Alberts, and D. T. Bolger. 1992. The effects of habitat fragmentation on chaparral plants and vertebrates. *Oikos* 63(1):39–47.

- Soulé, M. E., D. T. Bolger, A. C. Alberts, J. Wright, M. Sorice, and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. *Conservation Biology* 2(1):75–92.
- Suarez, A. V., D. T. Bolger and T. J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041–2056.
- Temple, S. A., and J. R. Cary. 1988. Modeling dynamics of habitat-interior bird populations in fragmented landscapes. *Conservation Biology* 2(4):340–347.
- Treseder, K. K., and K. L. McGuire. 2009. Links Between Plant and Fungal Diversity in Habitat Fragments of Coastal Sage Scrub. The 94th ESA Annual Meeting, 2009.
- U.S. Environmental Protection Agency. 2008. Risk mitigation decision for ten rodenticides. Report dated May 28, 2008. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2006-0955-0764>
- Vandergast, A. G., A. J. Bohonak, D. B. Weissman, and R. N. Fisher. 2006. Understanding the genetic effects of recent habitat fragmentation in the context of evolutionary history: phylogeography and landscape genetics of a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus*). *Molecular Ecology* 16:977–92.
- Vaughan, J. R. 2010. Local Geographies of the Coastal Cactus Wren and the Coastal California Gnatcatcher on Marine Corps Base Camp Pendleton. Master of Science thesis, San Diego State University, San Diego, California. 97 pp.
- Wilcove, D. S. 1985. Nest predation in forest tracks and the decline of migratory songbirds. *Ecology* 66(4):1211–1214.
- Wolkovich, E. M., D. T. Bolger, and K. L. Cottingham. 2009. Invasive grass litter facilitates native shrubs through abiotic effects. *Journal of Vegetation Science* 20:1121–1132.
- Woodroffe, R., and J. R. Ginsberg. 1998. Edge effects and the extinction of populations inside protected areas. *Science* 280:2126–2128.

City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities



Natural Open Space Areas

- Diamond Bar City Limits
- Sphere of Influence
- Diamond Bar Golf Course
- County Line
- Natural Open Space Area
- SEA 15
- Potential Habitat Linkages/Choke Points

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017. North American Primary Roads from ESRI, 2018. County Boundary from USGS. Diamond Bar City Limits, Significant Ecological Area (SEA prior OVOV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator. Datum: WGS84. Map Scale 1:65,000. Graphic Scale Units: Miles.

City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities

The City of Diamond Bar natural open spaces are identified by “Natural Communities” (also known as “plant communities” or “vegetation types”) that occur in the city and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits. Natural living ecosystems do not recognize man-made boundaries.)



ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS

Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence



COASTAL SAGE SCRUB, OPUNTIA LITTORALIS SHRUBLAND

Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence



CHAPARRAL

Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence



COAST LIVE OAK WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence



CALIFORNIA WALNUT WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence



RIPARIAN SCRUB AND WOODLANDS

Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence



HUMAN-ALTERED HABITATS

Developed areas, such as turf/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident waterfowl.

Details of these natural communities are stated page 9-12 in the Biological Resources report.

CHAPTER 22.38. - TREE PRESERVATION AND PROTECTION **Redline Draft April 2016**

Comments in red input David Haas/CalFire Urban Forester, John Melvin, CalFire,

Yellow input Cynthia Smith

Sec. 22.38.010. - Purpose. 099

One of the city's most important resources is the beauty of its natural environment. Native trees are a significant part of this environment. While impacted by development over the years, several areas in the city still contain native oak, walnut, and riparian woodlands which support species of trees important to our natural heritage.

Trees are an important natural resource, contributing to the environment by replenishing oxygen and counteracting air pollution, controlling soil erosion, and providing wildlife habitat. Trees are an aesthetic asset which provide scale, color, aroma, shade, visual buffers between land uses, and increased property value. It is essential to the public peace, health, and welfare that such trees be protected from random removal or cutting, especially where such trees are associated with a proposal for development.

[The] general plan, as the overall policy document for the city, requires the preservation and maintenance of native trees including oak, walnut, sycamore, willow, significant trees of cultural or historical value and pepper trees where appropriate. The purpose of this chapter is to protect and preserve these trees and when removal is allowed as a result of new development to require their replacement.

(Ord. No. 02(1998), § 2, 11-3-98; Ord. No. 02(2003), 9-16-03)

Sec. 22.38.020. - Applicability.

The provisions of this chapter shall apply in all zoning districts to the removal, relocation or pruning of protected trees as provided in section 22.38.030 (Protected trees). Exceptions to the provisions of this chapter are outlined in section 22.38.060 (Exemptions).

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.030. - Protected trees.

A protected tree is any of the following:

- (1) Native Oak, walnut, sycamore and willow trees with a diameter at breast height (DBH) of ~~eight~~ **five** inches or greater; **(per SB 1334)**
- (2) Trees of significant historical value as designated by the council;
- (3) Any tree required to be preserved or relocated as a condition of approval for a discretionary permit;
- (4) Any tree required to be planted as a condition of approval for a discretionary permit; and
- (5)** A stand of trees, the nature of which makes each tree dependent upon the others for survival.

(Ord. No. 02(1998), § 2, 11-3-98; Ord. No. 02(2003), 9-16-03; Ord. No. 04(2012), § 9, 4-17-12)

Sec. 22.38.040. - Damaging protected trees prohibited.

Except as provided in section 22.38.060 (Exemptions), no person shall cut, prune, remove, relocate, or otherwise destroy a protected tree.

The topping of protected trees is prohibited. No reduction of the tree crown shall be permitted without a tree pruning permit and then only by "thinning out" selected branches in compliance with guidelines published by the ~~National Arborists Association~~. No longer exists, now Tree Care Industry Association. Current nationwide tree care and maintenance guidelines are ANSI A300 standards. For sake of ease, a statement can be made stating all tree work done must conform to ANSI A300 standards. Also, include all work must be performed by Certified Arborist or Certified Urban Forester.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.050. - Tree removal permit or tree pruning permit required.

No person shall remove or relocate a protected tree or develop within the protection zone of a protected tree, **or stand of trees identified as native oak or walnut woodland**, without first obtaining a tree removal permit from the director. No person shall prune a protected tree without first obtaining a tree pruning permit from the director if branches are to be pruned that are over four inches in diameter at the point of the cut. The maximum amount allowed for the pruning of a protected tree shall be 20 percent **over a one-year period**, except for oak trees which shall be ten percent **over a one-year period**. **SB 1334**

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.060. - Exemptions.

The following shall be exempt from the provisions of this chapter:

- (1) **Trees, except those designated by the city council as a historical or cultural tree and trees required to be preserved, relocated, or planted as a condition of approval of a discretionary permit, located on all developed properties prior to adoption of this Development Code.**
- (2) Trees held for sale by licensed nurseries or tree farms or the removal or transplanting of trees for the purpose of operating a nursery or tree farm.
- (3) A tree that is so damaged, diseased or in danger of falling (as verified by an arborist) that it cannot be effectively preserved, or its presence is a threat to other protected trees or existing or proposed structures.
- (4) Trees within public rights-of-way where their removal, pruning or relocation is necessary to obtain adequate line-of-site distances or to keep streets and sidewalks clear of obstructions as required by the city engineer.
- (5) Trees that present a dangerous condition requiring emergency action to preserve the public health, safety and welfare as determined by the director.
- (6) The maintenance of trees that interfere with a public utility's ability to protect or maintain an electric power or communication line, or other property of a public utility. **Requiring utilities to obtain an annual, revocable permit and conformance with ANSI A300 standards ensures good working practices.**
- (7) The pruning of branches not to exceed four inches in diameter or compensatory pruning in compliance with guidelines published by ~~the National Arborists Association~~ **see above**, intended to ensure the continued health of a protected tree.
- (8) **Native oak, walnut, sycamore, willow, or pepper trees located upon a lot one-half acre or less located on the flat pad, are exempted from these regulations. Trees over the ridgeline, growing on the natural slope are not exempt.**

- (9) Any native oak, walnut, sycamore, willow or naturalized California Pepper trees planted subsequent to the subdivision of property of any size are exempted from these regulations.

(Ord. No. 02(1998), § 2, 11-3-98; Ord. No. 02(2003), 9-16-03)

Sec. 22.38.070. - Tree removal in conjunction with a discretionary permit.

When the removal or relocation of a protected tree is proposed in connection with an application for another discretionary permit, the director may waive the requirement of a separate tree removal permit and require necessary information to be submitted as part of the discretionary permit application. All of the standards of this chapter, including section 22.38.130 (Tree replacement/relocation standards) and section 22.38.140 (Tree protection standards) shall apply to the approval of a discretionary permit.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.080. - Application submittal requirements.

- (a) Applications for a tree removal permit or a tree pruning permit shall be filed with the department. The department will consider an application complete when all necessary application forms, materials and exhibits, as established by the department, have been provided and accepted as adequate and all necessary fees have been paid.
- (b) The director may require the submittal of an arborist report before accepting the application for filing. Arborist reports shall be paid for by the applicant and may be required to include specific information as required by the director. This information may include but is not limited to: The impact on existing trees, the health and structural stability of existing trees and any remedial measures or mitigation recommended.

Applications should contain at least a justification statement for the permit, signature of the property owner, a tree site map containing the location of all trees located on the property including species and DBH, and the protection zone of every protected tree. Applications can contain mitigation information, or a separate mitigation report, including inspection requirements, can be prepared separately.

- (c) The director may require additional information when deemed necessary for permit processing. Any request for the removal or relocation of a protected tree proposed in conjunction with an application for another discretionary permit shall be subject to approval by the same hearing body as the discretionary permit.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.090. - Action on application.

An application for a tree removal permit or tree pruning permit shall be approved, conditionally approved or denied by the director. Where the director finds that significant policy questions are at issue, the director may refer the application to the commission for action. If an application is denied, the reasons shall be provided to the applicant in writing.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.100. - Conditions of approval.

In approving an application for a tree permit or tree pruning permit, the director or commission may require the applicant to meet certain conditions in order to secure the purpose of this chapter. Conditions may include, but are not limited to, measures designed to protect and preserve protected trees remaining on the site and the restoration of protected trees removed from the site.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.110. - Findings for approval.

In order to approve an application for a tree removal permit or tree pruning permit, it shall be necessary that one or more of the following findings be made, otherwise the application shall be denied:

- (1) The tree is so poorly formed due to stunted growth that its preservation would not result in any substantial benefits to the community.
- (2) The tree interferes with utility services, or streets and highways, either within or outside of the subject property, and no reasonable alternative exists other than removal or pruning of the tree(s).
- (3) The tree is a potential public health and safety hazard due to the risk of it falling and its structural instability cannot be remediated.
- (4) The tree is a public nuisance by causing damage to improvements (e.g., building foundations, retaining walls, roadways/driveways, patios, and decks).
- (5) The tree is host to an organism which is parasitic to another species of tree which is in danger of being exterminated by the parasite.
- (6) The tree belongs to a species which is known to be a pyrophitic or highly flammable and has been identified as a public safety hazard. **Define pyrophytic or highly flammable standard and who has authority to ID as a public safety hazard**
- (7) Preservation of the tree is not feasible and would compromise the property owner's reasonable use and enjoyment of property or surrounding land and appropriate mitigation measures will be implemented in compliance with section 22.38.130 (Tree replacement/relocation standards) below.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.120. - Tagging.

In the process of preparing a tree report **tree report not described or referenced anywhere else**, each tree is required to be physically marked for identification by consecutively numbered tags. The following method of tagging shall be used to identify and locate applicable trees:

- (1) A permanent tag, a minimum of two inches in length, shall be used for identifying applicable trees. The tag shall be made from a noncorrosive, all-weather material and be permanently attached to the tree in a manner preserving its health and viability.
- (2) Tags shall be located on the north side of the tree at a height of four and one-half feet above natural grade.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.130. - Tree replacement/relocation standards.

- (a) Replacement trees shall be indigenous to the area whenever feasible as determined by an arborist. **Replacement trees should be same species as, or from list of, protected tree species**
- (b) Replacement trees shall be planted at a minimum 2:1 ratio for residential properties less than 20,000 square feet. Residential parcels greater than 20,000 square feet and commercial and industrial properties shall be planted at a minimum 3:1 ratio. The director or commission may grant exceptions to these requirements or may require additional replacement trees based on the following considerations:
 - (1) The vegetative character of the subject property.
 - (2) The number of protected trees which are proposed to be removed in relation to the number of protected trees currently existing on the subject property.
 - (3) The anticipated effectiveness of the replacement of trees, as determined by arborists' report submitted by the applicant.
- (c) Replacement trees shall be a minimum box size of 24 inches for six or fewer replacement trees. For greater than six replacement trees, the sizes shall be determined by the director. Smaller container sizes may be approved by the director or commission when additional replacement trees are provided significantly exceeding the required replacement ratios.
- (d) Tree relocation or replacement shall be on the same site to the extent feasible. A written report by an arborist is required concerning the methodology and feasibility of transplanting trees.
- (e) Where site conditions preclude the long-term success of replacement trees, the director or commission may require either or both of the following alternatives:
 - (1) Planting replacement trees on public property (e.g., designated open space areas or public parks); and/or
 - (2) Monetary donation to a tree replacement fund in the amount equal to the value of required replacement trees, and the cost of installation as established by an arborist's report.
- (f) The applicant may be required as a condition of permit approval to enter into a tree maintenance agreement prior to removal of any protected tree or commencement of construction activities that may adversely affect the health and survival of trees to be preserved. The maintenance agreement may include provisions for the submittal of arborist reports during and after construction activities, installation of replacement trees and irrigation systems by or under the supervision of a certified arborist, replacement of trees that die during or after construction phases, periodic fertilizing and pruning, and submittal of a security deposit as may be necessary to ensure the health and survival of the affected trees during the effective date of the tree maintenance agreement. The performance security may be required for three years from the date of the approval or as determined by the director. The amount of the performance security deposit shall be equal to 125 percent of the cost of a nursery grown tree and installation by a qualified professional.

Any permit-required tree replacement should require planting of a protected tree species to ensure protected status trees are maintained in perpetuity. Tree replacement or relocation whether on-site, off-site, or on public property should require at least 3 years of maintenance to ensure successful establishment, as well as enforcement of maintenance. Monetary donation to a tree replacement fund should include the value of required replacement trees, the cost of installation, and the cost of at least 3 years of maintenance.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.140. - Tree protection requirements.

The director shall determine during project review whether and to what extent measures will be required to protect the existing trees during construction. This decision shall be based upon the proximity

of the area of construction activity to existing protected trees. The protective measures shall include but are not limited to the following:

- (1) The existing trees to be retained shall be enclosed by chain link fencing with a minimum height of five feet or by another protective barrier approved by the director prior to the issuance of a grading or building permit and prior to commencement of work.
- (2) Barriers shall be placed at least five feet outside the drip line of trees to be protected. A lesser distance may be approved by the director if appropriate to the species and the adjacent construction activity. **The generally accepted distance of protection zones is 2-3x the width of the dripline**
- (3) No grade changes shall be made within the protective barriers without prior approval by the director. Where roots greater than one inch in diameter are damaged or exposed, the roots shall be cleanly saw cut and covered with soil in conformance with industry standards.
- (4) Excavation or landscape preparation within the protective barriers shall be limited to the use of hand tools and small hand-held power tools and shall not be of a depth that could cause root damage.
- (5) No attachments or wires other than those of a protective or nondamaging nature shall be attached to a protected tree.
- (6) No equipment or debris of any kind shall be placed within the protective barriers. No fuel, paint, solvent, oil, thinner, asphalt, cement, grout or any other construction chemical shall be stored or allowed in any manner to enter within the protected barrier.
- (7) If access within the protection zone of a protected tree is required during the construction process, the route shall be covered in a six-inch mulch bed in the drip line area and the area shall be aerated and fertilized at the conclusion of the construction.
- (8) When the existing grade around a protected tree is to be raised, drain tiles shall be laid over the soil to drain liquids away from the trunk. The number of drains shall depend upon the soil material. Lighter sandy soils and porous gravelly material require fewer drains than heavy nonporous soils like clay. Dry wells shall be large enough to allow for maximum growth of the tree trunk. Dry well walls shall be constructed of materials that permit passage of air and water.
- (9) When the existing grade around a tree is to be lowered, either by terracing or a retaining wall, a combination may be used to lower grade. With either method, the area within the drip line shall be left at the original grade. The retaining wall shall be porous to allow for aeration.
- (10) Trees that have been destroyed or that have received major damage during construction shall be replaced prior to final inspection. **Species damaged/destroyed should be replaced in kind and include a 3-year maintenance period to ensure establishment. Include punishment for destruction/damage as deterrence**

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.150. - Post decision procedures.

- (a) *Appeals.* Decisions of the director shall be considered final unless an appeal is filed in compliance with chapter 22.74 (Appeals). The decision of the director may be appealed to the planning commission. The decision of the commission may be appealed to the council.
- (b) *Expiration/extension.* A tree removal permit or tree pruning permit shall be exercised within one year from the date of approval or other time frame that may be established with a discretionary permit approval. Time extensions, for up to a total of two additional years, may be granted in compliance with chapter 22.66 (Permit Implementation and Time Extensions). If a tree removal permit or tree pruning permit is not exercised within the established time frame, and a time extension is not granted, the provisions of chapter 22.66 (Permit Implementation and Time Extensions) shall apply.

- (c) *Construction monitoring.* Monitoring of tree protection and restoration measures specified as conditions of approval shall be performed by site inspection conducted by the director, or by an arborist.
- (d) *Revocation.* A tree removal permit or tree pruning permit may be revoked or modified, in compliance with chapter 22.76 (Revocations/Modifications), if it is found that the tree removal, relocation or protection activities:
 - (1) Resulted from misrepresentation or fraud;
 - (2) Has not been implemented in a timely manner;
 - (3) Has not met, or has violated, any conditions of approval;
 - (4) Is in violation of any code, law, ordinance or statute;
 - (5) Is detrimental to public health, safety or welfare; or
 - (6) Constitutes a nuisance.
- (e) *Enforcement.*
 - (1) Any person who cuts, damages, or moves a protected tree in violation of this chapter shall be deemed guilty of an infraction or misdemeanor in compliance with section 22.78.060 (Legal Remedies).
 - (2) Violation of this chapter during construction activity may result in an immediate stop-work order issued by the city, until permits are obtained along with proper mitigation.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.160. - Tree replacement fund.

Moneys received by the city in lieu of replacement trees as provided for in section 22.38.130 (Tree Replacement/Relocation Standards), or as civil penalties for violations of this chapter shall be deposited in a tree replacement fund and the city's general fund, respectively. Funds collected by the city for the tree replacement fund and interest earned thereon shall be used solely for the planting of trees or other vegetation on publicly owned property. **Tree replacement fund should be spent only on trees, not other vegetation, and trees planted should be protected species**

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.170. - **Buyers awareness package.**

When a project contains trees that have been protected or planted under the requirements of this chapter, the developer shall provide buyers with information regarding the proper care of the trees. The information shall be specific to different tree species and include information on proper pruning techniques, pest and disease control, fertilization requirements, watering needs, and other pertinent information about the particular tree species.

(Ord. No. 02(1998), § 2, 11-3-98)



HAMILTON BIOLOGICAL

February 20, 2019

Greg Gubman
Director of Community Development
City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

**SUBJECT: PROPOSED AMENDMENTS TO
DIAMOND BAR TREE PROTECTION ORDINANCE**

Dear Mr. Gubman,

A consortium of Diamond Bar residents retained Hamilton Biological, Inc., (hereafter "Hamilton Biological") to address a range of biological issues as the City of Diamond Bar (hereafter the "City") prepares to update its General Plan. This letter addresses perceived inadequacies of the City's Tree Preservation and Protection Ordinance (Chapter 22.38 of the City of Diamond Bar Code of Ordinances). Proposed changes refer to the following areas of concern:

- Corrections of outdated references (e.g., the National Arborists Association no longer exists, having been replaced by the Tree Care Industry Association) and typographical errors.
- Changes to bring the City's ordinance into alignment with current industry standards. For example, the County of Los Angeles' current Oak Woodlands Conservation Management Plan Guide¹ requires seven years of maintenance and monitoring of all oak mitigation plantings, which reflects the experience of the County that oak plantings may survive for a few years after planting, only to fail shortly thereafter.
- Ensuring that funds paid to the City for tree planting are used to promptly replace impacted trees, and to prevent against tree mitigation funds being diverted to other uses.
- Establishing a City-administered program to ensure that replacement trees are planted in areas suited to their long-term survival, and not in sensitive habitat areas, such as coastal sage scrub, where they could cause adverse ecological effects.

¹ http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

Proposed Amendments to the Tree Preservation & Protection Ordinance

The following amendments, identified in “track changes,” are proposed to Chapter 22.38 of the City of Diamond Bar Code of Ordinances. Sections not proposed for changes are not reproduced herein.

Sec. 22.38.030. - Protected trees.

A protected tree is any of the following:

1. Native ~~o~~Oak, walnut, sycamore and willow trees with a diameter at 4.5 feet above mean natural gradebreast height (DBH) of ~~eight-five~~ inches or greater (consistent with California Public Resources Code 21083.4a);
2. (2) Trees of significant historical or value as designated by the council;
3. (3) Any tree required to be preserved or relocated as a condition of approval for a discretionary permit;
4. (4) Any tree required to be planted as a condition of approval for a discretionary permit; and
5. (5) A stand of trees, the nature of which makes each tree dependent upon the others for survival.

(Ord. No. 02(1998), § 2, 11-3-98; Ord. No. 02(2003), 9-16-03; Ord. No. 04(2012), § 9, 4-17-12)

Sec. 22.38.040. - Damaging protected trees prohibited.

Except as provided in section 22.38.060 (Exemptions), no person shall cut, prune, remove, relocate, or otherwise destroy a protected tree.

All work must be performed by a Certified Arborist or Certified Urban Forester in compliance with ANSI A300 standards. The topping of protected trees is prohibited. No reduction of the tree crown shall be permitted without a tree pruning permit and then only by “thinning out” selected ~~guidelines published by the National Arborists Association.~~

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.050. - Tree removal permit or tree pruning permit required.

No person shall remove or relocate a protected tree or develop within the protection zone of a protected tree ,or stand of trees comprising native oak woodland or walnut woodland, without first obtaining a tree removal permit from the director. No person shall prune a protected tree without first obtaining a tree pruning permit from the director if branches are to be pruned that are over four inches in diameter at the point of the cut. The maximum amount allowed for the pruning of a protected tree shall be 20 percent over a one-year period, except for oak trees which shall be ten percent over a one-year period.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.060. - Exemptions.

The following shall be exempt from the provisions of this chapter:

1. Trees, except those designated by the city council as a historical or cultural tree and trees required to be preserved, relocated, or planted as a condition of approval of a discretionary permit, located on all developed properties prior to adoption of this Development Code.
2. Trees held for sale by licensed nurseries or tree farms or the removal or transplanting of trees for the purpose of operating a nursery or tree farm.
3. A tree that is so damaged, diseased or in danger of falling (as verified by a Certified Arborist~~arborist~~) that it cannot be effectively preserved, or its presence is a threat to other protected trees or existing or proposed structures.
4. Trees within public rights-of-way where their removal, pruning or relocation is necessary to obtain adequate line-of-site distances or to keep streets and sidewalks clear of obstructions as required by the city engineer.
5. Trees that present a dangerous condition requiring emergency action to preserve the public health, safety and welfare as determined by the director.
6. The maintenance of trees that interfere with a public utility's ability to protect or maintain an electric power or communication line, or other property of a public utility, so long as the work conforms to ANSI A300 standards and the utilities obtain an annual, revocable permit from the city.
7. The pruning of branches not to exceed four inches in diameter or compensatory pruning, in compliance with ANSI A300 standards, intended to ensure the continued health of a protected tree.
8. Native oak, walnut, sycamore, willow, or pepper trees located upon a lot one-half acre or less located on the flat pad, are exempted from these regulations. Trees over the ridgeline, growing on the natural slope are not exempt.
9. Any native oak, walnut, sycamore, willow or naturalized pepper trees planted subsequent to the subdivision of property of any size are exempted from these regulations.

(Ord. No. 02(1998), § 2, 11-3-98; Ord. No. 02(2003), 9-16-03)

Sec. 22.38.080. - Application submittal requirements.

- (a) Applications for a tree removal permit or a tree pruning permit shall be filed with the department. The department will consider an application complete when all necessary application forms, materials and exhibits, as established by the department, have been provided and accepted as adequate and all necessary fees have been paid.
- (b) The director may require the submittal of a Certified Arborist's~~an arborist~~ report before accepting the application for filing. The Certified Arborist's reports shall be paid for by the applicant and may be required to include

specific information as required by the director. This information may include but is not limited to: The impact on existing trees, the health and structural stability of existing trees and any remedial measures or mitigation recommended.

(c) Applications shall contain a justification statement for the permit; signature of the property owner; and a site map containing the location of all trees located on the property, including species and diameter 4.5 feet above mean natural grade, and the protection zone of every protected tree. Applications can contain mitigation information; alternatively, a separate mitigation report, including inspection requirements, can be prepared separately.

(e)(d) The director may require additional information when deemed necessary for permit processing. Any request for the removal or relocation of a protected tree proposed in conjunction with an application for another discretionary permit shall be subject to approval by the same hearing body as the discretionary permit.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.110. - Findings for approval.

In order to approve an application for a tree removal permit or tree pruning permit, it shall be necessary that one or more of the following findings be made, otherwise the application shall be denied:

The following shall be exempt from the provisions of this chapter:

1. The tree is so poorly formed due to stunted growth that its preservation would not result in any substantial benefits to the community.
2. The tree interferes with utility services, or streets and highways, either within or outside of the subject property, and no reasonable alternative exists other than removal or pruning of the tree(s).
3. The tree is a potential public health and safety hazard due to the risk of it falling and its structural instability cannot be remediated.
4. The tree is a public nuisance by causing damage to improvements (e.g., building foundations, retaining walls, roadways/driveways, patios, and decks).
5. The tree is host to an organism which is parasitic to another species of tree which is in danger of being exterminated by the parasite.
6. The tree belongs to a species which is known to be ~~a pyrophitic or~~ highly flammable and has been identified as a public safety hazard by a Certified Arborist or Certified Urban Forester.
7. Preservation of the tree is not feasible and would compromise the property owner's reasonable use and enjoyment of property or surrounding land and appropriate mitiga-

tion measures will be implemented in compliance with section 22.38.130 (Tree replacement/relocation standards) below.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.120. - Tagging.

In the process of preparing an application for a tree removal permit or tree report, each tree is required to be physically marked for identification by consecutively numbered tags. The following method of tagging shall be used to identify and locate applicable trees:

1. A permanent tag, a minimum of two inches in length, shall be used for identifying applicable trees. The tag shall be made from a noncorrosive, all-weather material and be permanently attached to the tree in a manner preserving its health and viability.
2. Tags shall be located on the north side of the tree at a height of ~~four and one-half~~ 4.5 feet above natural grade.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.130. - Tree replacement/relocation standards.

- (a) Replacement trees shall be either the same species as that being replaced or a indigenous to the area whenever feasible as determined by an arborist protected tree species indigenous to Diamond Bar.
- (b) Replacement trees shall be planted at a minimum 2:1 ratio for residential properties less than 20,000 square feet. Residential parcels greater than 20,000 square feet and commercial and industrial properties shall be planted at a minimum 3:1 ratio. The director or commission may grant exceptions to these requirements or may require additional replacement trees based on the following considerations:
 1. The vegetative character of the subject property.
 2. The number of protected trees which are proposed to be removed in relation to the number of protected trees currently existing on the subject property.
 3. The anticipated effectiveness of the replacement of trees, as determined by Certified Arborist's ~~arborists'~~ report submitted by the applicant.
- (c) Replacement trees shall be a minimum box size of 24 inches for six or fewer replacement trees. For greater than six replacement trees, the sizes shall be determined by the director. Smaller container sizes may be approved by the director or commission when additional replacement trees are provided significantly exceeding the required replacement ratios.

- (d) Tree relocation or replacement shall be on the same site to the extent feasible. A written report by an arborist is required concerning the methodology and feasibility of transplanting trees.
- (e) Where site conditions preclude the long-term success of replacement trees, the director or commission may require either or both of the following alternatives:
 - 1. Planting replacement trees on public property (e.g., designated open space areas or public parks); and/or
 - 2. Payment of an in-lieu fee to a tree replacement fund in the amount equal to the value of required replacement trees, and the cost of installation as established by an arborist's report, into a city-administered Tree Mitigation Program.
 - 3. The city shall retain a qualified biologist and Certified Arborist or Certified Urban Forester to establish a Tree Mitigation Program to ensure that replacement trees are planted on public property in areas that (a) shall not impact any existing sensitive habitat areas; (b) are appropriate for the long-term survival of native trees planted as mitigation; and (c) shall be maintained and preserved by the city, in perpetuity, as natural open space for the mitigation trees and any associated understory species deemed appropriate to provide valuable woodland habitat.
 - 4. The in-lieu fee amount shall be determined by the city based upon the cost of establishing and administering the above-referenced Tree Mitigation Program.
 - 5. The city shall demonstrate that all tree replacement plantings take place within one year (365 days) of tree removal.
- (f) The applicant may be required as a condition of permit approval to enter into a tree maintenance agreement prior to removal of any protected tree or commencement of construction activities that may adversely affect the health and survival of trees to be preserved. The maintenance agreement may include provisions for the submittal of arborist's reports during and after construction activities, installation of replacement trees and irrigation systems by or under the supervision of a certified arborist, replacement of trees that die during or after construction phases, periodic fertilizing and pruning, and submittal of a security deposit as may be necessary to ensure the health and survival of the affected trees during the effective date of the tree maintenance agreement. The performance security ~~may~~ shall be required for a minimum of three-seven years from the date of the approval or as determined by the director. The amount of the performance security deposit shall be equal to 125 percent of the cost of a nursery grown tree and installation by a qualified professional.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.140. - Tree protection requirements.

The director shall determine during project review whether and to what extent measures will be required to protect the existing trees during construction. This decision shall be based upon the proximity of the area of construction activity to existing protected trees. The protective measures shall include but are not limited to the following:

1. The existing trees to be retained shall be enclosed by chain link fencing with a minimum height of five feet or by another protective barrier approved by the director prior to the issuance of a grading or building permit and prior to commencement of work.
2. Barriers shall be placed at least ~~five~~ten feet outside the drip line of trees to be protected. A lesser distance may be approved by the director if appropriate to the species and the adjacent construction activity, and if all appropriate measures are taken to minimize potential impacts (e.g., use of steel plates over a mulch base to reduce soil compaction in the critical root zone).
3. No grade changes shall be made within the protective barriers without prior approval by the director. Where roots greater than one inch in diameter are damaged or exposed, the roots shall be cleanly saw cut and covered with soil in conformance with industry standards.
4. Excavation or landscape preparation within the protective barriers shall be limited to the use of hand tools and small hand-held power tools and shall not be of a depth that could cause root damage.
5. No attachments or wires other than those of a protective or nondamaging nature shall be attached to a protected tree.
6. No equipment or debris of any kind shall be placed within the protective barriers. No fuel, paint, solvent, oil, thinner, asphalt, cement, grout or any other construction chemical shall be stored or allowed in any manner to enter within the protected barrier.
7. If access within the protection zone of a protected tree is required during the construction process, the route shall be covered in a six-inch mulch bed in the drip line area and the area shall be aerated and fertilized at the conclusion of the construction.
8. When the existing grade around a protected tree is to be raised, drain tiles shall be laid over the soil to drain liquids away from the trunk. The number of drains shall depend upon the soil material. Lighter sandy soils and porous gravelly material require fewer drains than heavy nonporous soils like clay. Dry wells shall be large enough to allow for maximum growth of the tree trunk. Dry well walls shall be constructed of materials that permit passage of air and water.
9. When the existing grade around a tree is to be lowered, either by terracing or a retaining wall, a combination may be used to lower grade. With either method, the area within the drip line shall be left at the original grade. The retaining wall shall be porous to allow for aeration.

10. Trees that have been destroyed or that have received major damage during construction shall be replaced prior to final inspection. Any trees damaged or destroyed shall be replaced in kind, and a 7-year maintenance period shall be required to ensure establishment.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.150. - Post decision procedures.

- (a) *Appeals.* Decisions of the director shall be considered final unless an appeal is filed in compliance with chapter 22.74 (Appeals). The decision of the director may be appealed to the planning commission. The decision of the commission may be appealed to the council.
- (b) *Expiration/extension.* A tree removal permit or tree pruning permit shall be exercised within one year from the date of approval or other time frame that may be established with a discretionary permit approval. Time extensions, for up to a total of two additional years, may be granted in compliance with chapter 22.66 (Permit Implementation and Time Extensions). If a tree removal permit or tree pruning permit is not exercised within the established time frame, and a time extension is not granted, the provisions of chapter 22.66 (Permit Implementation and Time Extensions) shall apply.
- (c) *Construction monitoring.* Monitoring of tree protection and restoration measures specified as conditions of approval shall be performed by site inspection conducted by the director, or by ~~an arborista~~ Certified Arborist or Certified Urban Forester.
- (d) *Revocation.* A tree removal permit or tree pruning permit may be revoked or modified, in compliance with chapter 22.76 (Revocations/Modifications), if it is found that the tree removal, relocation or protection activities:
 - 1. Resulted from misrepresentation or fraud;
 - 2. ~~Has~~ Have not been implemented in a timely manner;
 - 3. ~~Has~~ Have not met, or has violated, any conditions of approval;
 - 4. ~~Is~~ Are in violation of any code, law, ordinance or statute;
 - 5. ~~Is~~ Are detrimental to public health, safety or welfare; or
 - 6. Constitutes a nuisance.

(e) *Enforcement.*

1. Any person who cuts, damages, or moves a protected tree in violation of this chapter shall be deemed guilty of an infraction or misdemeanor in compliance with section 22.78.060 (Legal Remedies).
2. Violation of this chapter during construction activity may result in an immediate stop-work order issued by the city, until permits are obtained along with proper mitigation.

(Ord. No. 02(1998), § 2, 11-3-98)

Sec. 22.38.160. - Tree replacement fund.

Moneys received by the city in lieu of replacement trees as provided for in section 22.38.130 (Tree Replacement/Relocation Standards), or as civil penalties for violations of this chapter shall be deposited in a tree replacement fund and the city's general fund, respectively. Funds collected by the city for the tree replacement fund and interest earned thereon shall be used solely for the planting of trees or other vegetation on publicly owned property, under the auspices of the Tree Mitigation Program provided for in section 22.38.130(e).

(Ord. No. 02(1998), § 2, 11-3-98)

CONCLUSION

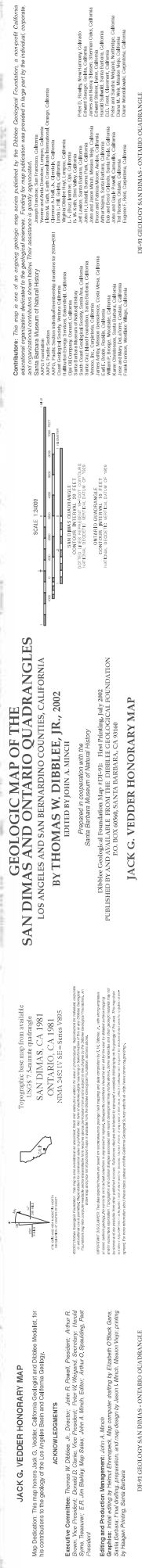
Hamilton Biological appreciates the opportunity to propose amendments to the Diamond Bar Tree Preservation and Protection Ordinance. If you have questions, please call me at (562) 477-2181 or send e-mail to robb@hamiltonbiological.com.

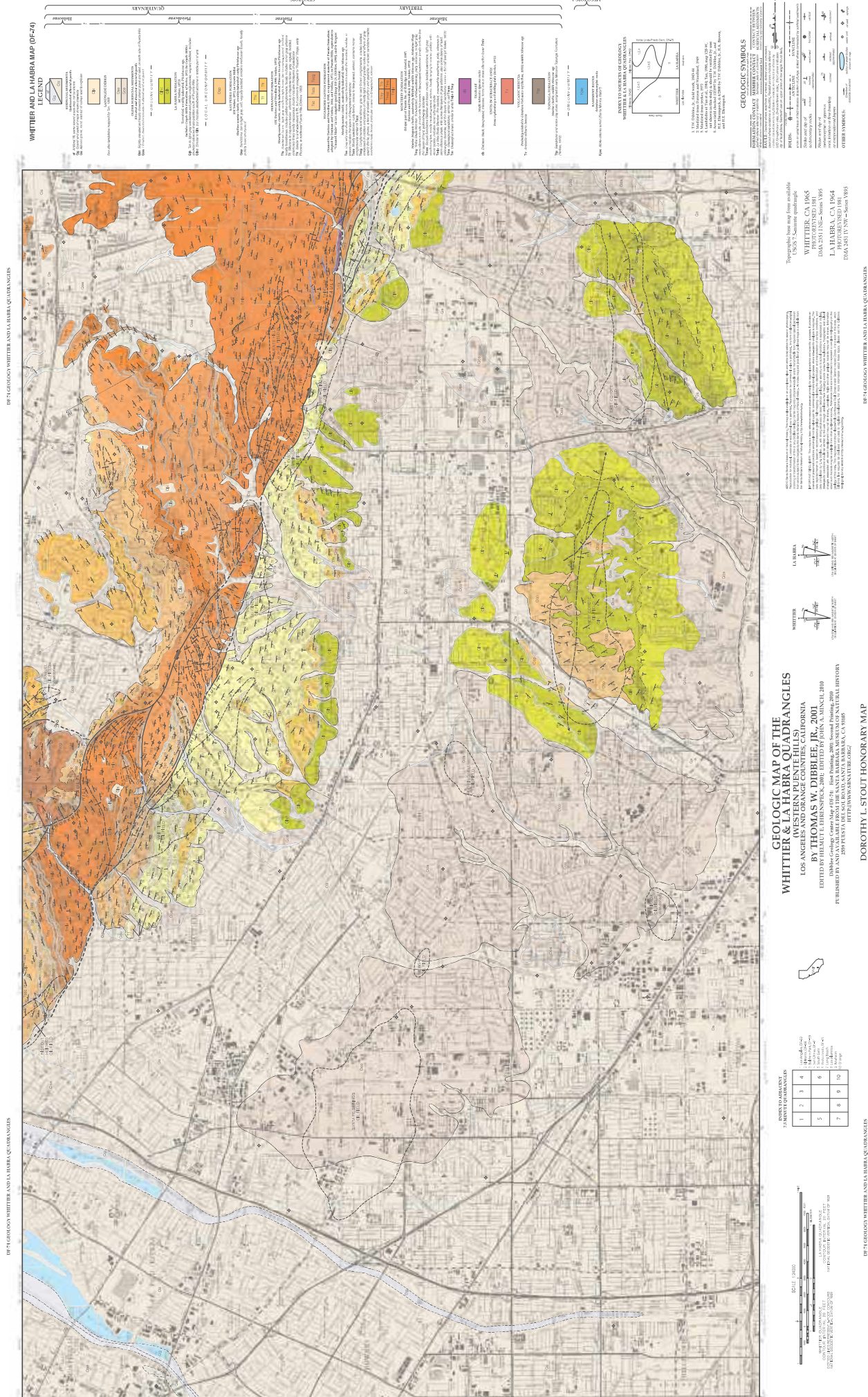
Sincerely,

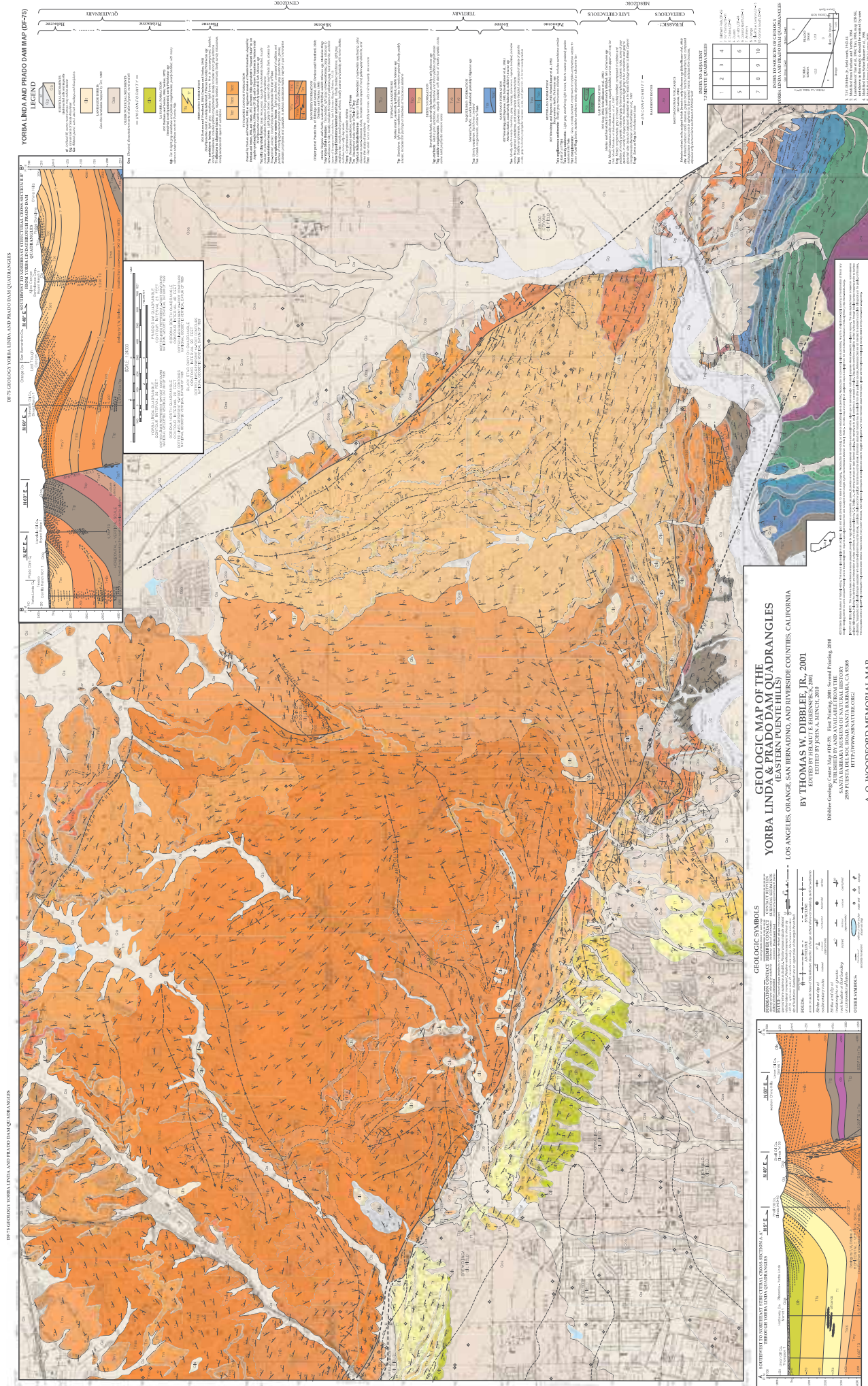


Robert A. Hamilton
President, Hamilton Biological, Inc.

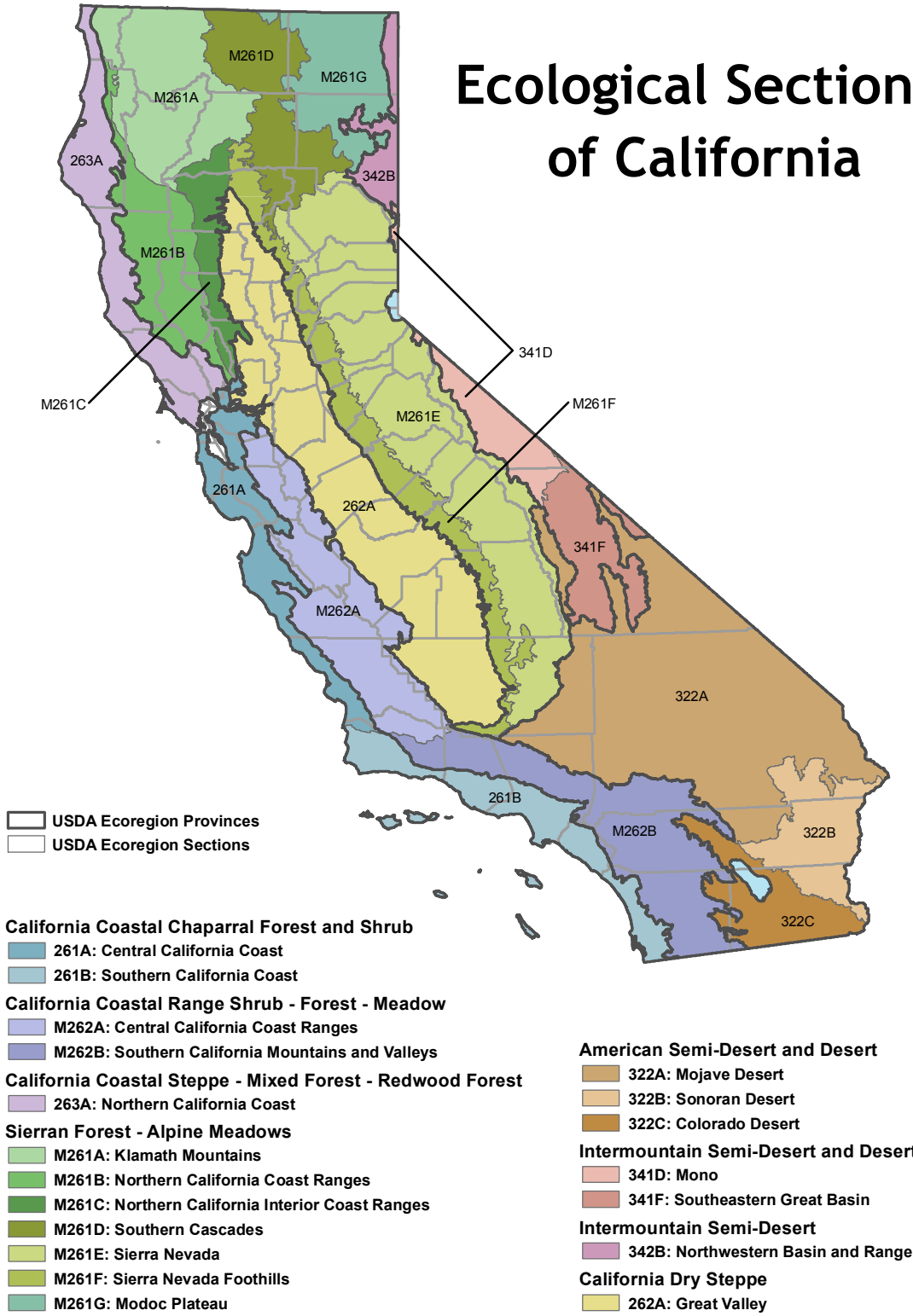
316 Monrovia Avenue
Long Beach, CA 90803
562-477-2181
robb@hamiltonbiological.com







Ecological Sections of California



Oct. 31, 2019

B7-1

Comments for the City of Diamond Bar General Plan 2040, DEIR

To: Grace Lee, City Senior Planner

Dear Ms. Lee:

It is good to see the City of Diamond Bar finally acknowledge in the general plan and EIR, the rare and sensitive species and natural communities, we are privileged to have here.

B7-2

The Diamond Bar – Pomona Valley Sierra Club is a local conservation group. Our work involves exploring, enjoying and protecting wildlife habitats and ecosystems in our city and the surrounding areas. Our “community science” activities have come up with some exciting findings.

Since the Diamond Bar – Pomona Valley Sierra Club has been working on an on-going “Diamond Bar Natural History” project these past three years, I submit some of our findings – which has been and is being mapped on iNaturalist, eBird and the CNDDDB. We are also communicating with the Los Angeles Natural History Museum staff in assisting to map our findings of the rare and critically imperiled Los Angeles County Shouldband snail, which has been found distributed throughout Diamond Bar.

My overall comments about the draft environmental report are concerned with the missing bits of important biotic information, as well as the incomplete or incorrect information in mitigation plans or reported species.

Here is a list of my questions and concerns:

B7-3

Cultural Findings, page 45-52, Resource Conservation Chpt. 5

1. The DEIR does not mention the (approximate) 40 boxes of stone artifacts recovered at the Pulte Home development project (gated community, located off Crest View and Diamond Bar Blvd.) in 2006. Our group spoke with Dr. Beardsley and curator, Anne Collier at University of La Verne, where the findings are stored, in 2017.

Q: Why are these findings missing from pg. 49’s chart? Will the City of Diamond Bar correct this omission? What will the city do to restore these findings to the city’s historical society and rightly honor the Kizh Nation?

B7-4

2. The south end of the city at the “Cathay View” development, a registered “sacred Kizh oak woodland” land was officially registered June 13, 2017: N-CAN 33. Q: Why is this listing missing from the Cultural Resources, Resource Conservation, chapter 5, page 49 chart?

B7-5

Vegetation Communities: Figure 5.2

3. Oak woodland natural communities are under reported in the DEIR habitat map. At least the designation ought to be: southern oak/walnut woodland. California walnut trees are not dominant throughout the city. Please view my pictures of Steep Canyon, Sycamore Canyon and show me where the walnut trees are the dominant species. (posted in the following natural history draft report I submit here.)

B7-6

4. *Opuntia littoralis*, cactus scrub is not named in the DEIR, though it is a dedicated alliance in the Manual of California Vegetation, second edition, Sawyer, Keeler-Wolf, Evans.

[https://calscape.org/Opuntia-littoralis-\(Coast-Prickly-Pear\)?srchcr=sc5708872f8cdd6](https://calscape.org/Opuntia-littoralis-(Coast-Prickly-Pear)?srchcr=sc5708872f8cdd6)

Diamond Bar has dominant patches of this natural community distributed throughout onDEIR? Will the city correct the omission?

B7-7

5. Sycamore Canyon Park is designated by the USGS as a “sycamore riparian” habitat due to Diamond Bar Creek passing through it from Steep Canyon. Q: Why is Sycamore Canyon Park colored yellow/walnut woodland, with non-native grasses? See the picture attached and explain how the city came up with such an incorrect report.

B7-8

Wildlife Circulation/Corridor Activity

6. Deer, coyote, bobcat and cougar have been regularly sighted, circulating throughout Diamond Bar. The northern areas (see Hamilton Report map, area #3 especially.) Mountain lion was encountered at city hall in 2013, routine resident sightings in The DB Country Estates, and a recent report from a hiker near Tres Hermanos/Phillips Ranch area, 2019. Residents in area #3, Hamilton report map, have observed regular visits of deer families, circulating throughout this green area, comprised of grassland, oak/walnut woodland and coastal scrub. The deer travel in and round Pantera Park, Steep Canyon, Sycamore Canyon and Summitridge trail, and frequently observed browsing on the side of Diamond Bar Blvd., near Crest View and Gold Rush avenues. (see photos in my gallery).

B7-9

Q: What support will the city lend to the wildlife circulation WITHIN the city neighborhoods? Q: Why is there no mention of wildlife circulation in the mid-northern portions? Has the city considered the Hamilton report’s wildlife corridor map?

B7-10

7. Sensitive species like California Gnatcatcher, burrowing owl, golden eagle, red rattlesnake, cactus wren are observed throughout the trail and wildland areas in the city. I have personally observed the gnatcatcher in Steep Canyon area (see pic.) Hikers and residents regularly contact our Sierra Club with their pictures and reports. One hiker submitted a photo of a burrowing owl located near a Diamond Bar trail. (see pic.)

B7-11

Q: Why is the information incomplete in the Resource Conservation and DEIR document? What effort will the city do to officially report the presence of these species to state conservation trustee agencies like the CDFW and USFWS?

B7-12

Q: Why does Figure 5.2 use the term “vegetation communities”? The official term used by the California Vegetation text book, is “natural communities”, indicating natural ecosystems – not supported by man-made interventions like automated irrigation, fertilizer, pesticides, tilling or discing. Q: Will the city correct the misleading term, “vegetation” communities?

B7-13

Specific Details and a Program EIR

In summary, the general plan and DEIR explains it is a general assessment and not specific, promising that each future development project will examine biological resources in detail. Yet, it also mentions during the detailed survey of a project, it is allowed to depend on the general plan/EIR. Does this mean there is a loop hole in performing CDFW protocol surveys for projects in the “wild edge” or other sensitive ecological areas? How will mitigation monitoring be handled? Will the Public be apprised of who are the monitors and how monitoring procedures are implemented?

B7-14

Q: How can accurate surveys and conservation be accomplished if the DEIR is vague and general, then promises specific assessments be accomplished in future developments if at the core, there are no specific declarations like “Diamond Bar Creek traversing Sycamore Canyon Park”?

Thank you for reading and answering my questions. The attached “Diamond Bar Natural History” project gallery is one of my on-going tasks. Please notice, pictures of resident’s input are included, as our Sierra Club helps to explore and help local wildlife and encourage residents to follow city wildlife interaction guidelines.

B7-15

My references follow.

Thank you.

Diego Tamayo, Diamond Bar student, resident, Youth Field Intern/Sierra Club

Email: diegonaturalist@gmail.com

References:

Hamilton Biological Report, City of Diamond Bar; Natural Communities Map 2019

California Vegetation Manual www.veg.cnps.org

L.A. County Oak Woodland Conservation Plan Guide

http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

Diamond Bar Natural History Project

Diamond Bar-Pomona Valley Sierra Club Task Force



SIERRA CLUB

FOUNDED 1892

ANGELES CHAPTER

324 South Diamond Bar Blvd #230
Diamond Bar, CA 91765-1863
501c4, Non-profit, for Public Benefit

Mr. Diego Tamayo, Youth Field Intern | diegonaturalist@gmail.com

The Diamond Bar – Pomona Valley Sierra Club Task Force BioBlitz! Eco-education Trail Hike, Summitridge Trail May 2018



L.A. County Biologist, Joe Decruyenaere
Biologist, Dan Cooper Teach Interested Hikers Biodiversity in Diamond Bar

Black Chinned Hummingbird
DB resident R. Cortez



Kestrel
DB resident R. Martin



Checkerspot Butterfly
Summitridge Trail

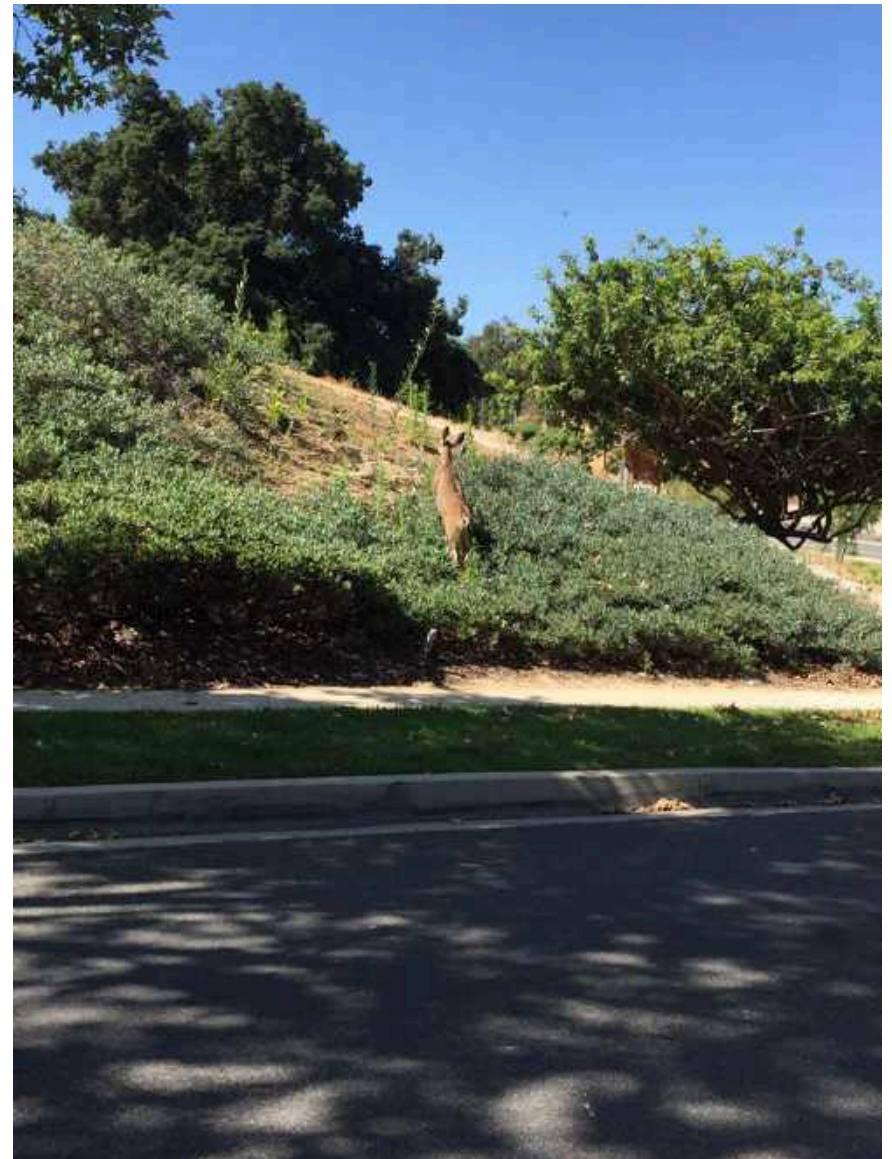
Shoulderband Snail
Sycamore Canyon Park





White Tailed Mule Deer
Opuntia scrub, Steep Canyon

Gold Rush Ave + Diamond Bar Blvd.



Burrowing Owl 2017
Ridge Trail Hiker J. Goldman



California Gnatcatcher, Steep Canyon
D. Tamayo



Golden Eagle, Tres Hermanos/DB
D. Cooper

Dusky Wood Rat Nest, Steep Canyon
D. Tamayo





Steep Canyon, Oak, Sycamore, Willow Riparian
Diamond Bar Creek in Sycamore Canyon Park

Bats in Diamond Bar!
Resident V. Young + R. Smith





Black Face Snake
Sycamore Canyon Park

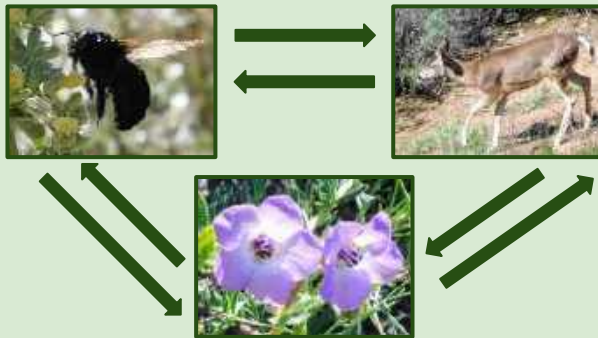
The Gallery



What is the “Web of Life”?

This is the natural, living network of assigned relationships between plants and animals, due to a need to survive.

Webs of Life create ecosystems.



How Do Ecosystems Work?

Let's imagine a flower, bee, and a deer.

The deer eats the flower, the deer's poop richens the soil for the flower. The bee needs the flower's nectar, the flower is pollinated by the bee. All the living creatures receive something from the flower; and the flower receives something in return.

All species are interdependent; each are supporting links in the ecosystem.

Now imagine only a deer and a flower.

Without the bee, the flower won't be pollinated, meaning no new flowers will grow next season. Soon the deer's food supply will be gone and the flower population will fail. When one ecosystem link is missing, all others can die off.



Ecosystems in Danger?

Human actions, like urban development projects, diminish wildlife habitat, so there is no room for wildlife to roam, find food or mates, and shelter or raise young. If the deer die off, the ecosystem gets fragmented, harming the web of life. When one species is removed from an ecosystem, other species become unstable and the entire habitat is at risk of failure. The natural system is degraded.

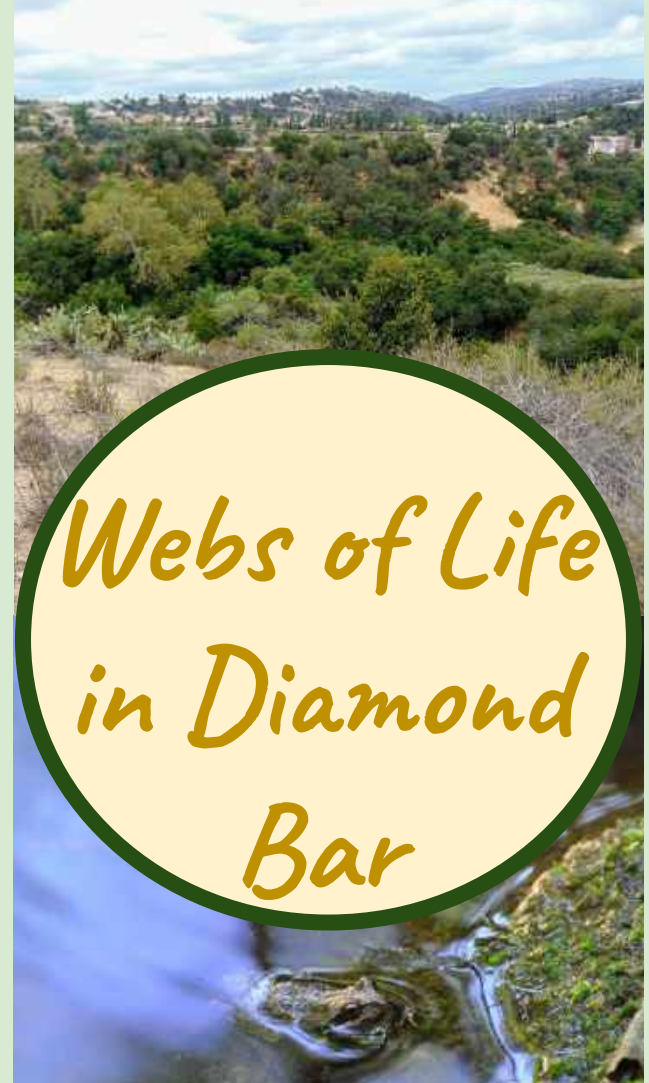
Did you know most of Diamond Bar's wildlands are not protected and are zoned for development? These trails you're hiking on today are included! Informed and caring residents can make a difference by lobbying for protected, natural open space.

I am Diego Tamayo, student naturalist
Please tell me what you think:
diegonaturalist@gmail.com

Further Information:

inaturalist.org/projects/
Puente-chino-hills-native-species
Diamond Bar Pomona Valley Sierra Club:
DBPVSierraClubTaskForce@gmail.com
www.diamondbarisbeautiful.com

Diego Tamayo 2018
DBPV Sierra Club Task Force Youth Intern



What is a web of life?

Why do all the creatures in a wild area rely on each other?

Where can you see intact, natural webs of life in Diamond Bar?

How can humans harm ecosystems, or save them?

How This Web of Life Works

Southern Coast Live Oak Woodland ecosystems are unique. The presence of each species functions as a *specialized niche* (occupation in an ecosystem), which only it can fulfil.

Trees are Ecosystems

Oak trees are high functioning ecosystems. Oaks are “key stone” species in supporting the web of life.

Fun Facts & Statistics:

- The scientific name of the Live Oak is *Quercus agrifolia*.
- One adult oak is used by 1,000+ species of birds, bugs, & more!
- 33% of all oak woodlands in California have disappeared!

Red-Shouldered Hawk

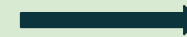


Coast Live Oak

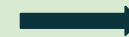


Live Oak Apple Gall Wasp

Fresh Twigs



Tree Cavities and Acorns



Acorn Woodpecker

Healthy Soil with Insects



Coastal Whiptail

Dying/Dead Tree Limbs



False Turkey-Tail



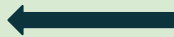
Cool Leaf Litter



S. California Shoulderband



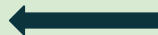
Common Prey, Nesting Sites



Western Gray Squirrel



Acorns and Nest Sites

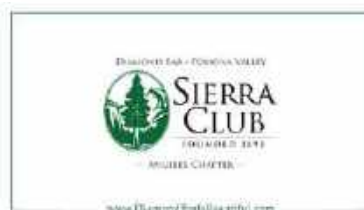


Biological Resources Report City of Diamond Bar



“This work is dedicated to the City of Diamond Bar, to its residents --- especially the children.”

Dedicated & Funded by a consortium of Diamond Bar residents and:



Cover Photo by Diamond Bar Resident, Eraina Olson, 2019.
Photos for Resource Protection Recommendations, by Robert Hamilton 2019.

February, 2019

Biological Resources Report City of Diamond Bar

Prepared By

Hamilton Biological, Inc.
Robert A. Hamilton, President
316 Monrovia Avenue
Long Beach, CA 90803
<http://hamiltonbiological.com>

February 25, 2019

TABLE OF CONTENTS

TABLE OF CONTENTS	II
INTRODUCTION.....	1
METHODS & TECHNICAL INFORMATION	2
VISIONS, GOALS, OBJECTIVES.....	2
HISTORY & LAND USE	5
SCENIC RESOURCES	5
HYDROLOGY/WATERWAYS.....	6
DIAMOND BAR WATERSHEDS	8
FLOODING	9
BIOLOGICAL RESOURCES	9
NATURAL COMMUNITIES.....	9
Annual and Perennial Grasslands, Vernal Pools/Seasonal Pools	10
Coastal Sage Scrub, Cactus Scrub.....	10
Chaparral	11
Coast Live Oak Woodland, Savannah	11
California Walnut Woodland, Savannah	11
Riparian Scrub and Woodlands.....	12
Human-altered Habitats	12
NATURAL OPEN SPACE AREAS	12
RESOURCE PROTECTION RECOMMENDATIONS	17
SENSITIVE RESOURCES	19
Sensitive Natural Communities	20
Special-Status Species	20
EFFECTS OF DEVELOPMENT ON BIOLOGICAL RESOURCES.....	29
EDGE/FRAGMENTATION EFFECTS ON WILDLIFE MOVEMENT	30
Wildlife Movement Issues in the Puente-Chino Hills	30
NATURAL RESOURCE CONSERVATION POLICIES.....	32
GOALS AND POLICIES OF THE OPEN SPACE AND CONSERVATION ELEMENT.....	32
LITERATURE CITED	34

FIGURES

1: Waterways	6
2: Lower San Gabriel River Watershed	7
3a: Natural Open Space Areas, Part 1	13
3b: Natural Open Space Areas, Part 2	14
3c: Natural Open Space Areas, Part 3	15
3d: Natural Open Space Areas, Part 4	16

TABLES

A: Resource Protection Recommendations.....	17
B: Special Status Species.....	22

APPENDICES

A: Methods & Technical Information	
------------------------------------	--

INTRODUCTION

Hamilton Biological, Inc., was retained by a consortium of Diamond Bar residents to prepare this biological resources report addressing the conservation and preservation of sensitive biological resources in the City of Diamond Bar (City) and its Sphere of Influence. It is intended that the City incorporate the information and analyses in this report into the next update of its general plan, currently in preparation.

Sections 65302(d) and 65302(e) of the California Government Code states that a city's general plan shall include goals and policies for management of open spaces, including natural lands and recreation areas. The Open Space Element addresses such categories as preservation of natural resources and managed production of resources. The Conservation Element addresses protection and maintenance of natural resources, including soils, water, plants, wildlife, and mineral resources. Recognizing that the subjects covered under the Open Space Element and Conservation Element substantially overlap, Appendix 1 to the California Government Code allows these two elements to be combined in one section of the General Plan.

The Open Space and Conservation Element identifies and describes the irreplaceable biotic resources that make up the natural environment that people rely upon for breathable air, clean water, viable populations of native plants and wildlife, and the natural beauty that pervades and defines Diamond Bar. The Open Space and Conservation Element guides city decision-makers and the public in their efforts to take the natural world into account during deliberations over development proposals, as required to realize the overall vision laid out in the General Plan.

The Open Space and Conservation Element guides the development and implementation of programs involving conservation of open space, biological resources, visual resources, and parks and recreation. Approaches for managing environmental impacts are identified, with particular emphasis on contributing to achievement of the General Plan's stated goals, including:

- Create and retain an open space system which will conserve natural resources, preserve scenic beauty, promote a healthy community atmosphere, provide open space for outdoor recreation, and protect the public safety.
- Identify limits on the natural resources needed to support urban and rural development within the City and its Sphere of Influence, and ensure that those resources are used wisely and not abused.
- Provide a park, recreation and open space system which enhances the livability of urban and suburban areas by providing parks for residential neighborhoods; preserving significant natural, scenic, and other open space resources; and meeting the open space and recreational needs of Diamond Bar residents.

Methods & Technical Information

Please refer to Appendix A, which describes the methods for preparing this biological resources report, as well as providing technical information that underpins the analyses, conclusions, and policies contained herein.

Visions, Goals, Objectives

The General Plan identifies “a strongly held goal among the residents to **maintain and protect the distinctive physical attributes of Diamond Bar which make it a desirable place in which to live.**” To achieve this overarching goal of safeguarding open spaces and significant natural features, as well as retaining the City’s distinctive natural character, the Open Space and Conservation Element focuses on supporting the following visions, goals and objectives, building upon language contained in the original 1995 General Plan:

- **Vision 1.** Retention of the rural/country living community character. There is a strong, long-held goal among residents to maintain and protect the distinctive, physical attributes of Diamond Bar which make it a desirable place in which to live, through a careful balance of housing, businesses and services, public facilities, and preservation of natural environmental resources.
- **Vision 2.** Preservation of open space. Significant privately and publicly owned natural lands that remain in Diamond Bar and its 3,591-acre Sphere of Influence support numerous rare species and perform important ecological functions. The preservation of sensitive natural resources contributes to the goal of retaining the City’s distinctive rustic character and offers unique educational and recreational opportunities. The County of Los Angeles has identified the Sphere of Influence and adjacent lands, some of which lie within the City, as Significant Ecological Area (SEA) 15. SEA 15 is recognized as a major significant ecological asset to the community. The City will play a proactive role in the preservation of SEA 15 by assuring that extensive analysis and review precede any changes from its current uses and possibilities.
 - **Goal 1.** Consistent with the Vision Statement, maintain a mix of land uses which enhance the quality of life of Diamond Bar residents, providing a balance of development and preservation of significant open space areas to assure both economic viability and retention of distinctive natural features of the community.
 - **Objective 1.1** Establish a land use classification system to guide the public and private use of land within the City and its Sphere of Influence.
 - **Objective 1.2** Preserve and maintain the quality of existing residential neighborhoods while offering a variety of housing opportunities, including mixed land uses.

- **Objective 1.3** Designate adequate land for retail and service commercial, professional services, and other revenue generating uses in sufficient quantity to meet the City's needs.
 - **Objective 1.4** Designate adequate land for educational, cultural, recreational, and public service activities to meet the needs of Diamond Bar residents.
 - **Objective 1.5** Maintain a feeling of open space within the community by identifying and preserving an adequate amount of open land.
 - **Objective 1.6** Consistent with the Vision Statement, provide flexibility in the planning of new development as a means of encouraging superior land use by means such as open space and public amenities.
- **Goal 2.** Consistent with the Vision Statement, manage land use with respect to the location, density and intensity, and quality of development. Maintain consistency with the capabilities of the City and special districts to provide essential services which achieve sustainable use of environmental and manmade resources.
 - **Objective 2.1** Promote land use patterns and intensities which are consistent with the Resource Management Element and Circulation Element.
 - **Objective 2.2** Maintain an organized pattern of land use which minimizes conflicts between adjacent land uses.
 - **Objective 2.3** Ensure that future development occurs only when consistent with the availability and adequacy of public services and facilities.
 - **Goal 3.** Consistent with the Vision Statement, maintain recognition within Diamond Bar and the surrounding region as being a community with a well-planned and aesthetically pleasing physical environment.
 - **Objective 3.1** Create visual points of interest as a means of highlighting community identity.
 - **Objective 3.2** Ensure that new development, and intensification of existing development, yields a pleasant living, working, or shopping environment, and attracts interest of residents, workers, shoppers, and visitors as the result of consistent exemplary design.
 - **Objective 3.3** Protect the visual quality and character of remaining natural areas, and ensure that hillside development does not create unsafe conditions.

- **Goal 4.** Consistent with the Vision Statement, encourage long-term and regional perspectives in local land use decisions, but not at the expense of the Quality of Life for Diamond Bar residents.
 - **Objective 4.1** Promote and cooperate in efforts to provide reasonable regional land use and transportation/circulation planning programs.
- **Goal 5.** Consistent with the Vision Statement, recognize that oak trees, oak woodlands, and associated habitats have intrinsic aesthetic, environmental, ecological, wildlife, and economic values; that conservation of oak-dominated landscapes is important to the health, safety and general welfare of the citizens of Diamond Bar¹; that that the General Plan must contain adequate policies to protect the oak habitats from unnecessary damage, removal or destruction; that native oak trees should be planted, where appropriate, to enhance or restore damaged or degraded oak woodland habitats and mitigate unavoidable losses.
 - **Objective 5.1** Protect and extend the diversity of oak woodlands and associated habitats (defined as lands on which the majority of the trees are of the genus *Quercus*) through site design and land use regulations.
 - **Objective 5.2** Reduce in scale, redesign, modify, or if no other alternative exists, deny any project which cannot sufficiently mitigate significant adverse impacts to oak woodlands.
 - **Objective 5.3** Encourage property owners to establish Open Space Easements or deed restrictions for areas containing oak woodlands, and to allow access to enable scientific study.
 - **Objective 5.4** Encourage concentration of development on minimum number of acres (density exemptions) in exchange for maximizing long term open space.
 - **Objective 5.5** As a mitigation option, allow as a condition of development approval, restoration of any area of oak woodland that is in a degraded condition, with the magnitude of restoration to be commensurate with the scope of the project. This may include planting of oak trees and removal of non-native species, with consideration for long-term viability, management, and protection, and/or modification of existing land uses. The object of habitat restoration shall be to enhance the ecological function of the oak woodland and to restore it to a condition where it can be self-sustaining through natural occurrences such as fire, natural hydrological processes, etc.

¹ Woodlands are defined as lands with tree cover of at least 10%, and oak woodlands exist where the majority of trees are of the genus *Quercus*.

History & Land Use

Set within the Puente Hills of southeastern Los Angeles County, the City of Diamond Bar covers 14.9 square miles. Neighboring cities include Walnut, Pomona, Industry, La Puente, Rowland Heights, Brea, and Chino Hills. The region now occupied by Diamond Bar was inhabited by the Kizh people until the mid-eighteenth century, when the Spaniards settled in the area, establishing Mission San Gabriel in 1771 (City of Diamond Bar and Diamond Bar Historical Society 2014; Housing element 2014). The land experienced a series of ownership changes involving various land grants and purchases (e.g., the Los Nogales Grant; purchases by Luz Linares, Vejar and Palomares, Louis Phillip, Frederick E. Lewis II, William Bartholome), eventually growing into one of the largest and respected ranches in southern California and gaining its name. This lasted until 1956, during which two subsidiaries of Transamerica Corporation (Christiana Oil Corp and the Capital Oil Company) purchased the area, aiming to make it among the first and largest master-planned community in Los Angeles County (City of Diamond Bar and Diamond Bar Historical Society 2014).

Despite initial intentions as a “master-planned” community, uncoordinated patterns of development through the late twentieth century have introduced areas of incongruence, such as single- and detached multi-family residential tracts being established alongside limited commercial and other non-residential sections. Most suburban construction was already established prior to the city’s incorporation in 1989, and commercial development has continued expand within the city limit. A few blocks away from the primary arterials (57 and 60 Freeways) the majority of retail and housing space is largely concealed by the natural topography, contributing to Diamond Bar’s quiet, semi-rural character and pleasant atmosphere.

Scenic Resources

Today, Diamond Bar is primarily a hillside residential community, composed of steep and moderate sloping hills separated by ridges and flat plateaus. Although most of the land was developed prior to the city’s incorporation, its remaining natural hillsides and ridgelines provide a picturesque backdrop and strong visual ties to the area’s long history of ranching. The views from these natural areas comprise powerful and valuable scenic resources, adding ambiance and aesthetics that give Diamond Bar a unique and compelling visual identity. In addition, views of trees, rolling hills and the pine- and often snow-covered peaks of the San Gabriel Mountains are visible in the distance from the 57 and 60 Freeways.

Planning decisions must recognize the existing aesthetic value of the city’s open space as well as the external viewsheds of the surrounding region. These include the oak and walnut wooded ridgelines, unique topography, and natural open spaces at the edges of the community.

HYDROLOGY/WATERWAYS

Diamond Bar lies within of the San Gabriel River watershed, which is the largest watershed in the drainage system of the San Gabriel Mountains at 441,000 acres (Lower San Gabriel River Watershed Group 2015). The San Gabriel River is one of seven major watersheds partly or completely within Los Angeles County. Most of the river lies in southeastern Los Angeles County, but a portion of this watershed originates in northern Orange County. The northern portion of the San Gabriel River, where it emerges from the mountains, has retained some natural features, such as a sandy bottom and native vegetation. Farther south, however, flood-control and channel stabilization measures needed to accommodate intensive urbanization led to the river being lined with concrete (US Army Corps of Engineers 1991; Neal 2011).

Water runs through Diamond Bar via numerous channels, creeks and canyons. A small part of the northwestern part of the city drains to the San Gabriel River via the San Jose Creek channel, which follows the route of Valley Boulevard west from Diamond Bar. Most of Diamond Bar drains south to the San Gabriel River through the Coyote Creek watershed (see Figure 1).

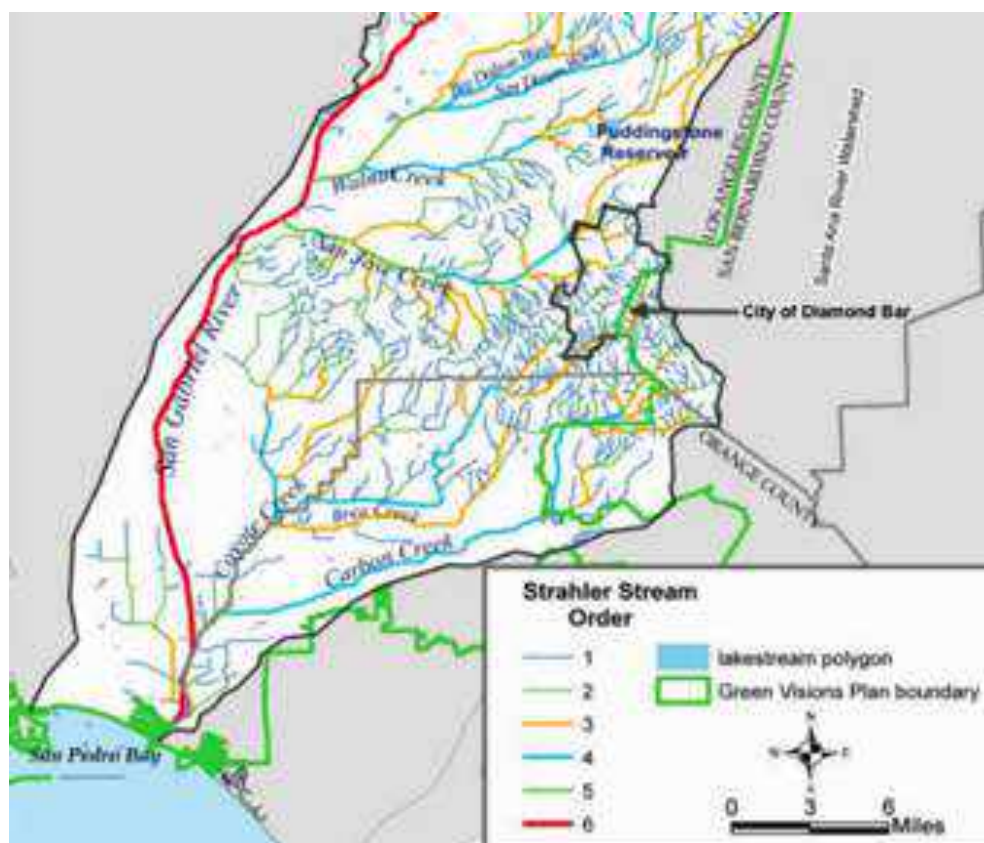


Figure 1, Waterways. Diamond Bar lies mostly within the watershed of Coyote Creek, but the northwestern part of the city discharges to the west, through the San Jose Creek channel.

Source: National Hydrology Dataset. <http://www.horizon-systems.com/nhdplus/NHDPlusV1download.php>

Coyote Creek and San Jose Creek drain approximately 165 square miles and 83 square miles, respectively, of highly urbanized commercial, residential, and industrial zones, plus limited natural open space areas (Sheng & Wilson 2000, using Horton-Strahler Stream Order).

In 2013, Diamond Bar joined 12 other cities and the Los Angeles County Flood Control District to develop a Watershed Monitoring Program (WMP) and Coordinated Integrated Monitoring Program (CIMP) to address the lower portion of the San Gabriel River, which includes Reaches 1 and 2 of the San Gabriel River Watershed and portions of Coyote Creek that originate from jurisdictions within Los Angeles County, including the City of Diamond Bar. A small portion of Diamond Bar that discharges to the San Gabriel River via San Jose Creek is also addressed by this CIMP. See Figure 2, below.

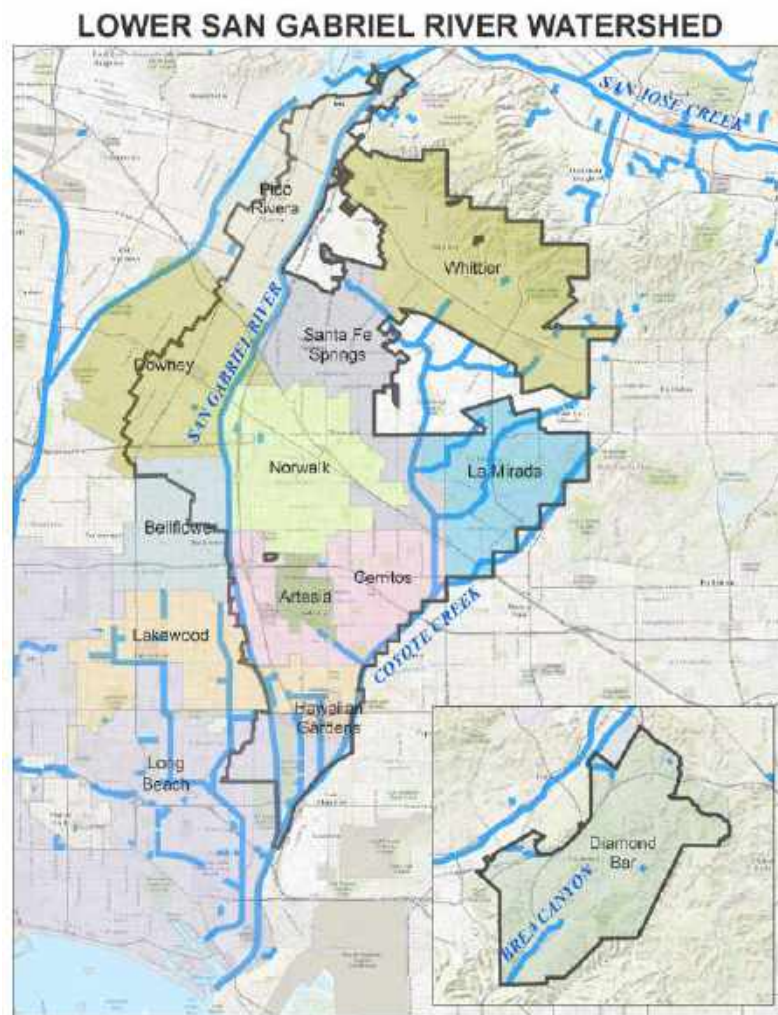


Figure 2, Lower San Gabriel River Watershed. Diamond Bar occupies the most northeasterly part of the Lower San Gabriel River Coordinated Integrated Monitoring Program.

Source: Gateway Water Management Authority. <https://gatewaywater.org/services/lmgr/>

Diamond Bar Watersheds

Diamond Bar is served by four watersheds, all with some channelization/urbanization: Tonner Canyon Creek, Diamond Bar Creek, Brea Canyon Creek, and San Jose Creek. Each system supports riparian habitat that provides resources for protected/special-status species. The following discussions describe each of these four drainage systems.

1. Tonner Canyon

With a watershed of 5,000 acres and very little development, Tonner Canyon ranks among the most ecologically significant, unchannelized, largely undisturbed drainages in the Los Angeles area (HFE 2018). Occupying parts of Los Angeles, San Bernardino and Orange Counties, Tonner Canyon drains the southeastern side of Diamond Bar and the northwestern side of the City of Chino Hills. The flow rate, controlled by natural rills, gullies and washes, varies throughout the year. The canyon's headwaters lie in a bowl of low hills just south of Diamond Ranch High School. Roughly 1.4 miles downstream, Grand Avenue cuts across the watershed, and just downstream from that road crossing lies the small Arnold Reservoir. Below the reservoir's dam, water flows southwest through natural open space lands the City of Industry has purchased from the Boy Scouts of America in recent years. After flowing for approximately a mile through open, rolling hills, the creek then enters a narrower canyon, with steeper hills on either side. At that point, the willow-, sycamore-, and oak-dominated riparian vegetation becomes more developed. The creek flows another six miles south and west to empty into Brea Creek, located near the 57 Freeway in the Coyote Creek drainage basin of Orange County.

2. Diamond Bar Creek

Originating in the neighborhoods west of Diamond Ranch High School, Diamond Bar Creek runs approximately 1.2 miles to the west, through Sycamore Canyon Park, and then continues west of Golden Springs Road through Diamond Bar Golf Course, and from there underneath the 57 and 60 Freeways, to a channel east of the freeway that is tributary to San Jose Creek. The upper segment, from Leyland Drive through the Sycamore Canyon Park, supports well-developed native sycamore/oak/willow riparian woodlands. The segment passing through Diamond Bar Golf Course supports broken, partially native riparian habitat.

3. Brea Canyon Creek

The southwestern part of Diamond Bar, including the "Brea Canyons" neighborhood east of the 57 Freeway, drains south toward Coyote Creek via Brea Canyon Creek. Most of this watershed is fully developed within the limits of Diamond Bar, but the southernmost portion, near the terminus of Castle Rock Road, is a soft-bottomed perennial creek that supports riparian vegetation.

4. San Jose Creek – South Branch/Fork

Located at Diamond Bar's northwestern edge, the southern branch of San Jose Creek is a concrete-lined, trapezoidal channel that collects a small portion of urban runoff that is discharged north of the intersection of Sunset Crossing Road and North Diamond Bar Blvd. Runoff collected from catch basins drains west toward San Jose Creek in the City of Industry. At the eastern terminus of Back Lot Lane, in the City of Walnut, lies very small patch of riparian vegetation consisting of native and exotic trees and shrubs.

Flooding

Flood insurance maps issued by the Federal Emergency Management Agency (FEMA)², showing areas that may be subject to flooding in 100-year storm events, indicate that Diamond Bar is at low risk for major flood events. Only a limited section of the City, located north of SR-60 (Reed Canyon Channel at Brea Canyon Road and Lycoming Street) are a slightly elevated flood potential. Surrounding areas at potentially elevated risk of flooding include locations north of the 57 Freeway (across Baker Parkway) and an area covering roughly 2,000 acres near the border with Pomona.

An extensive system of concrete-lined drainages, many of which are independent of the natural streambeds, carries runoff through the City. Areas considered to be at elevated risk of flooding may require maintenance of drainage channels, which can include removal of native wetland and riparian vegetation, to maintain the flow of water through the stormwater system. Diamond Bar's generally low risk for flooding allows for native riparian vegetation to be retained in natural streambeds, which can develop into important habitat for various wildlife species.

BIOLOGICAL RESOURCES

Natural Communities

This section briefly describes the Natural Communities (also known as "plant communities" or "vegetation types") that occur in Diamond Bar and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits). The following discussions of Natural Communities refer to Natural Open Space Areas in the City and its Sphere of Influence, which are mapped subsequently (see Figures 3a–3d, starting on page 12). Please refer also to Appendix A, which describes the State-recommended methods used to classify Natural Communities for this report.

² Los Angeles county Flood Zone Definitions, See <http://dpw.lacounty.gov/wmd/floodzone/docs/FZDLegend.pdf>

ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS

Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence

The bottom of Tonner Canyon supports extensive grasslands. Most alliances of the widespread “California annual grassland” are not identified as Sensitive by CDFW, as they generally represent areas disturbed over long periods (e.g., by grazing) that no longer support many native plant species. Among the most prevalent alliances in the Diamond Bar area is “annual brome grassland.” Dominant species include ripgut brome (*Bromus diandrus*), foxtail brome (*Bromus madritensis* ssp. *rubens*), wild oats (*Avena fatua*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), shortpod mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), Italian thistle (*Carduus pycnocephalus*), and tocalote (*Centaurea melitensis*). Some disturbance-adapted native forbs, such as common fiddleneck (*Amsinckia intermedia*) and arroyo lupine (*Lupinus succulentus*), may also occur.

Areas of perennial grassland, distinguished by possessing non-trace cover of native grasses, are identified as Sensitive by CDFW. As examples, the *Nassella* spp. – *Melica* spp. herbaceous alliance is characterized by having at least 2–5 percent cover of native needlegrass (*Nassella* spp.) or other native grasses³; and the *Bromus carinatus* – *Elymus glaucus* herbaceous alliance has California brome (*Bromus carinatus*) characteristically present, with native plants providing more than 10 percent relative cover.⁴ It is likely that vernal pools/seasonal ponds occur in the site’s grasslands, and/or along dirt roads that pass through other Natural Communities.

Special-status species known to occur in Diamond Bar’s grasslands, or that have potential to occur there, include Catalina mariposa lily (*Calochortus catalinae*) small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*), Golden Eagle (*Aquila chrysaetos*), and Grasshopper Sparrow (*Ammodramus savannarum*).

COASTAL SAGE SCRUB, CACTUS SCRUB

Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence

Hillsides throughout the Puente Hills support stands of coastal sage scrub and cactus scrub, and this includes the dry, exposed slopes of Diamond Bar. Dominant native shrubs species in coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), coyote brush (*Baccharis pilularis*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Within the Study Area, cactus scrub is dominated by a combination of coastal prickly-pear (*Opuntia littoralis*) and shrubs characteristic of coastal sage scrub. The CDFW recognizes most of these scrub/cactus

³ <http://vegetation.cnps.org/alliance/536>

⁴ <http://vegetation.cnps.org/alliance/499>

alliances as Sensitive Natural Communities⁵ in their own right, and they often support special-status plant and/or wildlife species, such as intermediate mariposa lily (*Calochortus weedii* ssp. *intermedius*), Hubby's phacelia (*Phacelia hubbyi*), Coastal California Gnatcatcher (*Polioptila californica californica*), and Cactus Wren (*Campylorhynchus brunneicapillus*).

CHAPARRAL

Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence

On Diamond Bar's north- and east-facing slopes, coastal sage scrub is replaced by taller and denser shrubs and trees with greater requirements for moisture and shade. The mosaic consists of three main Natural Communities: chaparral, oak woodland, and walnut woodland. The lowland form of chaparral found in the study area is dominated by such species as laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), sugarbush (*Rhus ovata*), chaparral honeysuckle (*Lonicera subspicata*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Special-status species associated potentially found in chaparral in Diamond Bar include Fish's milkwort (*Polygala cornuta* var. *fishiae*) and the San Bernardino Ringneck Snake (*Diadophis punctatus modestus*).

COAST LIVE OAK WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence

Coast Live Oak Woodland, several associations of which are recognized as Sensitive by CDFW, is characterized by stands of coast live oak (*Quercus agrifolia*), and in some areas Engelmann oak (*Quercus engelmannii*), often growing together with chaparral and walnut woodland, on Diamond Bar's north- and east-facing slopes, as well as in the bottoms of some drainage courses. Oak savannah, characterized by scattered oaks growing in grassland, occurs in limited pockets and may be associated with human disturbance of oak woodlands. Coast live oaks are valuable to a variety of native wildlife, and are frequently utilized by nesting owls and hawks. Special-status species that may be found in oak woodlands in the Study Area include the Southern California Shoulderband Snail (*Helminthoglypta tudiculata*), Trask's Shoulderband Snail (*Helminthoglypta traskii*), and Long-eared Owl (*Asio otus*).

CALIFORNIA WALNUT WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence

This Natural Community, recognized as Sensitive by CDFW, is characterized by stands of southern California black walnut (*Juglans californica*) growing in association with chaparral and coast live oak woodland on Diamond Bar's north- and east-facing slopes. Walnut savannah, characterized by scattered walnuts growing in grassland, occurs in limited pockets and may be associated with human disturbance of walnut woodlands.

⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609>

Special-status species that may be found in walnut woodlands and walnut savannah in Diamond Bar include the species indicated previously for oak woodlands and chaparral.

RIPARIAN SCRUB AND WOODLANDS

Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence

Various forms of riparian scrub and woodland, nearly all of them recognized as Sensitive by CDFW, grow along streambeds in Diamond Bar. The dominant vegetation consists of willows, such as arroyo willow (*Salix lasiolepis*) and red willow (*S. laevigata*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), southern California black walnut (*Juglans californica*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Special-status species that may be found in riparian woodlands in Diamond Bar include the rough hedge-nettle (*Stachys rigida* var. *rigida*), Western Pond Turtle (*Emys marmorata*), Yellow-breasted Chat (*Icteria virens*), and Yellow Warbler (*Setophaga petechia*).

HUMAN-ALTERED HABITATS

Developed areas, such as turfed/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident ducks and other waterfowl.

Natural Open Space Areas

Figures 3a–3d, starting on the next page, depict 13 areas of extensive (>25 acres) native/naturalized habitat in Diamond Bar. Also depicted are Diamond Bar Golf Course and Tonner Canyon/Significant Ecological Area 15, within the city's Sphere of Influence. The figures also show potential habitat connections/choke points for wildlife movement between blocks of natural open space. Figures 3a–3d provide a basis for generally characterizing the existing ecological conditions within Diamond Bar and its Sphere of Influence, without accounting for such distinctions as the boundaries of parklands or private lots.

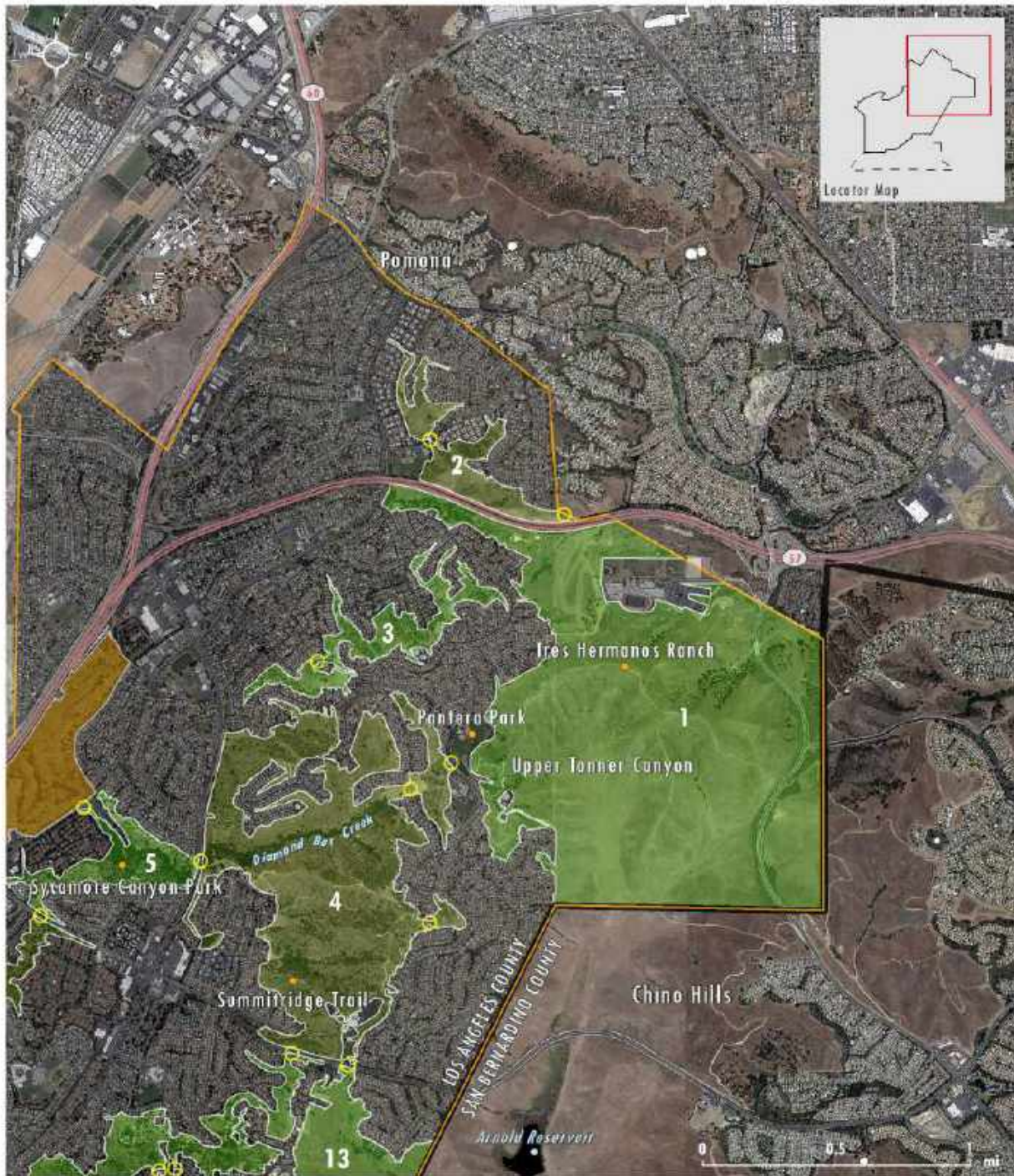


Figure 3a. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |


HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000, Graphic Scale Units: Miles.



Figure 3b. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |


HAMILTON BIOLOGICAL
 World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000, Graphic Scale Units: Miles.

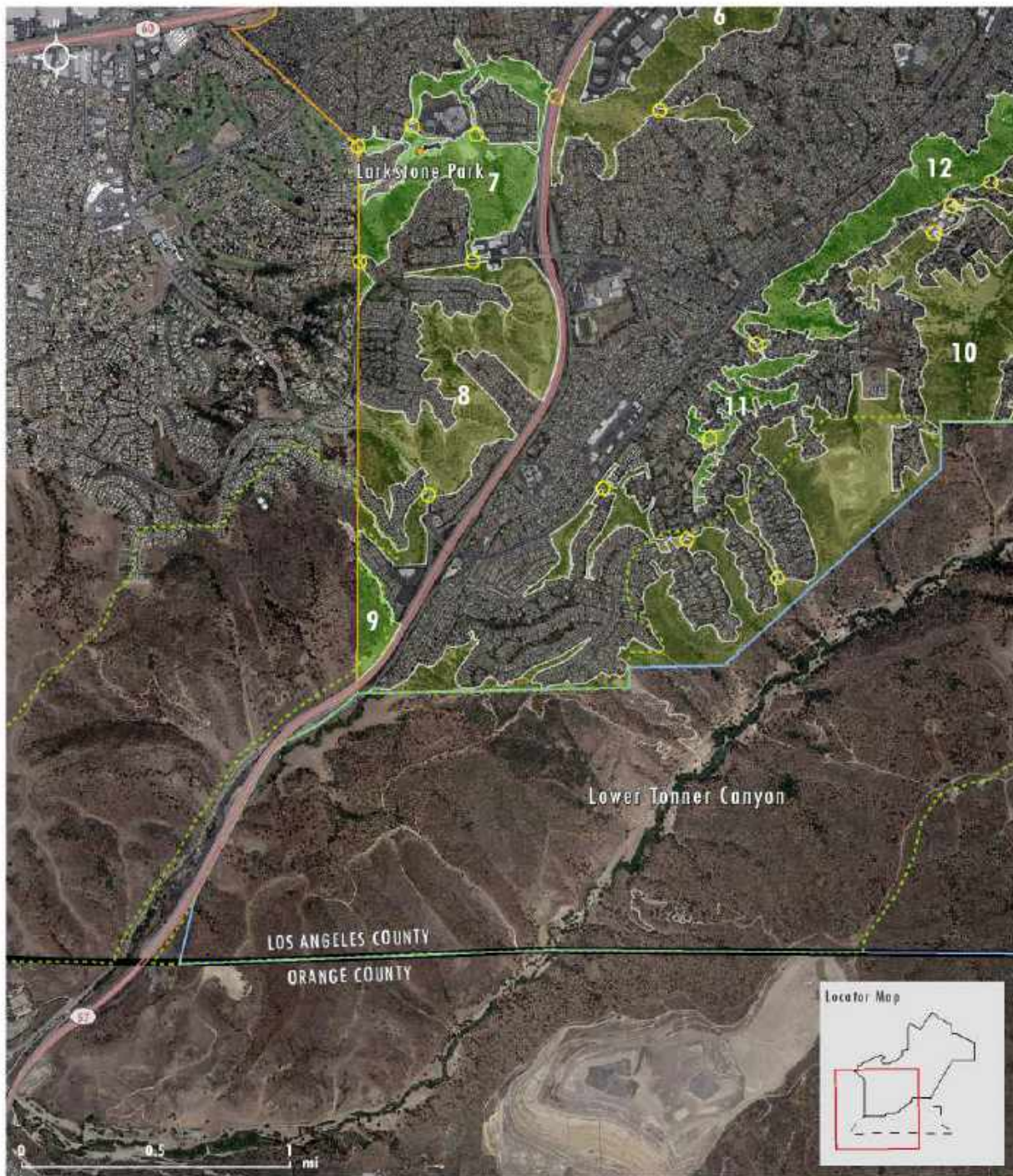



Figure 3c. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |


HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits; Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator; Datum: WGS84; Map Scale 1:38,000. Graphic Scale Units: Miles.

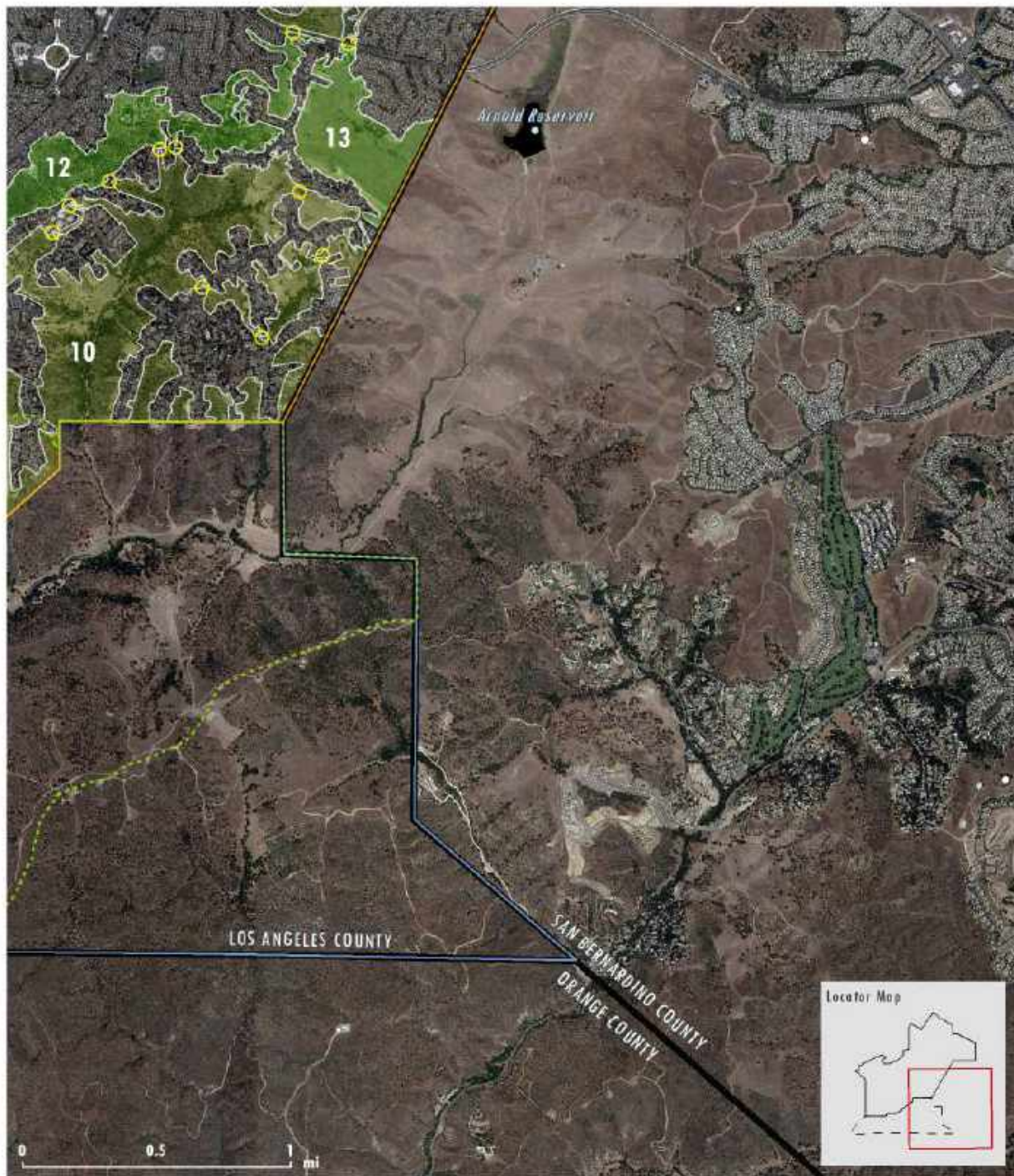


Figure 3d. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000. Graphic Scale Units: Miles.



Resource Protection Recommendations

Resource Protection Recommendations

Table A, below, describes and characterizes the ecological characteristics of each mapped natural open space area at a general level of detail appropriate for a General Plan. Recommendations are made for the establishment of biological protection overlays for sensitive habitat areas with high ecological values (e.g., native woodlands and coastal sage scrub). Note that sensitive natural resources (e.g., special-status species) and/or important ecological functions (e.g., movement of wildlife) could also occur outside of the identified areas. More detailed, project-specific surveys would be required to accurately and adequately describe the ecological resources found in any open space area.

Table A. Resource Protection Recommendations

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
1	926	<p>Largest block of natural open space in Diamond Bar, including Pantera Park and northern part of Tres Hermanos Ranch.</p> <p>Grassland, Coastal Sage Scrub, Cactus Scrub, Chaparral, Oak Woodland, Walnut Woodland, Riparian, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) native scrub habitats with documented populations of California Gnatcatcher and Cactus Wren, (c) wetland and riparian habitats, and (d) native woodlands; maintain and fortify habitat connections and wildlife movement opportunities; minimize loss, fragmentation, and degradation of Natural Communities.</p>
2	64	<p>Only large block of natural open space in Diamond Bar north of 60 Freeway.</p> <p>Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak Woodland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
3	72	<p>“Island” of natural open space between Charmingdale Road and Armitos Place.</p> <p>Coast Live Oak Woodland, Coastal Sage Scrub, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>
4	438	<p>Includes Summitridge Park and Steep Canyon/Diamond Bar Creek.</p> <p>Coastal Sage Scrub, Cactus Scrub, Oak Woodland, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats with documented populations of California Gnatcatcher and Cactus Wren, wetland and riparian habitats, and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
5	62	<p>Includes Sycamore Canyon Park/Diamond Bar Creek.</p> <p>Coastal Sage Scrub, Cactus Scrub, Oak Woodland, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats, wetland and riparian habitats, and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
6	196	<p>Slopes east of City Hall.</p> <p>Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Chaparral, Grassland, Coastal Sage Scrub, Human-altered Habitats, Riparian.</p> <p>Establish biological protection overlay to conserve native woodlands and savannah; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
7	154	<p>Includes Larkstone Park.</p> <p>Coast Live Oak Woodland, Oak Savannah, Coastal Sage Scrub, Chaparral, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native woodlands, wetland and riparian habitats, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
8	231	<p>West of 57 Freeway, south of Pathfinder Road.</p> <p>Oak Woodland, Oak/Walnut Savannah, Coastal Sage Scrub, Chaparral, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native woodlands and savannah, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
9	27	<p>Southwestern corner.</p> <p>Oak Woodland, Chaparral, Grassland.</p> <p>Establish biological protection overlay to conserve native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>
10	712	<p>Tonner Canyon tributaries.</p> <p>Chaparral, Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Coastal Sage Scrub, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats, wetland and riparian habitats, and native woodlands and savannah; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
11	39	<p>Southwestern section of The Country; part of Significant Ecological Area 15.</p> <p>Oak Woodland, Chaparral, Grassland.</p> <p>Establish biological protection overlay to conserve native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
12	197	<p>Slopes west of Ridge Line Road.</p> <p>Oak Woodland, Walnut Woodland, Chaparral, Grassland, Coastal Sage Scrub, Human-altered Habitats, Riparian.</p> <p>Establish biological protection overlay to conserve native woodlands, wetland and riparian habitats, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
13	100	<p>Northeastern part of The Country, adjacent to Tres Hermanos Ranch.</p> <p>Grassland, Coastal Sage Scrub, Chaparral, Oak Woodland, Riparian, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) wetland and riparian habitats, and (c) native woodlands; maintain and fortify habitat connections and wildlife movement opportunities; minimize loss, fragmentation, and degradation of Natural Communities.</p>
Diamond Bar GC	174	<p>Golf course that provides wildlife habitat.</p> <p>Riparian, Human-altered Habitats (including man-made pond).</p> <p>Conserve wetland and riparian habitats; maintain and fortify habitat connections and wildlife movement opportunities.</p>
Sphere of Influence	3,513	<p>Large and important area of natural open space south of Diamond Bar, including Pantera Park and northern part of Tres Hermanos Ranch; heart of Significant Ecological Area 15.</p> <p>Chaparral, Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Riparian, Grassland, Coastal Sage Scrub.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) wetland and riparian habitats, (c) native woodlands, and (d) native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities.</p>

Sensitive Resources

This biological resources report acknowledges federal, state, and local laws and ordinances designed to protect and conserve sensitive resources, and identifies City policies designed to help achieve this objective. For purposes of this report, a sensitive resource refers to any of the following:

- A Natural Community recognized as having special-status by federal, State, and/or local governments, and requiring a permit or agreement prior to its disturbance.
- A plant or animal species identified by federal or state governments as endangered, threatened, rare, protected, sensitive, or a Species of Special Concern.
- A plant or animal that listed by a state or federal agency as a candidate species or proposed for state or federal listing.

SENSITIVE NATURAL COMMUNITIES

The State of California identifies as “Sensitive” the following Natural Communities that occur in Diamond Bar and its Sphere of Influence:

- Native Grasslands.
- Coastal Sage Scrub.
- Coast Live Oak Woodland (*Q. agrifolia/Juglans californica*; *Q. agrifolia/Q. berberidifolia/x acutidens*; *Q. agrifolia/Salvia leucophylla – Artemisia californica*; *Q. agrifolia/Salix lasiolepis*)⁶.
- California Walnut Woodland.
- Riparian Scrub and Woodland.

SPECIAL-STATUS SPECIES

In the following Table B, special-status plants and wildlife judged to have potential to occur within Diamond Bar and its Sphere of Influence are identified and briefly discussed. The potential for occurrence (low, moderate, high, or known to be present) is based upon consideration of the species’ habitat requirements and the distribution of previous verified or highly credible records.

Table B uses the following abbreviations:

- **E** **Endangered** (listed by State or Federal governments). “Take” of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **FP** **Fully Protected** by the State of California. These species may not be taken or possessed at any time, although take may be authorized for necessary scientific research.
- **T** **Threatened** (listed by State or Federal governments). “Take” of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **SSC** **Species of Special Concern.** The California Department of Fish and Wildlife has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as Species of Special Concern is to halt or reverse their decline by

⁶ In addition to the four coast live oak associations designated as “Sensitive” by CDFW, oak woodlands within the unincorporated Sphere of Influence are subject to the Los Angeles County Oak Woodlands Conservation Management Plan pursuant to California Public Resources Code Section 21083 (requires a county, when acting as a CEQA Lead Agency, to determine whether a proposed project “may result in a conversion of oak woodlands that will have a significant effect on the environment”).

calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all Species of Special Concern have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a Threatened or Endangered species under the State and/or Federal Endangered Species Acts.

- **CNPS California Native Plant Society.** Table B includes plant species assigned the following ranks by CNPS:
 - **1B.1**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
 - **1B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat).
 - **1B.3**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; not very threatened in California (less than 20% of occurrences threatened / moderate degree and immediacy of threat).
 - **2B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California, but more common elsewhere; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.1**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (>80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.2**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.3**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).
- **NatureServe Element Rankings.** In some cases, species have not been granted special status by state or federal agencies, but they may be recognized as ecologically sensitive by the California Natural Diversity Database (CNDDB), which uses a ranking methodology maintained by NatureServe. Species are given a Global rank (G-rank) that applies to the taxon's entire distribution, and a State rank (S-rank) that applies to the taxon's state distribution. Taxa with rankings of G1, G2, G3, S1, S2, or S3 may be considered "sensitive" and potentially worthy of special consideration in resource planning. NatureServe Element Rankings are identified in Table B only for taxa that have no other federal or state special status.

NatureServe Ranks:

- **G1, Critically Imperiled**, referring to taxa at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- **G2, Imperiled**, referring to taxa at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- **G3, Vulnerable**, referring to taxa at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- **S1, Critically Imperiled**, referring to taxa critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- **S2, Imperiled**, referring to taxa imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- **S3, Vulnerable**, referring to taxa vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

Table B. Special-Status Species

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
Plants						
<i>Astragalus brauntonii</i>	Braunton's Milk-Vetch	E	—	1B.1	Associated with calcareous soils. Unrecorded in the Puente Hills, but populations to the northwest (San Gabriel Mts.) and southeast (Chino Hills, Santa Ana Mts.).	Moderate potential to occur in calcareous substrate, if present. Detectable only after fire or other disturbance.
<i>Brodiaea filifolia</i>	Thread-leaved Brodiaea	—	—	1B.1	Associated with clay soils. Unrecorded in the Puente Hills, but populations to the north (San Gabriel Mts.) and southeast (Santiago Hills).	Low potential to occur in vernal pools, grasslands, or openings in coastal sage scrub.
<i>Calochortus catalinae</i>	Catalina Mariposa Lily	—	—	4.2	Widespread in region, occurring in clay soils.	Occurs in grasslands or openings in coastal scrub or chaparral.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender Mariposa Lily	—	—	1B.2	Unrecorded in the Puente Hills; populations to the northwest (San Gabriel Mts.).	Low potential to occur in openings in coastal scrub or chaparral.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Calochortus plummerae</i>	Plummer's Mariposa Lily	—	—	4.2	Several recent records of <i>C. weedii intermedius</i> from hills south of Diamond Bar, within the City's Sphere of Influence, may be <i>C. plummerae</i> hybrids.	Potentially present. Occurs in openings in coastal sage scrub or chaparral.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate Mariposa Lily	—	—	1B.2	Several recent records from hills south of Diamond Bar, within the City's Sphere of Influence, identified as <i>C. weedii intermedius</i> , but with potential for hybridization with <i>C. plummerae</i> .	Occurs in openings in coastal sage scrub and chaparral.
<i>Convolvulus simulans</i>	Small-flowered Morning-glory	—	—	4.2	Scattered records from the region, including an old record from 1 mile east of Brea.	Moderate potential to occur in grasslands or openings in coastal sage scrub. Found in moist areas.
<i>Dudleya multicaulis</i>	Many-stemmed Dudleya	—	—	1B.2	Recorded close to Diamond Bar, in west Pomona.	Moderate potential to occur in openings in coastal sage scrub or chaparral.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa Horkelia	—	—	1B.1	Unrecorded in the Puente Hills; scattered records across the region.	Low to moderate potential to occur in sandy openings in chaparral and oak woodland.
<i>Juglans californica</i>	Southern California Black Walnut	—	—	4.2	Widespread in region, including Diamond Bar and its Sphere of Influence.	Walnut and oak/walnut woodlands occur throughout Diamond Bar and surrounding hills.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's Peppergrass	—	—	4.3	Numerous historical records from the county's interior foothills, including the western Puente Hills; a few recent records in and near Diamond Bar.	Occurs in openings in coastal sage scrub and chaparral.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i>	Small-flowered Microseris	—	—	4.2	Recorded in Diamond Bar, south of Diamond Ranch High School.	Occurs in grasslands.
<i>Phacelia hubbii</i>	Hubby's Phacelia	—	—	4.2	Several recent records from Pomona, Whittier, and the Santa Ana Mountain foothills.	High potential to occur in openings in chaparral or coastal scrub, such as along edges of roads and trails.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Piperia cooperi</i>	Cooper's Rein-Orchid	—	—	4.2	Unrecorded in the Puente Hills; historical records from as close as Claremont and the Santa Ana River Canyon.	Low potential to occur in oak/walnut woodlands, chaparral, or coastal sage scrub.
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's Milkwort	—	—	4.3	Recorded in Chino Hills State Park and San Gabriel Mts.	Moderate to high potential to occur in oak/walnut woodlands or chaparral.
<i>Pseudognaphalium leucocephalum</i>	White Rabbit-tobacco	—	—	2B.2	Unrecorded in the Puente Hills; few recent records from surrounding areas.	Low potential to occur in any sandy wash habitat that may exist in the study area.
<i>Quercus engelmannii</i>	Engelmann Oak	—	—	4.2	Recorded in the Chino/Puente Hills, La Habra and Yorba Linda USGS quads.	Moderate potential to occur in oak/walnut woodlands.
<i>Senecio aphanactis</i>	California Groundsel	—	—	2B.2	Historical records from San Dimas; few recent records from surrounding areas.	Moderate potential to occur in chaparral, oak/walnut woodlands, or coastal sage scrub.
<i>Symphyotrichum defoliatum</i>	San Bernardino Aster	—	—	1B.2	Historical records from southeastern Los Angeles County. Presumed extirpated.	Very low potential to occur in moist areas, meadows.
Invertebrates						
<i>Bombas crotchii</i>	Crotch's Bumblebee	—	S1S2	—	Historical and recent records scattered around southern California.	High potential to occur in various habitats.
<i>Helminthoglypta tudiculata</i>	Southern California Shoulder-band Snail	—	S1S2	—	Numerous records from coastal slope of southern California.	High potential to occur in various habitats.
<i>Helminthoglypta traskii traskii</i>	Trask's Shoulder-band Snail	—	G1G2 S1	—	Numerous records from coastal slope of southern California.	High potential to occur in various habitats.
Amphibians						
<i>Taricha torosa</i>	Coast Range Newt	—	SSC	—	Not known from Chino Hills. Nearest records in San Gabriel Mts.	Low potential to occur in and around permanent water.
<i>Spea hammondi</i>	Western Spadefoot	—	SSC	—	Widespread in region but limited to expansive natural open space areas.	Moderate to high potential to occur in extensive grasslands and adjacent communities with temporary rain-pools for breeding.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
Reptiles						
<i>Emys marmorata</i>	Western Pond Turtle	—	SSC	—	Found in expansive natural areas, in and around permanent water that lacks non-native turtles or exotic predators.	Large population known from Brea Creek; probably occurs elsewhere in the study area. Occurs in creeks and ponds; lays eggs in nearby uplands.
<i>Phrynosoma blainvillii</i>	Coast Horned Lizard	—	SSC	—	Found in expansive natural areas with sandy openings and native harvester ants.	High potential to occur in areas of extensive chaparral, coastal sage scrub, and grassland.
<i>Aspidoscelis tigris stejnegeri</i>	Coastal Whiptail	—	SSC	—	Widespread in the region, in various habitats.	Occurs in chaparral and coastal sage scrub.
<i>Anniella stebbinsi</i>	So. California Legless Lizard	—	SSC	—	Local in a variety of habitats with sandy soil or deep leaf-litter.	Moderate potential in chaparral and chaparral/oak habitats.
<i>Lampropeltis zonata pulchra</i>	San Diego Mountain Kingsnake	—	SSC	—	Widespread in the region, in various habitats.	Moderate potential to occur in chaparral, coastal sage scrub, oak woodlands, and along streams.
<i>Arizona elegans occidentalis</i>	California Glossy Snake	—	SSC	—	Widespread, but uncommon, in habitats with soil loose enough for easy burrowing.	Moderate potential to occur in areas that have extensive patches of loose soil.
<i>Salvadora hexalepis virgulata</i>	Coast Patch-nosed Snake	—	SSC	—	Widespread in the region, in brushy and rocky habitats.	Moderate potential to occur in chaparral, coastal sage scrub, oak woodlands, and along streams.
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	—	SSC	—	Widespread in the region, in and around perennial water.	Moderate potential to occur near perennial water.
<i>Crotalus ruber</i>	Red Diamond Rattlesnake	—	SSC	—	Widespread in the region.	Occurs in cactus scrub, coastal sage scrub, and chaparral.
Birds						
<i>Geococcyx californianus</i>	Greater Roadrunner	—	—	—	Widespread in expansive natural areas with shrub cover. Sensitive species in Los Angeles County (Allen et al. 2009).	Resident in coastal sage scrub and chaparral habitats.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Aquila chrysaetos</i>	Golden Eagle	—	FP	—	Formerly widespread in many habitats, but now limited to expansive natural areas. Nests on cliffs and in tall trees away from settlements.	Regularly observed foraging in northeastern part of study area. Pair appears to be resident in the Chino Hills/Diamond Bar area; nesting status unknown. Additional birds may occur during migration/winter.
<i>Circus hudsonius</i>	Northern Harrier	—	SSC	—	Nests on the ground in expansive open space areas; more widespread during migration and winter.	Winters in open grassland habitats. Moderate potential to nest in the northeastern and southern parts of study area.
<i>Elanus leucurus</i>	White-tailed Kite	—	FP	—	Nests in trees within expansive open space areas; more widespread during migration and winter. Forages in rangelands and marshy areas.	One or more observed near Diamond Ranch High School on unspecified date (Sage Environmental Group 2012). High potential to occur in migration and winter, especially in northeastern and southern parts of study area. Moderate potential to nest in the northeastern or southeastern parts of the study area.
<i>Buteo regalis</i>	Ferruginous Hawk	—	—	—	Winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Moderate to high potential to occur in migration and winter, in northeastern and southern parts of study area. Does not nest in the region.
<i>Athene cunicularia</i>	Burrowing Owl	—	SSC	—	Nesting population west of the deserts nearly extirpated. Winters rarely and locally, usually in expansive open space areas.	Likely extirpated as nesting species in Diamond Bar area. Moderate potential to occur in migration and winter, especially in northeastern and southern parts of study area.
<i>Asio otus</i>	Long-eared Owl	—	SSC	—	Resident in oak woodlands, typically >1 km from urban areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Low to moderate potential to occur in woodlands in southeastern part of study area.
<i>Asio flammeus</i>	Short-eared Owl	—	SSC	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Low potential to occur in migration and winter, in northeastern and southern parts of study area. Does not nest in the region.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Falco mexicanus</i>	Prairie Falcon	—	—	—	Winters in expansive rangelands and agricultural areas in the region. Nests on remote cliffs. Sensitive species in Los Angeles County (Allen et al. 2009).	Low to moderate potential to occur in migration and winter, in northeastern and southern parts of study area. Unlikely to nest due to lack of remote cliffs.
<i>Empidonax traillii</i>	Willow Flycatcher	E	E	—	Does not nest in the local area. Uncommon during migration.	No potential for nesting. Species occurs in the study area regularly during migration periods.
<i>Lanius ludovicianus</i>	Loggerhead Shrike	—	SSC	—	Nests rarely in the region, in expansive open space areas; more widespread in migration and winter. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur in migration and winter, especially in northeastern and southern parts of study area. Low to moderate potential to nest in the study area.
<i>Vireo bellii bellii</i>	Least Bell's Vireo	E	E	—	Nests uncommonly in riparian scrub and woodlands, often in mulefat (<i>Baccharis salicifolia</i>) or willow (<i>Salix</i> spp.).	Moderate potential to nest in riparian habitats, especially in Tonner Canyon.
<i>Eremophila alpestris</i>	Horned Lark	—	—	—	Nests and winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Low potential to occur in the northeastern and southern parts of study area.
<i>Campylorhynchus brunneicapillus</i>	Cactus Wren, coastal populations	—	SSC	—	Rare and declining resident of cactus scrub habitat.	Resident in well-developed cactus scrub, including Summitridge Park, Pantera Park, Steep Canyon, and hills south of Diamond Ranch High School.
<i>Poliophtila californica californica</i>	Coastal California Gnatcatcher	T	SSC	—	Uncommon resident in coastal sage scrub habitat, favoring shallow slopes and elevations below 1,500 feet.	Resident in coastal sage scrub and cactus scrub, including Summitridge Park, Pantera Park, Steep Canyon, and hills south of Diamond Ranch High School.
<i>Sialia currucoides</i>	Mountain Bluebird	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur, at least during some winters, in northeastern and southern parts of study area. Does not nest in the region.
<i>Icteria virens</i>	Yellow-breasted Chat	—	SSC	—	Nests uncommonly in riparian scrub and woodlands.	High potential to nest in riparian habitats, especially in Tonner Canyon.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Setophaga petechia</i>	Yellow Warbler	—	SSC	—	Nests in riparian woodlands.	High potential to nest in riparian habitats, especially in Tonner Canyon.
<i>Poocetes gramineus</i>	Vesper Sparrow	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur in northeastern and southern parts of study area. Does not nest in the region.
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	—	SSC	—	Nests in expansive grasslands and rangelands.	High potential to nest in open grassland and rangeland habitat. Several eBird records from the Diamond Bar area in the 1990s; lack of recent records probably reflects lack of survey effort.
<i>Sturnella neglecta</i>	Western Meadowlark	—	—	—	Nests rarely in the region, in expansive open space areas; widespread in migration and winter. Sensitive species in Los Angeles County (Allen et al. 2009).	Occurs in open areas throughout the study area; moderate potential to nest in the northeastern or southern parts of study area.
<i>Agelaius tricolor</i>	Tricolored Blackbird	—	SSC	—	Nests in wetlands adjacent to expansive grasslands and rangelands required for foraging. Winters in rangelands and parks.	Low potential to nest in the study area. Moderate potential to forage in open grassland and rangeland habitat during the nesting season. Recorded in winter at parks in the study area.
Mammals						
<i>Antrozous pallidus</i>	Pallid Bat	None	SSC	—	Widespread in chaparral and similar habitats, foraging on the ground and in vegetation. Roosts in rock crevices and under tree bark. Maternal roosts active between March and August.	High potential; chaparral and scrub on the site are potentially suitable for foraging and oaks provide potential roosting sites under exfoliating bark and in cavities.
<i>Eumops perotis californicus</i>	Western Mastiff Bat	None	SSC	—	Roosts in cliff crevices and in buildings.	Low potential; the species may fly over the site occasionally while foraging, but suitable cliff roosting habitat probably absent.
<i>Lasiurus blossevillii</i>	Western Red Bat	None	SSC	—	Roosts in foliage of many types of tree; feeds over a wide variety of habitats.	Moderate potential to roost in oak woodlands or landscape trees; high potential to forage over undeveloped areas.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Lasiurus xanthinus</i>	Western Yellow Bat	None	SSC	—	Roosts primarily or entirely in palms; often forages over water.	Moderate potential to roost in palm trees and to forage over water features.
<i>Chaetodipus fallax fallax</i>	NW San Diego Pocket Mouse	None	SSC	—	Scrub habitats with sandy or gravelly soils.	High potential to occur in cactus scrub and coastal sage scrub habitats with suitable soils.
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	None	SSC	—	Widespread in scrub habitats, especially those with cactus.	High potential to occur in cactus-containing scrub.
<i>Lepus californicus bennettii</i>	San Diego Black-tailed Jackrabbit	None	SSC	—	Occurs in various open habitats, usually in expansive open space areas.	Low potential to occur in the northeastern and southern parts of the study area.
<i>Taxidea taxus</i>	American Badger	None	SSC		Occurs in various habitats, usually in expansive open space areas.	Moderate to high potential to occur in the northeastern and southern parts of the study area.

EFFECTS OF DEVELOPMENT ON BIOLOGICAL RESOURCES

The capacity for a given natural open space area to maintain its ecological integrity (e.g., its resistance to invasion by exotic species, capacity to support special-status species) depends upon such considerations as (a) size, with larger natural areas generally possessing greater ecological value than do smaller ones; (b) plant communities represented, with relatively undisturbed native communities generally being more valuable than disturbed non-native communities; and (c) proximity to adjacent open spaces, with areas linked to other natural areas generally possessing greater ecological value compared with areas of similar size that are functionally isolated from other natural areas.

A small, functionally isolated area that provides habitat for a rare plant or wildlife species may have some ecological value, but conservation of such areas may prove to be practically infeasible due to habitat degradation that often occurs near development edges. Ecologically damaging “edge effects” include repeated clearing of habitat for fuel modification leading to replacement of native plants with disturbance-adapted exotic weeds; invasion of natural habitat by exotic ants facilitated by artificial irrigation near homes; predation of birds, reptiles, and mammals by outdoor cats; and changes in wildlife patterns associated with exterior lighting. To avoid perpetuating damaging patterns of development that result in ever-smaller blocks of functionally isolated habitat, the Open Space and Conservation Element must contain land-use policies that encourage the preservation, restoration, and appropriate management of larger blocks of well-connected habitat.

Readers seeking detailed information on these topics, with relevant citations from the scientific literature, should refer to Appendix A.

Edge/Fragmentation Effects on Wildlife Movement

Constricting the movement of wildlife and plant seeds increases the risk of local extinctions. Habitat fragmentation consequently threatens the viability of native plant and wildlife populations in preserved areas. Large areas of habitat, or narrower linkages of habitat between large areas, provide movement opportunities for wildlife. Movement serves to facilitate the geographic distribution of genetic material, thus maintaining a level of variability in the gene pool of an animal population. Influxes of animals from nearby larger populations contribute to the genetic diversity of a local population, helping to ensure the population's ability to adapt to changing environmental conditions. This is mainly accomplished through the dispersal of juveniles from their natal territories, but may also involve movements in response to drought or other adverse environmental conditions, or in response to wildfires or other catastrophic events. Many plant species that depend on relatively sedentary insects for pollination also benefit from habitat linkages that allow for genetic exchange and dispersal. Likewise, plant seeds and propagules can be transported via the feces, fur, or feathers of birds or mammals. Fragmentation effects are not limited to the physical severing of movement routes, such as through the construction of a road or housing development, but can include "edge effects" reviewed and described above. For example, increases in night lighting and noise can disrupt the movement patterns of species not well-adapted to such effects.

WILDLIFE MOVEMENT ISSUES IN THE PUENTE-CHINO HILLS

The Puente-Chino Hills ecosystem encompasses portions of four counties, and the open space network in this area is sometimes referred to as the "Puente-Chino Hills Wildlife Corridor." Preserving land in the corridor has been a cooperative endeavor with other public agencies and many nonprofit organizations. An important analysis by the Conservation Biology Institute (2005), *Maintaining Ecological Connectivity Across the "Missing Middle" of the Puente-Chino Hills Wildlife Corridor*, describes the situation as follows (page v):

The Puente-Chino Hills Wildlife Corridor is a peninsula of mostly undeveloped hills jutting about 42 km (26 miles) from the Santa Ana Mountains into the heart of the densely urbanized Los Angeles Basin. Intense public interest in conserving open space here has created a series of reserves and parks along most of the corridor's length, but significant gaps in protection remain. These natural habitat areas support a surprising diversity of native wildlife, from mountain lions and mule deer to walnut groves, roadrunners, and horned lizards. But maintaining this diversity of life requires maintaining functional connections along the entire length of the corridor, so that wildlife can move between reserves—from one end of the hills to the other.

Already the corridor is fragmented by development and crossed by numerous busy roads, which create hazards and in some cases barriers to wildlife movement. Proposed developments threaten to further degrade or even sever the movement corridor, especially within its so-called "Missing Middle." This mid-section of the corridor system, stretching from Tonner Canyon on the east to Harbor Boulevard on the west, includes several large properties proposed for new housing, roads, golf courses, and reservoirs. Such

developments would reduce habitat area and the capacity to support area-dependent species and, if poorly designed, could block wildlife movement through the corridor.

The above-quoted report considered numerous studies of wildlife movement conducted in the Puente-Chino Hills, and other relevant literature on wildlife movement corridors, and recommended “conservation and management actions to prevent further loss of ecological connectivity and retain native species.” The “Missing Middle” analysis identified the following wildlife movement issues specifically relevant to Diamond Bar and its Sphere of Influence:

- Tonner Canyon Bridge represents the only viable location for deer, mountain lions, bobcats, and other species to pass under the 57 Freeway.
- Any development in middle and especially lower Tonner Canyon could have severe impacts on corridor function, especially if wildlife access to Tonner Canyon Bridge is reduced. Any development that blocks access through the bridge area would make the 57 Freeway a complete barrier to many species and would likely lead to wildlife extirpations in segments farther west.
- An earlier plan to build a road running the length of Tonner Canyon would have split the Chino-Tonner “subcore” in two, potentially rendering dysfunctional the critical Tonner Bridge wildlife undercrossing for wide-ranging species such as the mountain lion, bobcat, and mule deer.
- At least the middle and lower portions of Tonner Canyon should be conserved, including a prohibition on any new road or other development that would fragment this critical habitat block.
- No project should be approved that would increase traffic under the Tonner Bridge or add any new impediments (structures, lights, noise, etc.) to the vicinity of the bridge.
- Restore riparian vegetation along Tonner Creek, where degraded by oil development activities.
- Fencing may be warranted along the 57 Freeway if monitoring suggests road mortality is high.

Planning of any future development in Diamond Bar and its Sphere of Influence should take exceptional care to preserve and enhance the viability of the Puente-Chino Hills Wildlife Corridor.

Regional Planning in the Puente-Chino Hills Wildlife Corridor

Two agencies are specifically involved in planning development and taking conservation actions in and around the Puente-Chino Hills Wildlife Corridor.

The **Wildlife Corridor Conservation Authority (WCCA)** was established to provide for the proper planning, conservation, environmental protection, and maintenance of lands

within and around the Puente-Chino Hills Wildlife Corridor. Its goal is to assure that sufficient continuity of habitat can be preserved to maintain a functioning wildlife corridor made up of about 40,000 acres of land located between the Santa Ana Mountains and Whittier Hills. The governing board of the WCCA consists of representatives from the cities of Brea, Whittier, Diamond Bar, La Habra Heights, the Santa Monica Mountains Conservancy, California Department of Parks and Recreation, California Department of Fish and Game (*ex officio* member), Los Angeles County, and two public members. A large Advisory Committee meets separately to provide input. The WCCA consistently provides comments on development proposals and other projects to support environmentally sensitive activities in the Puente-Chino Hills Wildlife Corridor.

The **Puente Hills Habitat Preservation Authority (PHHPA)** is a public agency, Joint Powers Authority, with a Board of Directors consisting of the City of Whittier, County of Los Angeles, Sanitation Districts of Los Angeles County, and the Hacienda Heights Improvement Association. The jurisdiction of the PHHPA extends from the intersection of the 605 and 60 Freeways east to Harbor Boulevard. The PHHPA is dedicated to the acquisition, restoration, and management of open space in the Puente Hills for preservation of the land in perpetuity, with the primary purpose to protect the biological diversity.

NATURAL RESOURCE CONSERVATION POLICIES

The City of Diamond Bar has developed a suite of conservation measures, presented in this section, designed to allow for the planned growth of the City while protecting and conserving irreplaceable natural communities and their component species. These policies align the local approach to development with the conservation regulations and policies set forth by the federal government (e.g., the federal Endangered Species Act); the State of California (e.g., the California Environmental Quality Act and the California Fish and Game Code); and local entities (e.g., the Los Angeles County Oak Woodlands Conservation Plan; see Los Angeles County Oak Woodlands Habitat Conservation Strategic Alliance 2011, Los Angeles County Dept. of Regional Planning 2014). Prioritizing the identification and protection of sensitive natural resources facilitates efforts of City planners and elected officials to ensure that Diamond Bar remains a beautiful and desirable place to live.

Goals and Policies of the Open Space and Conservation Element

- **RC-I-1.** Obtain and designate Open Space land through acquisition techniques, such as:
 - a. Design new development projects emphasizing preservation of sensitive natural resources, natural geological features, and wildlife corridors and habitat linkages, through site design approaches that include greenbelts, landscaping with locally native, drought-adapted plants, and dedication of a portion of the site as natural open space.

- b. Allow for acquisition of open space lands during the entitlement process through the transfer of densities among land uses of like designation.
 - c. Identify ecologically sensitive/unique habitats, including habitat linkages and choke-points, within the City of Diamond Bar and prioritize their acquisition/preservation/restoration as a preferred form of mitigation for future development.
 - d. Collaborate with land trusts, joint-power authorities, and other conservation groups to acquire and restore open space land through, but not limited to, conservation easements and conservation plans.
- **RC-I-2.** As future parks are developed or open space is acquired/dedicated:
 - a. Preserve sensitive natural communities to maintain ecological integrity and provide for passive recreation opportunities, such as hiking and bird-watching.
 - b. Site trails to avoid removal or fragmentation of sensitive natural communities and to minimize erosion.
 - c. Prohibit the application of use of outdoor pesticide bait stations, or similar, within 500 feet of any natural open space.
- **RC-G-4.** Provide recreational and cultural opportunities to the public in a manner that maintains, restores, protects, and preserves sensitive natural resources in the City of Diamond Bar and its Sphere of Influence.
- **RC-I-12.** Support and cooperate with efforts to identify and preserve environmentally sensitive and strategically located canyon areas and hillsides that serve as wildlife corridors and habitat linkages/choke points within Diamond Bar and its Sphere of Influence, including components of the Puente-Chino Hills Wildlife Corridor, Tres Hermanos Ranch, Tonner Canyon, and Significant Ecological Area (SEA) 15, to provide regional connectivity, and to sustain the ecological function of natural habitats and biological resources.
 - a. Establish appropriate resource protection overlays for ecologically sensitive areas (see page 18 of this report).
 - b. Require adequate biological resources surveys as part of planning of development proposed in any area with potential for special-status species or sensitive natural communities to occur.
 - c. Discourage development in areas with identified sensitive natural resources, natural geological features, and wildlife corridors and habitat linkages/choke points, in order to preserve them in a natural state, unaltered by grading, fill, or diversion activities (except as may be desirable for purposes of habitat restoration and/or facilitation of wildlife movement).

- d. Preserve and restore native woodlands in perpetuity, with a goal of no net loss of existing woodlands, through compliance with Chapter 22.38 of the Diamond Bar – Tree Preservation and Protection.
 - e. In the unincorporated Sphere of Influence, require that impacts to native oak trees be treated in a manner consistent with Section 22.46.2100 of the County of Los Angeles Code of Ordinances, except that in-lieu fees shall not be accepted as mitigation for removal of regulated oaks. If replacement of oaks is determined to be necessary, this should be conducted under a City-administered Tree Mitigation Program developed in consultation with a qualified biologist and Certified Arborist or Certified Urban Forester to establish a to ensure that replacement trees are planted on public property in areas that (a) shall not impact any existing sensitive habitat areas; (b) are appropriate for the long-term survival of native trees planted as mitigation; and (c) shall be maintained and preserved by the city, in perpetuity, as natural open space for the mitigation trees and any associated understory species deemed appropriate to provide valuable woodland habitat.
 - f. For development proposed adjacent to natural open space, require use of highly fire-resistant building materials and methods, which minimize fuel modification treatments.
 - g. In areas adjacent to natural open space, require use of highly fire-resistant building materials and architecture for public safety and to minimize requirements for damaging fuel modification treatments.
 - h. Fuel modification adjacent to natural open spaces should employ exclusively native plant species approved for use in fuel modification zones, which provide important habitat for native wildlife and minimize ongoing irrigation and disturbance of the exterior slopes, reducing the potential for exotic ants and weeds to become established on the site and then spread to nearby natural open space areas.
- **RC-I-28.5.** Conserve natural open spaces, biological resources, and vegetation, recognizing their roles in the reduction and mitigation of air pollution impacts, and the promotion of carbon sequestration.

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
- City of Diamond Bar and Diamond Bar Historical Society. 2014. *Images of America, Diamond Bar*. Arcadia Publishing, Charleston, South Carolina.
- Conservation Biology Institute. 2005. *Maintaining Ecological Connectivity Across the "Missing Middle" of the Puente-Chino Hills Wildlife Corridor*. Encinitas, CA.
<https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/pcmismissingmiddle.pdf>

- Dyett & Bhatia. 2017. City of Diamond Bar General Plan Update, Existing Conditions Report – Volume III. Redline draft dated February 21, 2017, prepared for City of Diamond Bar.
- Los Angeles County, Dept. of Regional Planning. 2014. Los Angeles County Oak Woodlands Conservation Management Plan Guide. Report dated March 18, 2014.
http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf
- Los Angeles County Oak Woodlands Habitat Conservation Strategic Alliance. 2011. Los Angeles County Oak Woodlands Conservation Management Plan. Report dated May 2011.
https://file.lacounty.gov/SDSInter/bos/bc/162273_official_20110620_oak-woodlands.pdf
- Lower San Gabriel River Watershed Group. 2015. Lower San Gabriel River Watershed Management Program.
<https://www.waterboards.ca.gov/rwqcb4/waterissues/programs/stormwater/municipal/watershedmanagement/sangabriel/lowersangabriel/LowerSGRiverFinalWMP.pdf>
- Neal, S. 2011. Brea History – the Brea Creek. Brea Historical Society Brea Museum & Heritage Center.
- Sage Environmental Group. 2012. Affordable Housing Land Use and Zoning Designation Project, Biological Survey Report. Report dated August 2012 prepared for City of Diamond Bar.
- Sheng, J. and J. P. Wilson. 2008. The Green Visions Plan for 21st Century Southern California. 16. Watershed Assets Assessment Report. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, CA.
- U.S. Army Corps of Engineers. 1991. Los Angeles County Drainage Area Review, Final Feasibility Study, Interim Report and Environmental Impact Statement. Vandergast, A. G., A. J. Bohonak, D. B. Weissman, and R. N. Fisher. 2006. Understanding the genetic effects of recent habitat fragmentation in the context of evolutionary history: Phylogeography and landscape genetics of a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus*). *Molecular Ecology* 16:977–92.



HAMILTON BIOLOGICAL

February 20, 2019

Greg Gubman
Director of Community Development
City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

**SUBJECT: APPENDIX A TO OPEN SPACE AND CONSERVATION ELEMENT
DIAMOND BAR GENERAL PLAN UPDATE
METHODS AND TECHNICAL INFORMATION**

Dear Mr. Gubman,

A consortium of Diamond Bar residents retained Hamilton Biological, Inc., (hereafter “Hamilton Biological”) to prepare an Open Space and Conservation Element for the City of Diamond Bar (hereafter the “City”) to consider incorporating into a forthcoming update to its General Plan. This letter describes the methods used to prepare the proposed Open Space and Conservation Element, and provides technical biological information that underpins the report’s findings and recommendations.

METHODS

Literature Review

As an initial step, Robert Hamilton, President of Hamilton Biological, reviewed the Biological Resources section of Dyett & Bhatia (2017) and a partial rough draft of an Open Space and Conservation Element prepared by Cooper Ecological Monitoring, Inc. Mr. Hamilton also reviewed a biological report prepared by Sage Environmental Group (2012) for an Affordable Housing Land Use and Zoning Designation Project proposed on a site covering 78 acres in the northeastern part of the City, near Diamond Ranch High School.

Special-status species with potential to occur in Diamond Bar and adjacent areas were identified through review of the California Natural Diversity Database (2018a, 2018b, 2018c) and searches of eBird (<https://ebird.org>); California Native Plant Society’s Online Inventory of Rare and Endangered Plants (www.rareplants.cnps.org); review of the list of Los Angeles County’s Sensitive Bird Species (Allen et al. 2009; https://losangelesaudubon.org/images/stories/pdf/WesternTanager_pdfs/Vol.75/vol75no03jan-feb2009.pdf); the Consortium of California Herbaria web page (www.ucjeps.berkeley.edu/consortium); Sage Environmental Group (2012); Dyett &

Bhatia (2017); and the online *Flora of the Skyline Trail, Puente Hills, Los Angeles County* (Muns, B., 1982; http://tchester.org/plants/muns/pr/skyline_trail.html).

Mapping and Field Surveys

Robert A. Hamilton mapped the natural open space areas throughout the City and its Sphere of Influence using Google Earth Pro. Potential habitat linkages and/or choke-points for wildlife movement were identified by examination of aerial imagery. Mr. Hamilton conducted reconnaissance field surveys on January 4 and 8, and February 4 and 8, 2019, to field-check the mapping and to observe the existing conditions throughout most of Diamond Bar. Mr. Hamilton has visited the portion of Tonner Canyon that lies within the City's Sphere of Influence on numerous occasions in recent years, and thus has viewed the natural resources found in that part of the study area, as well.

Classification of Natural Communities

Since the mid-1990s, CDFW and its partners, including the California Native Plant Society (CNPS), have been working on classifying vegetation types using standards embodied in the Survey of California Vegetation, which comply with the National Vegetation Classification Standard (NVCS; <http://usnvc.org/explore-classification/>). The NVCS is a hierarchical classification, with the most granular level being the Association. Associations are grouped into Alliances, Alliances into Groups, and upward, as follows: Formation Class > Formation Subclass > Formation > Division > Macrogroup > Group > Alliance > Association. For purposes of this Open Space and Conservation Element, Natural Communities are generally classified at the more generalized levels (e.g., Group), but for environmental review of specific projects in Diamond Bar, Natural Communities should be classified and mapped at the more detailed Alliance or Association level.

The method recommended by CDFW for classifying Natural Communities and conducting CEQA review reads as follows:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California Vegetation, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 1. Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.

2. Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 3. Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 4. Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
 5. Vegetation types that are not on the state's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).
- If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP (Todd Keeler-Wolf or Diana Hickson) about documenting the Natural Community.
 - If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.

Identifying Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW), at its VegCAMP page, provides guidance on appropriate methods for “Addressing Sensitive Natural Communities in Environmental Review”:

<https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities>

The State's guidance consists of the following steps:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 - Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.

- Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 - Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 - Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
- Vegetation types that are not on the State's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).
 - If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP (Todd Keeler-Wolf or Diana Hickson) about documenting the Natural Community.
 - If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.
 - The Department's document, [Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities](#) (PDF) provides information on reporting.

The City of Diamond Bar should employ the above-described methods to ensure the thoroughness and adequacy of CEQA documentation completed within the City and its Sphere of Influence.

Important Considerations for Oak Woodlands

As of January 2005, California Public Resources Code Section 21083.4 (2004 Senate Bill 1334) requires that when a county is determining the applicability of CEQA to a project, it must determine whether that project "may result in a conversion of oak woodlands that will have a significant effect on the environment." If such effects (either individual impacts or cumulative) are identified, the law requires that they be mitigated. Acceptable mitigation measures include, but are not limited to, conservation of other oak woodlands through the use of conservation easements and planting replacement trees, which must be maintained for seven years.

Diamond Bar's Sphere of Influence, south of the city limits, lies within unincorporated Los Angeles County, and thus the City's General Plan should acknowledge that the County of Los Angeles Department of Regional Planning issued in 2014 an Oak Woodlands Conservation Management Plan Guide¹, with three important objectives: (1) pri-

¹ http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

oritize the preservation of oak woodlands; (2) promote conservation by integrating oak woodlands into the development process in a sustainable manner; and (3) effectively mitigate the loss of oak woodlands.

ADVERSE EFFECTS OF DEVELOPMENT ON PRESERVED HABITAT AREAS

One purpose of a General Plan is to guide future development so as to minimize adverse effects upon sensitive Natural Communities and declining native plant and wildlife populations, to the extent feasible. Beyond the outright removal of natural areas, which obviously impacts natural resources, development projects inevitably degrade and fragment habitats along the urban/wildland interface. Such secondary, or indirect, impacts have been subject to intensive study in recent years, to (a) understand and characterize them, and (b) develop strategies for minimizing and mitigating them. The following discussions, including citations from the scientific literature, provide the basis for the General Plan's land-use policies concerning edge and fragmentation effects.

Urbanization typically includes residential, commercial, industrial, and road-related development. At the perimeter of the built environment is an area known as the urban/wildland interface, or "development edge." Edges are places where natural communities interface, vegetation or ecological conditions within natural communities interact (Noss 1983), or patches with differing qualities abut one another (Ries and Sisk 2004). "Edge effects" are spillover effects from the adjacent human-modified matrix that cause physical gradients in light, moisture, noise, etc. (Camargo and Kapos 1995; Murcia 1995; Sisk et al. 1997) and/or changes in biotic factors such as predator communities, density of human-adapted species, and food availability (Soulé et al. 1988; Matlack 1994; Murcia 1995; Ries and Sisk 2004). Loss, degradation, and fragmentation of habitat due to urbanization are the most pervasive threats to biodiversity in southern California (Soulé 1991). Edge-related impacts may include:

- Introduction/expansion of invasive exotic vegetation carried in from vehicles, people, animals or spread from backyards or fuel modification zones adjacent to wildlands.
- Increased frequency and/or severity of fire as compared to natural fire cycles or intensities.
- Companion animals (pets) that often act as predators of, and/or competitors with, native wildlife.
- Creation and use of trails that often significantly degrade intact ecosystems through such changes as increases in soil disturbance, vegetation damage, and noise.
- Introduction of or increased use by exotic animals which compete with or prey on native animals.
- Pesticide exposure can be linked to cancer, endocrine disruption, reproductive effects, neurotoxicity, kidney and liver damage, birth defects, and developmental changes in a wide range of species, from insects to top predators.

- Influence on earth systems and ecosystem processes, such as solar radiation, soil richness and erosion, wind damage, hydrologic cycle, and water pollution that can affect the natural environment.

Any of these impacts, individually or in combination, can result in the effective loss or degradation of habitats used for foraging, breeding or resting, with concomitant effects on population demographic rates of sensitive species.

The coastal slope of southern California is among the most highly fragmented and urbanized regions in North America (Atwood 1993). Urbanization has already claimed more than 90 percent of the region's coastal sage scrub habitat, 99 percent of the coastal prairie, and 95 percent of the vernal pools (McCaull 1994; Mattoni & Longcore 1997; Bauder & McMillan 1998). A review of studies completed by Harrison and Bruna (1999) identified a general pattern of reduction of biological diversity in fragmented habitats compared with more intact ones, particularly with regard to habitat specialists. While physical effects associated with edges were predominant among species impacts, they found evidence for indirect effects including altered ecological interactions. Fletcher et al. (2007) found that distance from edge had a stronger effect on species than did habitat patch size, but they acknowledged the difficulty in separating those effects empirically. Many southern California plant and animal species are known to be sensitive to fragmentation and edge effects; that is, their abundance declines with fragment size and proximity to an edge (Wilcove 1985; Soulé et al. 1992; Bolger et al. 1997a,b; Suarez et al. 1998; Burke and Nol 2000).

Wildlife populations are typically changed in proximity to edges, either by changes in their demographic rates (survival and fecundity), or through behavioral avoidance of or attraction to the edge (Sisk et al. 1997; Ries and Sisk 2004). For example, coastal sage scrub areas within 250 meters of urban edges consistently contain significantly less bare ground and more coarse vegetative litter than do more "intermediate" or "interior" areas, presumably due increased human activity/disturbance of the vegetation structure near edges (Kristan et al. 2003). Increases in vegetative litter often facilitate growth of non-native plants (particularly grasses), resulting in a positive feedback loop likely to enhance plant invasion success (Wolkovich et al. 2009). In another coastal southern California example, the abundance of native bird species sensitive to disturbance is typically depressed within 200 to 500 meters (650 to 1640 feet) of an urban edge, and the abundance of disturbance-tolerant species is elevated up to 1000 meters (3280 feet) from an urban edge, depending on the species (Bolger et al. 1997a).

Habitat fragmentation is usually defined as a landscape scale process involving habitat loss and breaking apart of habitats (Fahrig 2003). Habitat fragmentation is among the most important of all threats to global biodiversity; edge effects (particularly the diverse physical and biotic alterations associated with the artificial boundaries of fragments) are dominant drivers of change in many fragmented landscapes (Laurance and Bierregaard 1997; Laurance et al. 2007).

Fragmentation decreases the connectivity of the landscape while increasing both edge and remnant habitats. Urban and agricultural development often fragments wildland ecosystems and creates sharp edges between the natural and human-altered habitats. Edge effects for many species indirectly reduce available habitat use or utility in surrounding remaining areas; these species experience fine-scale functional habitat losses (e.g., see Bolger et al. 2000; Kristan et al. 2003; Drolet et al. 2016). Losses of coastal sage scrub in southern California have increased isolation of the remaining habitat fragments (O’Leary 1990) and led to calls to preserve and restore landscape connectivity to permit long-term persistence of native species with low vagility (e.g., Vandergast et al. 2006).

Fragmentation has a greater relative negative impact on specialist species (e.g., coastal populations of the Cactus Wren, *Campylorhynchus brunneicapillus*) that have strict vegetation structure and area habitat requirements (Soulé et al. 1992). Specialist species have an increased risk of extirpation in isolated habitat remnants because the specialized vegetative structures and/or interspecific relationships on which they depend are more vulnerable to disruption in these areas (Vaughan 2010). In studies of the coastal sage scrub and chaparral systems of coastal southern California, fragment area and age (time since isolation) were the most important landscape predictors of the distribution and abundance of native plants (Soulé et al. 1993), scrub-breeding birds (Soulé et al. 1988; Crooks et al. 2001), native rodents (Bolger et al. 1997b), and invertebrates (Suarez et al. 1998; Bolger et al. 2000).

Edge effects that emanate from the human-dominated matrix can increase the extinction probability of isolated populations (Murcia 1995; Woodroffe and Ginsberg 1998). In studies of coastal sage scrub urban fragments, exotic cover and distance to the urban edge were the strongest local predictors of native and exotic carnivore distribution and abundance (Crooks 2002). These two variables were correlated, with more exotic cover and less native shrub cover closer to the urban edge (Crooks 2002).

The increased presence of human-tolerant “mesopredators” in southern California represents an edge effect of development; they occur within the developed matrix and are thus more abundant along the edges of habitat fragments, and they are effective predators on birds, bird nests, and other vertebrates in coastal sage scrub and chaparral systems and elsewhere (Crooks and Soulé 1999). The mammalian carnivores more typically detected in coastal southern California habitat fragments are resource generalists that likely benefit from the supplemental food resources (e.g., garden fruits and vegetables, garbage, direct feeding by humans) associated with residential developments. As a result, the overall mesopredator abundance, of such species as raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), and domestic cats (*Felis catus*), increases at sites with more exotic plant cover and closer to the urban edge (Crooks 2002). Although some carnivores within coastal sage scrub fragments seem tolerant of disturbance, many fragments have (either actually or effectively) already lost an entire suite of predator species, including mountain lion, bobcats (*Lynx rufus*), spotted skunks (*Spilogale gracilis*), long-tailed weasels (*Mustela frenata*), and badgers (*Taxidea taxus*) (Crooks 2002). Most

“interior” sites within such fragments are still relatively near (within 250 meters of) urban edges (Crooks 2002).

Fragmentation generally increases the amount of edge per unit land area, and species that are adversely affected by edges can experience reduced effective area of suitable habitat (Temple and Cary 1988), which can lead to increased probability of extirpation/extinction in fragmented landscapes (Woodroffe and Ginsberg 1998). For example, diversity of native bees (Hung et al. 2015) and native rodents (Bolger et al. 1997b) is lower, and decomposition and nutrient cycling are significantly reduced (Treseder and McGuire 2009), within fragmented coastal sage scrub ecosystems as compared to larger core reserves. Similarly, habitat fragmentation and alterations of sage scrub habitats likely have reduced both the genetic connectivity and diversity of coastal-slope populations of the Cactus Wren in southern California (Barr et al. 2015). Both Bell’s Sparrows (*Artemisiospiza belli*) and California Thrashers (*Toxostoma redivivum*) show strong evidence of direct, negative behavioral responses to edges in coastal sage scrub; that is, they are edge-averse (Kristan et al. 2003), and California Thrashers and California Quail (*Callipepla californica*) were found to be more vulnerable to extirpation with smaller fragment size of the habitat patch (Bolger et al. 1991), demonstrating that both behavioral and demographic parameters can be involved. Other species in coastal sage scrub ecosystems, particularly the Cactus Wren and likely the California Gnatcatcher and San Diego Pocket Mouse (*Chaetodipus fallax*), are likely vulnerable to fragmentation, but for these species the mechanism is likely to be associated only with extirpation vulnerability from habitat degradation and isolation rather than aversion to the habitat edge (Kristan et al. 2003). Bolger (et al. 1997b) found that San Diego coastal sage scrub and chaparral canyon fragments under 60 acres that had been isolated for at least 30 years support very few populations of native rodents, and they suggested that fragments larger than 200 acres in size are needed to sustain native rodent species populations.

The penetration of exotic species into natural areas can reduce the effective size of a reserve in proportion to the distance they penetrate within the reserve: Argentine Ants serve as an in-depth example of edge effects and fragmentation. Spatial patterns of Argentine Ant abundance in scrub communities of southern California indicate that they are likely invading native habitats from adjacent developed areas, as most areas sampled greater than 200 to 250 meters from an urban edge contained relatively few or no Argentine Ants (Bolger 2007, Mitrovich et al. 2010). The extent of Argentine Ant invasions in natural environments is determined in part by inputs of urban and agricultural water run off (Holway and Suarez 2006). Native ant species were more abundant away from edges and in areas with predominately native vegetation. Post-fragmentation edge effects likely reduce the ability of fragments to retain native ant species; fragments had fewer native ant species than similar-sized plots within large unfragmented areas, and fragments with Argentine ant-free refugia had more native ant species than those without refugia (Suarez et al. 1998). They displace nearly all surface-foraging native ant species (Holway and Suarez 2006) and strongly affect all native ant communities within about 150 to 200 meters from fragment edges (Suarez et al. 1998; Holway 2005; Fisher et al. 2002; Bolger 2007; Mitrovich et al. 2010). Argentine Ants are widespread in frag-

mented coastal scrub habitats in southern California, and much of the remaining potential habitat for Blainville's Horned Lizards (*Phrynosoma blainvillii*) is effectively unsuitable due to the penetration of Argentine ants and the subsequent displacement of the native ant species that Coastal Horned Lizards need as prey (Fisher et al. 2002). Invasion of Argentine Ants into coastal sage scrub has also shown a strong negative effect on the abundance of the gray shrew (*Notiosorex crawfordi*) (Laakkonen et al. 2001).

An evaluation by the U.S. Environmental Protection Agency (2008) concluded that each of ten of the most common active ingredients in rodenticides "poses significant risks to non-target wildlife when applied as grain-based bait products. The risks to wildlife are from primary exposure (direct consumption of rodenticide bait) for all compounds and secondary exposure (consumption of prey by predators or scavengers with rodenticide stored in body tissues) from the anticoagulants." Thus, the common practice of setting out bait within or near natural areas can be expected to have adverse effects upon a range of native wildlife species.

Finally, in the Santa Monica Mountains of Los Angeles County, populations of such native amphibians as the California newt (*Taricha torosa*) and California treefrog (*Pseudacris cadaverina*) were found to decline with urbanization of as little as 8% of a given watershed (Riley et al. 2005). Such faunal community changes appear to be related to changes in physical stream habitat, such as fewer pool and more run habitats and increased water depth and flow. These changes are associated with increased erosion and with invasion by damaging exotic species, such as the red swamp crayfish (*Procambarus clarkii*).

CONCLUSION

I appreciate the opportunity to provide this technical information in support of the Open Space and Conservation Element for the Diamond Bar General Plan. If you have questions, please call me at (562) 477-2181 or send e-mail to robb@hamiltonbiological.com.

Sincerely,



Robert A. Hamilton
President, Hamilton Biological, Inc.

316 Monrovia Avenue
Long Beach, CA 90803
562-477-2181
robb@hamiltonbiological.com

Attached: Literature Cited

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
- Barr, K. R., B. E. Kus, K. L. Preston, S. Howell, E. Perkins, and A. G. Vandergast. 2015. Habitat fragmentation in coastal southern California disrupts genetic connectivity in the Cactus Wren (*Campylorhynchus brunneicapillus*). *Molecular Ecology* 24:2349–2363.
- Bauder, E. T., and S. McMillan. 1998. Current distribution and historical extent of vernal pools in southern California and northern Baja California, Mexico. Pp. 56–70 in *Ecology, Conservation and Management of Vernal Pool Ecosystems* (C. W. Witham, E. T. Bauder, D. Belk, W. R. Ferren Jr., and R. Ornduffm, editors). California Native Plant Society, Sacramento.
- Bolger, D. T. 2007. Spatial and temporal variation in the Argentine ant edge effect: implications for the mechanism of edge limitation. *Biological Conservation* 136:295–305.
- Bolger, D. T., A. C. Alberts, and M. E. Soulé. 1991. Occurrence patterns of bird species in habitat fragments: sampling, extinction, and nested species subsets. *The American Naturalist* 137(2):155–166.
- Bolger, D. T., T. A. Scott, and J. T. Rotenberry. 1997a. Breeding bird abundance in an urbanizing landscape in coastal southern California. *Conservation Biology* 11(2):406–421.
- Bolger, D. T., A. C. Alberts, R. M. Sauvajot, P. Potenza, C. McCalvin, D. Tran, S. Mazzoni, and M. E. Soulé. 1997b. Response of rodents to habitat fragmentation in coastal southern California. *Ecological Applications* 7(2):552–563.
- Bolger, D. T., A. V. Suarez, K. R. Crooks, S. A. Morrison, and T. J. Case. 2000. Arthropods in urban habitat fragments in southern California: area, age, and edge effects. *Ecological Applications* 10(4):1230–1248.
- Burke, D. M., and E. Nol. 2000. Landscape and fragment size effects on reproductive success of forest-breeding birds in Ontario. *Ecological Applications* 10(6):1749–1761.
- California Natural Diversity Database. 2018a. Special Vascular Plants, Bryophytes, and Lichens List. Current list of vegetative taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated November 2018.
- California Natural Diversity Database. 2018b. Special Animals List. Current list of wildlife taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated November 2018.
- California Natural Diversity Data Base. 2018c. Rarefind data accessed online on July 6, 2018, for the U.S. Geologic Survey's Yorba Linda, San Dimas, Ontario, and Prado Dam 7.5' topographic quadrangles.
- Camargo, J. L. C., and V. Kapos. 1995. Complex edge effects on soil moisture and microclimate in central Amazonian forest. *Journal of Tropical Ecology* 11(2):205–221.
- Conservation Biology Institute. 2005. Maintaining Ecological Connectivity Across the “Missing Middle” of the Puente-Chino Hills Wildlife Corridor. Encinitas, CA.
https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/pc_missing_middle.pdf
- Crooks, K. R. 2002. Relative sensitivities of mammalian carnivores to habitat fragmentation. *Conservation Biology* 16(2):488–502.

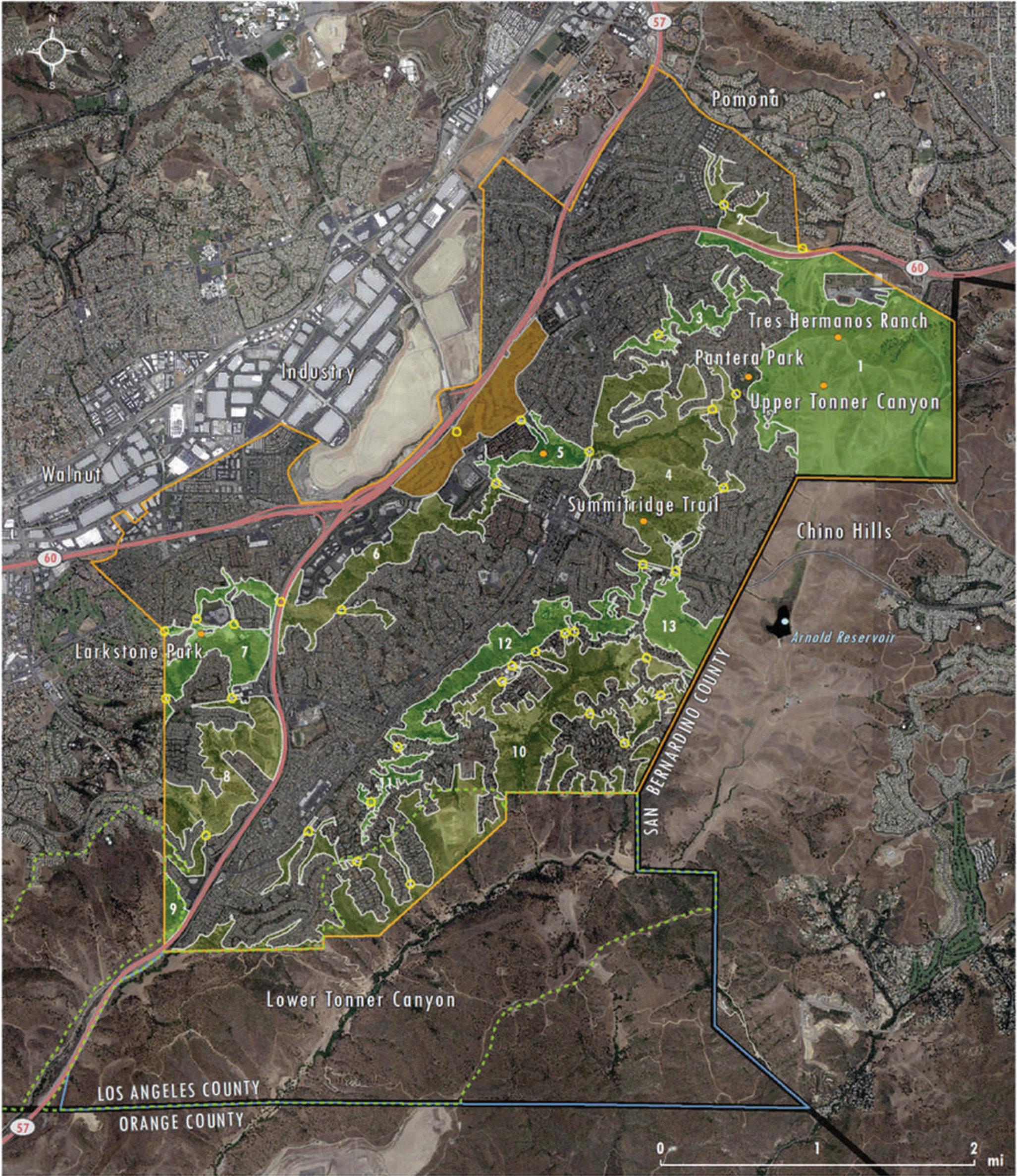
- Crooks, K. R., and M. E. Soulé. 1999. Mesopredator release and avian extinctions in a fragmented system. *Nature* 400:563–566.
- Crooks, K. R., A. V. Suarez, D. T. Bolger, and M. E. Soulé. 2001. Extinction and colonization of birds on habitat islands. *Conservation Biology* 15(1):159–172.
- Drolet, A., C. Dussault, and S. D. Côté. 2016. Simulated drilling noise affects the space use of a large terrestrial mammal. *Wildlife Biology* 22(6):284–293.
- Dyett & Bhatia. 2017. City of Diamond Bar General Plan Update, Existing Conditions Report – Volume III. Redline draft dated February 21, 2017, prepared for City of Diamond Bar.
- Fahrig, L. 2003. Effects of habitat fragmentation on biodiversity. *Annual Review of Ecology, Evolution, and Systematics* 34:487–515.
- Fisher, R. N., A. V. Suarez, and T. J. Case. 2002. Spatial patterns in the abundance of the Coastal Horned Lizard. *Conservation Biology* 16(1):205–215.
- Fletcher Jr., R. J., L. Ries, J. Battin, and A. D. Chalfoun. 2007. The role of habitat area and edge in fragmented landscapes: definitively distinct or inevitably intertwined? *Canadian Journal of Zoology* 85:1017–1030.
- Haas, C., and K. Crooks. 1999. Carnivore Abundance and Distribution Throughout the Puente-Chino Hills, Final Report – 1999. Report prepared for The Mountains Recreation and Conservation Authority and State of California Department of Transportation.
- Haas, C., and G. Turschak. 2002. Responses of Large and Medium-bodied Mammals to Recreation Activities: the Colima Road Underpass. Final report prepared by US Geological Survey for Puente Hills Landfill Native Habitat Preservation Authority.
- Haas, C. D., A. R. Backlin, C. Rochester, and R. N. Fisher. 2006. Monitoring Reptiles and Amphibians at Long-Term Biodiversity Monitoring Stations: the Puente-Chino Hills. Final report prepared by US Geological Survey for Mountains Recreation and Conservation Authority, Puente Hills Landfill Native Habitat Preservation Authority, and California State Parks.
- Harrison, S., and E. Bruna. 1999. Habitat fragmentation and large-scale conservation: what do we know for sure? *Ecography* 22(3):225–232.
- Holway, D. A. 2005. Edge effects of an invasive species across a natural ecological boundary. *Biological Conservation* 121:561–567.
- Holway, D. A. and A. V. Suarez. 2006. Homogenization of ant communities in Mediterranean California: the effects of urbanization and invasion. *Biological Conservation* 127:319–326.
- Hung, K. J., J. S. Ascher, J. Gibbs, R. E. Irwin, and D. T. Bolger. 2015. Effects of fragmentation on a distinctive coastal sage scrub bee fauna revealed through incidental captures by pitfall traps. *Journal of Insect Conservation* DOI 10.1007.
- Kristan, W. B. III, A. J. Lynam, M. V. Price, and J. T. Rotenberry. 2003. Alternative causes of edge-abundance relationships in birds and small mammals of California coastal sage scrub. *Ecography* 26:29–44.
- Laakkonen, J., R. N. Fisher, and T. J. Case. 2001. Effect of land cover, habitat fragmentation and ant colonies on the distribution and abundance of shrews in southern California. *Journal of Animal Ecology* 70(5):776–788.
- Laurance, W. F., and R. O. Bierregaard Jr., eds. 1997. Tropical forest remnants: ecology, management, and

- conservation of fragmented communities. University of Chicago Press, Chicago.
- Laurance, W. F., H. E. M. Nascimento, S. G. Laurance, A. Andrade, R. M. Ewers, K. E. Harms, R. C. C. Luizão, and J. E. Ribeiro. 2007. Habitat fragmentation, variable edge effects, and the landscape-divergence hypothesis. *PLoS ONE* 2(10):e1017.
- Los Angeles County, Dept. of Regional Planning. 2014. Los Angeles County Oak Woodlands Conservation Management Plan Guide. Report dated March 18, 2014. Described as a "resource for assisting County staff when processing development applications that are not exempt from the California Environmental Quality Act (CEQA) and may impact oak woodlands. The Guide includes definitions, application procedures, case processing, project mitigation and mitigation monitoring."
http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf
- Matlack, G. R. 1994. Vegetation dynamics of the forest edge – trends in space and successional time. *Journal of Ecology* 82(1):113–123.
- Mattoni, R., and T. Longcore. 1997. The Los Angeles coastal prairie, a vanished community. *Crossosoma* 23:71–102.
- McCaull, J. 1994. The natural community conservation planning program and the coastal sage scrub ecosystem of southern California. *In* Environmental Policy and Biodiversity (R. E. Grumbine, editor). Island Press, Washington, D.C.
- Mitrovich, M., T. Matsuda, K. H. Pease, and R. N. Fisher. 2010. Ants as a measure of effectiveness of habitat conservation planning in southern California. *Conservation Biology* 24:1239–1248.
- Murcia, C. 1995. Edge effects in fragmented forests: implications for conservation. *Trends in Ecology & Evolution* 10(2):58–62.
- Noss, R. F. 1983. A regional landscape approach to maintain diversity. *BioScience* 33(11):700–706.
- O’Leary, J. F. 1990. California coastal sage scrub: general characteristics and considerations for biological conservation. *In*: A. A. Schoenherr (ed.). *Endangered Plant Communities of Southern California*, Southern California Botanists Special Publication No. 3.
- Ries, L., and T. D. Sisk. 2004. A predictive model of edge effects. *Ecology* 85(11):2917–2926.
- Riley, S. P. D., G. T. Busteed, L. B. Kats, T. L. Vandergon, L. F. S. Lee, R. G. Dagit, J. L. Kerby, R. N. Fisher, and R. M. Sauvajot. 2005. Effects of urbanization on the distribution and abundance of amphibians and invasive species in southern California streams. *Conservation Biology* 19:1894–1907.
- Sage Environmental Group. 2012. Affordable Housing Land Use and Zoning Designation Project, Biological Survey Report. Report dated August 2012 prepared for City of Diamond Bar.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. *A Manual of California Vegetation*, second edition. California Native Plant Society, Sacramento.
- Sisk, T. D., N. M. Haddad, and P. R. Ehrlich. 1997. Bird assemblages in patchy woodlands: modeling the effects of edge and matrix habitats. *Ecological Applications* 7(4):1170–1180.
- Soulé, M. E. 1991. Theory and strategy. *In*: W. E. Hudson (ed.). *Landscape Linkages and Biodiversity*. Island Press, Covello, CA.
- Soulé, M. E., A. C. Alberts, and D. T. Bolger. 1992. The effects of habitat fragmentation on chaparral plants and vertebrates. *Oikos* 63(1):39–47.

- Soulé, M. E., D. T. Bolger, A. C. Alberts, J. Wright, M. Sorice, and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. *Conservation Biology* 2(1):75–92.
- Suarez, A. V., D. T. Bolger and T. J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041–2056.
- Temple, S. A., and J. R. Cary. 1988. Modeling dynamics of habitat-interior bird populations in fragmented landscapes. *Conservation Biology* 2(4):340–347.
- Treseder, K. K., and K. L. McGuire. 2009. Links Between Plant and Fungal Diversity in Habitat Fragments of Coastal Sage Scrub. The 94th ESA Annual Meeting, 2009.
- U.S. Environmental Protection Agency. 2008. Risk mitigation decision for ten rodenticides. Report dated May 28, 2008. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2006-0955-0764>
- Vandergast, A. G., A. J. Bohonak, D. B. Weissman, and R. N. Fisher. 2006. Understanding the genetic effects of recent habitat fragmentation in the context of evolutionary history: phylogeography and landscape genetics of a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus*). *Molecular Ecology* 16:977–92.
- Vaughan, J. R. 2010. Local Geographies of the Coastal Cactus Wren and the Coastal California Gnatcatcher on Marine Corps Base Camp Pendleton. Master of Science thesis, San Diego State University, San Diego, California. 97 pp.
- Wilcove, D. S. 1985. Nest predation in forest tracks and the decline of migratory songbirds. *Ecology* 66(4):1211–1214.
- Wolkovich, E. M., D. T. Bolger, and K. L. Cottingham. 2009. Invasive grass litter facilitates native shrubs through abiotic effects. *Journal of Vegetation Science* 20:1121–1132.
- Woodroffe, R., and J. R. Ginsberg. 1998. Edge effects and the extinction of populations inside protected areas. *Science* 280:2126–2128.


City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities



Natural Open Space Areas

-  Diamond Bar City Limits
-  Sphere of Influence
-  Diamond Bar Golf Course
-  County Line
-  Natural Open Space Area
-  SEA 15
-  Potential Habitat Linkages/Choke Points


HAMILTON BIOLOGICAL
World Image Basemap (Clarity) from ESRI, 2017. North American Primary Roads from ESRI, 2018. County Boundary from USGS. Diamond Bar City Limits, Significant Ecological Area (SEA prior OVOV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator. Datum: WGS84. Map Scale 1:65,000. Graphic Scale Units: Miles.

City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities

The City of Diamond Bar natural open spaces are identified by “Natural Communities” (also known as “plant communities” or “vegetation types”) that occur in the city and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits. Natural living ecosystems do not recognize man-made boundaries.)

◆ **ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS**
Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence

◆ **COASTAL SAGE SCRUB, OPUNTIA LITTORALIS SHRUBLAND**
Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence

◆ **CHAPARRAL**
Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence

◆ **COAST LIVE OAK WOODLAND, SAVANNAH**
Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence

◆ **CALIFORNIA WALNUT WOODLAND, SAVANNAH**
Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence

◆ **RIPARIAN SCRUB AND WOODLANDS**
Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence



HUMAN-ALTERED HABITATS
Developed areas, such as turf/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident waterfowl.

Details of these natural communities are stated page 9-12 in the Biological Resources report.



Oct. 31, 2019

To: City of Diamond Bar, Senior Planner Ms. Grace Lee
RE: Comments, General Plan 2040 and DEIR

Dear Ms. Lee,

I am grateful to comment on the City of Diamond Bar, general plan and DEIR.

Here are my main observation and concerns.

1. A failed mitigation project, Millennium Diamond Road Partners, has gripped our community with doubt that the Lead Agency has demonstrated CEQA adherence or understanding to a due diligent process and best practice. Today, we see numerous permit violations and apparently no relief to the failed mitigation at Bonelli Park.

Question: How will the DEIR monitoring and mitigation plans assure the public of efficiency to avoid such future failure? The language in the document is not specific. Will there be a training manual, educating the public how dependable city procedures are to protect the community from environmental damage, and loss?

2. Mitigation options in the DEIR suggest there is a successful mitigation possible by replacing the removal of old growth, mature oak trees (which sequester 55 thousand pounds of carbon, per tree each year, with young oak trees. How is this possible if science teaches oaks must mature to at least 50 years old to perform carbon capture of that level. Meaning, it would take fifty years to restore the lost ecosystem services provided by oaks – and especially if the oaks were mitigated “off-site” and perhaps far away. The local community is at a loss of the benefits, so mitigation can truly not be achieved. What does the city say about this realization? (see oak woodland conservation guide)
3. Enclosed is a picture of the southern oak riparian woodland/walnut woodland that was destroyed by scorch earth grading (December 2017) violating permits and causing a city issued Cease/Desist. Why does the DEIR “vegetation community” map depict walnut woodlands only, in this area? Notice my picture is a strand of riparian oak woodland which survived rogue bulldozing. Please tell me, where are the walnut trees. Where are they? Why is this habitat omitted and misrepresented in the Resource Conservation figure 5.2?
4. The oak woodland preservation language in the DEIR “sounds” good, but it appears there is little solid commitment to conservation. City wording feels tentative and sounds vague. Will the city consider abiding by the 2011 and

Diamond Bar Preservation Foundation

664 Armitos Place
Diamond Bar, CA 91765-1863
501c3, Non-profit, for Public Benefit

Dr. Chia Teng, President

B8-1

B8-2

B8-3

B8-4

B8-5



2014 Los Angeles County Oak Woodland Conservation Management Plan Guide? If so, will the city depend on CalFIRE Urban Forestry leads to guide preservation of oak woodlands in the city?

B8-5

http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

I was also disappointed the city council chose to affect and change the general plan and DEIR document, in special meetings Sept. 25 and Oct. 8th, while at the same time it was out for Public Review (Sept. 14-Oct.31)

B8-6

There were approximately 60 language changes processed. Were the members of the public including stakeholders notified, other than meeting agendas posted on the general plan website? Many of us had no idea what was happening unless we attended the Sept 25 and Oct. 8th special meetings. How the lack of informing the public comports with CEQA guidelines?



B8-7

Millennium Diamond Road project, Diamond Bar, 2017. Oak woodland riparian, foreground.

Diamond Bar Preservation Foundation

664 Armitos Place

Diamond Bar, CA 91765-1863

501c3, Non-profit, for Public Benefit

Dr. Chia Teng, President



In conclusion, the efforts of the Diamond Bar Preservation Foundation and Alliance aim to protect our community from suffering devastating environmental damage ever again. We are also interested in habitat restoration and promoting native plant landscapes, so to restore the California beauty our neighborhood is famous for and that we cherish.

B8-8

I am eager to learn how the city intends to implement better practices in preserving the natural character of Diamond Bar.

Thank you for review my letter and material and answering my questions.

B8-9

Sincerely ,

Dr. Chia Teng
President,

Attachments: Hamilton Biological Report & Map, attached
L.A. Oak Woodland Conservation Plan Guide link

http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

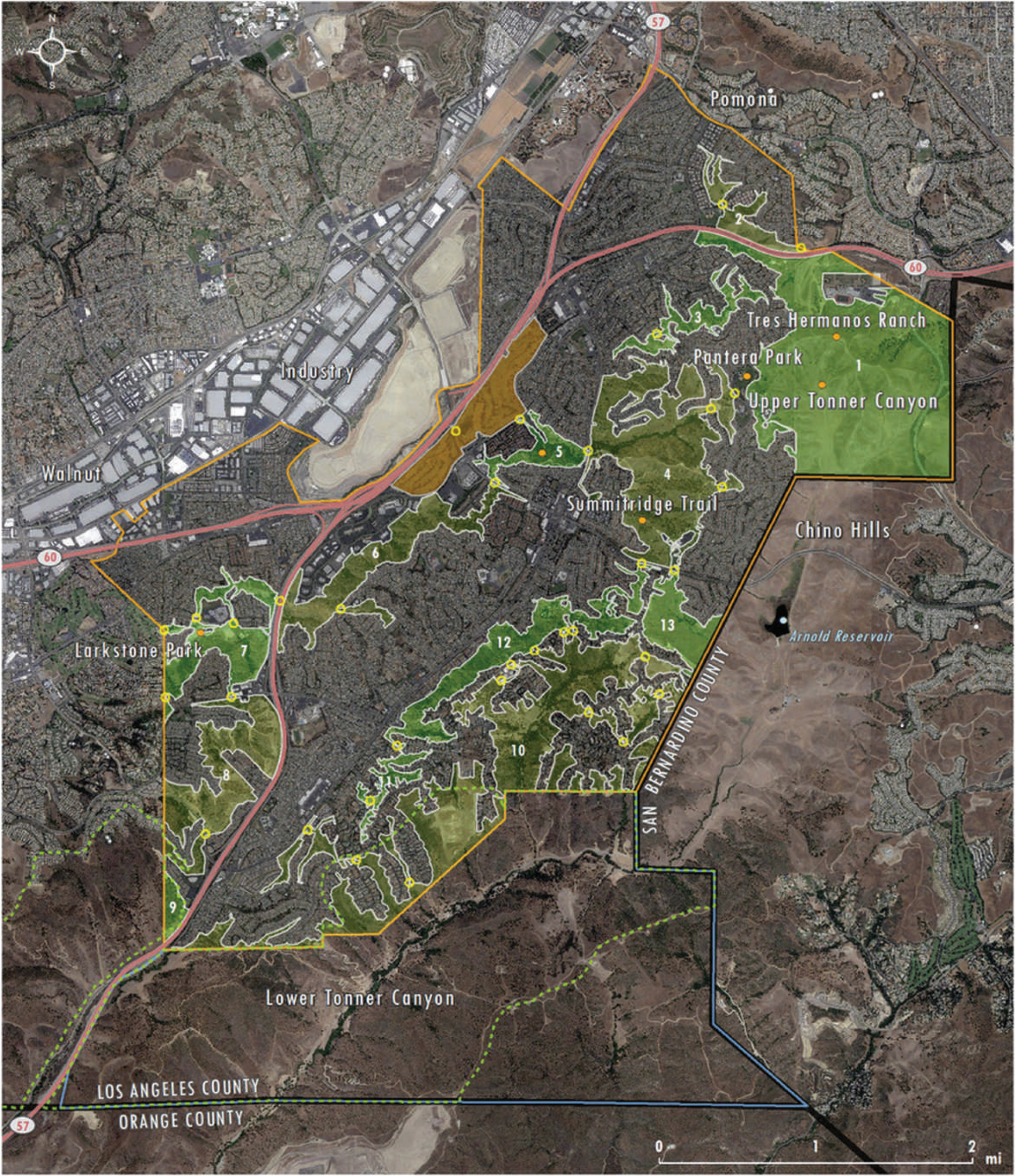
Diamond Bar Preservation Foundation

664 Armitos Place
Diamond Bar, CA 91765-1863
501c3, Non-profit, for Public Benefit

Dr. Chia Teng, President

City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities



Natural Open Space Areas

- Diamond Bar City Limits
- Sphere of Influence
- Diamond Bar Golf Course
- County Line
- Natural Open Space Area
- SEA 15
- Potential Habitat Linkages/Choke Points

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017. North American Primary Roads from ESRI, 2018. County Boundary from USGS. Diamond Bar City Limits, Significant Ecological Area (SEA prior OVOV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator. Datum: WGS84. Map Scale 1:65,000. Graphic Scale Units: Miles.

City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities

The City of Diamond Bar natural open spaces are identified by “Natural Communities” (also known as “plant communities” or “vegetation types”) that occur in the city and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits. Natural living ecosystems do not recognize man-made boundaries.)



ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS

Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence



COASTAL SAGE SCRUB, OPUNTIA LITTORALIS SHRUBLAND

Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence



CHAPARRAL

Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence



COAST LIVE OAK WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence



CALIFORNIA WALNUT WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence



RIPARIAN SCRUB AND WOODLANDS

Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence



HUMAN-ALTERED HABITATS

Developed areas, such as turf/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident waterfowl.

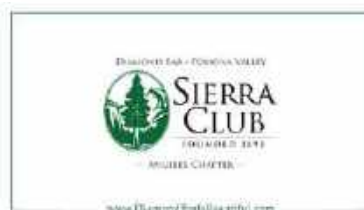
Details of these natural communities are stated page 9-12 in the Biological Resources report.

Biological Resources Report City of Diamond Bar



“This work is dedicated to the City of Diamond Bar, to its residents --- especially the children.”

Dedicated & Funded by a consortium of Diamond Bar residents and:



Cover Photo by Diamond Bar Resident, Eraina Olson, 2019.
Photos for Resource Protection Recommendations, by Robert Hamilton 2019.

February, 2019

Biological Resources Report City of Diamond Bar

Prepared By

Hamilton Biological, Inc.
Robert A. Hamilton, President
316 Monrovia Avenue
Long Beach, CA 90803
<http://hamiltonbiological.com>

February 25, 2019

TABLE OF CONTENTS

TABLE OF CONTENTS	II
INTRODUCTION.....	1
METHODS & TECHNICAL INFORMATION	2
VISIONS, GOALS, OBJECTIVES.....	2
HISTORY & LAND USE	5
SCENIC RESOURCES	5
HYDROLOGY/WATERWAYS.....	6
DIAMOND BAR WATERSHEDS	8
FLOODING	9
BIOLOGICAL RESOURCES	9
NATURAL COMMUNITIES.....	9
Annual and Perennial Grasslands, Vernal Pools/Seasonal Pools	10
Coastal Sage Scrub, Cactus Scrub.....	10
Chaparral	11
Coast Live Oak Woodland, Savannah	11
California Walnut Woodland, Savannah	11
Riparian Scrub and Woodlands.....	12
Human-altered Habitats	12
NATURAL OPEN SPACE AREAS	12
RESOURCE PROTECTION RECOMMENDATIONS	17
SENSITIVE RESOURCES	19
Sensitive Natural Communities	20
Special-Status Species	20
EFFECTS OF DEVELOPMENT ON BIOLOGICAL RESOURCES.....	29
EDGE/FRAGMENTATION EFFECTS ON WILDLIFE MOVEMENT	30
Wildlife Movement Issues in the Puente-Chino Hills	30
NATURAL RESOURCE CONSERVATION POLICIES.....	32
GOALS AND POLICIES OF THE OPEN SPACE AND CONSERVATION ELEMENT.....	32
LITERATURE CITED	34

FIGURES

1: Waterways	6
2: Lower San Gabriel River Watershed	7
3a: Natural Open Space Areas, Part 1	13
3b: Natural Open Space Areas, Part 2	14
3c: Natural Open Space Areas, Part 3	15
3d: Natural Open Space Areas, Part 4	16

TABLES

A: Resource Protection Recommendations.....	17
B: Special Status Species.....	22

APPENDICES

A: Methods & Technical Information	
------------------------------------	--

INTRODUCTION

Hamilton Biological, Inc., was retained by a consortium of Diamond Bar residents to prepare this biological resources report addressing the conservation and preservation of sensitive biological resources in the City of Diamond Bar (City) and its Sphere of Influence. It is intended that the City incorporate the information and analyses in this report into the next update of its general plan, currently in preparation.

Sections 65302(d) and 65302(e) of the California Government Code states that a city's general plan shall include goals and policies for management of open spaces, including natural lands and recreation areas. The Open Space Element addresses such categories as preservation of natural resources and managed production of resources. The Conservation Element addresses protection and maintenance of natural resources, including soils, water, plants, wildlife, and mineral resources. Recognizing that the subjects covered under the Open Space Element and Conservation Element substantially overlap, Appendix 1 to the California Government Code allows these two elements to be combined in one section of the General Plan.

The Open Space and Conservation Element identifies and describes the irreplaceable biotic resources that make up the natural environment that people rely upon for breathable air, clean water, viable populations of native plants and wildlife, and the natural beauty that pervades and defines Diamond Bar. The Open Space and Conservation Element guides city decision-makers and the public in their efforts to take the natural world into account during deliberations over development proposals, as required to realize the overall vision laid out in the General Plan.

The Open Space and Conservation Element guides the development and implementation of programs involving conservation of open space, biological resources, visual resources, and parks and recreation. Approaches for managing environmental impacts are identified, with particular emphasis on contributing to achievement of the General Plan's stated goals, including:

- Create and retain an open space system which will conserve natural resources, preserve scenic beauty, promote a healthy community atmosphere, provide open space for outdoor recreation, and protect the public safety.
- Identify limits on the natural resources needed to support urban and rural development within the City and its Sphere of Influence, and ensure that those resources are used wisely and not abused.
- Provide a park, recreation and open space system which enhances the livability of urban and suburban areas by providing parks for residential neighborhoods; preserving significant natural, scenic, and other open space resources; and meeting the open space and recreational needs of Diamond Bar residents.

Methods & Technical Information

Please refer to Appendix A, which describes the methods for preparing this biological resources report, as well as providing technical information that underpins the analyses, conclusions, and policies contained herein.

Visions, Goals, Objectives

The General Plan identifies “a strongly held goal among the residents to **maintain and protect the distinctive physical attributes of Diamond Bar which make it a desirable place in which to live.**” To achieve this overarching goal of safeguarding open spaces and significant natural features, as well as retaining the City’s distinctive natural character, the Open Space and Conservation Element focuses on supporting the following visions, goals and objectives, building upon language contained in the original 1995 General Plan:

- **Vision 1.** Retention of the rural/country living community character. There is a strong, long-held goal among residents to maintain and protect the distinctive, physical attributes of Diamond Bar which make it a desirable place in which to live, through a careful balance of housing, businesses and services, public facilities, and preservation of natural environmental resources.
- **Vision 2.** Preservation of open space. Significant privately and publicly owned natural lands that remain in Diamond Bar and its 3,591-acre Sphere of Influence support numerous rare species and perform important ecological functions. The preservation of sensitive natural resources contributes to the goal of retaining the City’s distinctive rustic character and offers unique educational and recreational opportunities. The County of Los Angeles has identified the Sphere of Influence and adjacent lands, some of which lie within the City, as Significant Ecological Area (SEA) 15. SEA 15 is recognized as a major significant ecological asset to the community. The City will play a proactive role in the preservation of SEA 15 by assuring that extensive analysis and review precede any changes from its current uses and possibilities.
 - **Goal 1.** Consistent with the Vision Statement, maintain a mix of land uses which enhance the quality of life of Diamond Bar residents, providing a balance of development and preservation of significant open space areas to assure both economic viability and retention of distinctive natural features of the community.
 - **Objective 1.1** Establish a land use classification system to guide the public and private use of land within the City and its Sphere of Influence.
 - **Objective 1.2** Preserve and maintain the quality of existing residential neighborhoods while offering a variety of housing opportunities, including mixed land uses.

- **Objective 1.3** Designate adequate land for retail and service commercial, professional services, and other revenue generating uses in sufficient quantity to meet the City's needs.
 - **Objective 1.4** Designate adequate land for educational, cultural, recreational, and public service activities to meet the needs of Diamond Bar residents.
 - **Objective 1.5** Maintain a feeling of open space within the community by identifying and preserving an adequate amount of open land.
 - **Objective 1.6** Consistent with the Vision Statement, provide flexibility in the planning of new development as a means of encouraging superior land use by means such as open space and public amenities.
- **Goal 2.** Consistent with the Vision Statement, manage land use with respect to the location, density and intensity, and quality of development. Maintain consistency with the capabilities of the City and special districts to provide essential services which achieve sustainable use of environmental and manmade resources.
 - **Objective 2.1** Promote land use patterns and intensities which are consistent with the Resource Management Element and Circulation Element.
 - **Objective 2.2** Maintain an organized pattern of land use which minimizes conflicts between adjacent land uses.
 - **Objective 2.3** Ensure that future development occurs only when consistent with the availability and adequacy of public services and facilities.
 - **Goal 3.** Consistent with the Vision Statement, maintain recognition within Diamond Bar and the surrounding region as being a community with a well-planned and aesthetically pleasing physical environment.
 - **Objective 3.1** Create visual points of interest as a means of highlighting community identity.
 - **Objective 3.2** Ensure that new development, and intensification of existing development, yields a pleasant living, working, or shopping environment, and attracts interest of residents, workers, shoppers, and visitors as the result of consistent exemplary design.
 - **Objective 3.3** Protect the visual quality and character of remaining natural areas, and ensure that hillside development does not create unsafe conditions.

- **Goal 4.** Consistent with the Vision Statement, encourage long-term and regional perspectives in local land use decisions, but not at the expense of the Quality of Life for Diamond Bar residents.
 - **Objective 4.1** Promote and cooperate in efforts to provide reasonable regional land use and transportation/circulation planning programs.
- **Goal 5.** Consistent with the Vision Statement, recognize that oak trees, oak woodlands, and associated habitats have intrinsic aesthetic, environmental, ecological, wildlife, and economic values; that conservation of oak-dominated landscapes is important to the health, safety and general welfare of the citizens of Diamond Bar¹; that that the General Plan must contain adequate policies to protect the oak habitats from unnecessary damage, removal or destruction; that native oak trees should be planted, where appropriate, to enhance or restore damaged or degraded oak woodland habitats and mitigate unavoidable losses.
 - **Objective 5.1** Protect and extend the diversity of oak woodlands and associated habitats (defined as lands on which the majority of the trees are of the genus *Quercus*) through site design and land use regulations.
 - **Objective 5.2** Reduce in scale, redesign, modify, or if no other alternative exists, deny any project which cannot sufficiently mitigate significant adverse impacts to oak woodlands.
 - **Objective 5.3** Encourage property owners to establish Open Space Easements or deed restrictions for areas containing oak woodlands, and to allow access to enable scientific study.
 - **Objective 5.4** Encourage concentration of development on minimum number of acres (density exemptions) in exchange for maximizing long term open space.
 - **Objective 5.5** As a mitigation option, allow as a condition of development approval, restoration of any area of oak woodland that is in a degraded condition, with the magnitude of restoration to be commensurate with the scope of the project. This may include planting of oak trees and removal of non-native species, with consideration for long-term viability, management, and protection, and/or modification of existing land uses. The object of habitat restoration shall be to enhance the ecological function of the oak woodland and to restore it to a condition where it can be self-sustaining through natural occurrences such as fire, natural hydrological processes, etc.

¹ Woodlands are defined as lands with tree cover of at least 10%, and oak woodlands exist where the majority of trees are of the genus *Quercus*.

History & Land Use

Set within the Puente Hills of southeastern Los Angeles County, the City of Diamond Bar covers 14.9 square miles. Neighboring cities include Walnut, Pomona, Industry, La Puente, Rowland Heights, Brea, and Chino Hills. The region now occupied by Diamond Bar was inhabited by the Kizh people until the mid-eighteenth century, when the Spaniards settled in the area, establishing Mission San Gabriel in 1771 (City of Diamond Bar and Diamond Bar Historical Society 2014; Housing element 2014). The land experienced a series of ownership changes involving various land grants and purchases (e.g., the Los Nogales Grant; purchases by Luz Linares, Vejar and Palomares, Louis Phillip, Frederick E. Lewis II, William Bartholome), eventually growing into one of the largest and respected ranches in southern California and gaining its name. This lasted until 1956, during which two subsidiaries of Transamerica Corporation (Christiana Oil Corp and the Capital Oil Company) purchased the area, aiming to make it among the first and largest master-planned community in Los Angeles County (City of Diamond Bar and Diamond Bar Historical Society 2014).

Despite initial intentions as a “master-planned” community, uncoordinated patterns of development through the late twentieth century have introduced areas of incongruence, such as single- and detached multi-family residential tracts being established alongside limited commercial and other non-residential sections. Most suburban construction was already established prior to the city’s incorporation in 1989, and commercial development has continued expand within the city limit. A few blocks away from the primary arterials (57 and 60 Freeways) the majority of retail and housing space is largely concealed by the natural topography, contributing to Diamond Bar’s quiet, semi-rural character and pleasant atmosphere.

Scenic Resources

Today, Diamond Bar is primarily a hillside residential community, composed of steep and moderate sloping hills separated by ridges and flat plateaus. Although most of the land was developed prior to the city’s incorporation, its remaining natural hillsides and ridgelines provide a picturesque backdrop and strong visual ties to the area’s long history of ranching. The views from these natural areas comprise powerful and valuable scenic resources, adding ambiance and aesthetics that give Diamond Bar a unique and compelling visual identity. In addition, views of trees, rolling hills and the pine- and often snow-covered peaks of the San Gabriel Mountains are visible in the distance from the 57 and 60 Freeways.

Planning decisions must recognize the existing aesthetic value of the city’s open space as well as the external viewsheds of the surrounding region. These include the oak and walnut wooded ridgelines, unique topography, and natural open spaces at the edges of the community.

HYDROLOGY/WATERWAYS

Diamond Bar lies within of the San Gabriel River watershed, which is the largest watershed in the drainage system of the San Gabriel Mountains at 441,000 acres (Lower San Gabriel River Watershed Group 2015). The San Gabriel River is one of seven major watersheds partly or completely within Los Angeles County. Most of the river lies in southeastern Los Angeles County, but a portion of this watershed originates in northern Orange County. The northern portion of the San Gabriel River, where it emerges from the mountains, has retained some natural features, such as a sandy bottom and native vegetation. Farther south, however, flood-control and channel stabilization measures needed to accommodate intensive urbanization led to the river being lined with concrete (US Army Corps of Engineers 1991; Neal 2011).

Water runs through Diamond Bar via numerous channels, creeks and canyons. A small part of the northwestern part of the city drains to the San Gabriel River via the San Jose Creek channel, which follows the route of Valley Boulevard west from Diamond Bar. Most of Diamond Bar drains south to the San Gabriel River through the Coyote Creek watershed (see Figure 1).

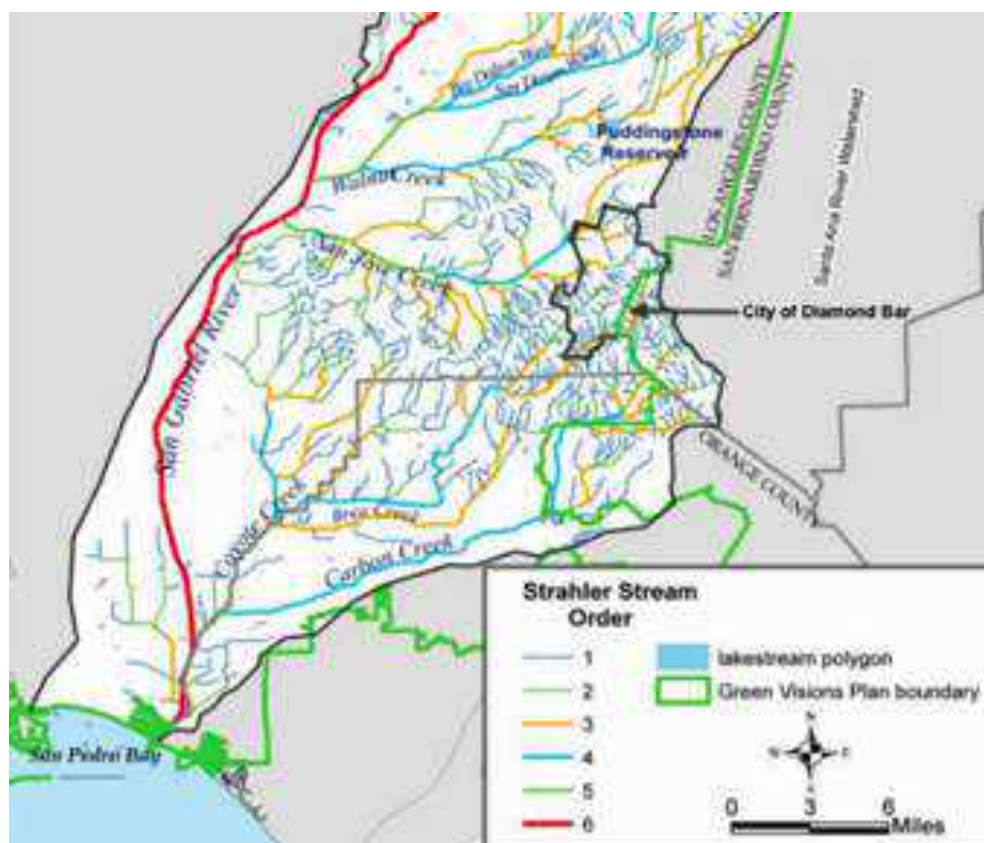


Figure 1, Waterways. Diamond Bar lies mostly within the watershed of Coyote Creek, but the northwestern part of the city discharges to the west, through the San Jose Creek channel.

Source: National Hydrology Dataset. <http://www.horizon-systems.com/nhdplus/NHDPlusV1download.php>

Coyote Creek and San Jose Creek drain approximately 165 square miles and 83 square miles, respectively, of highly urbanized commercial, residential, and industrial zones, plus limited natural open space areas (Sheng & Wilson 2000, using Horton-Strahler Stream Order).

In 2013, Diamond Bar joined 12 other cities and the Los Angeles County Flood Control District to develop a Watershed Monitoring Program (WMP) and Coordinated Integrated Monitoring Program (CIMP) to address the lower portion of the San Gabriel River, which includes Reaches 1 and 2 of the San Gabriel River Watershed and portions of Coyote Creek that originate from jurisdictions within Los Angeles County, including the City of Diamond Bar. A small portion of Diamond Bar that discharges to the San Gabriel River via San Jose Creek is also addressed by this CIMP. See Figure 2, below.

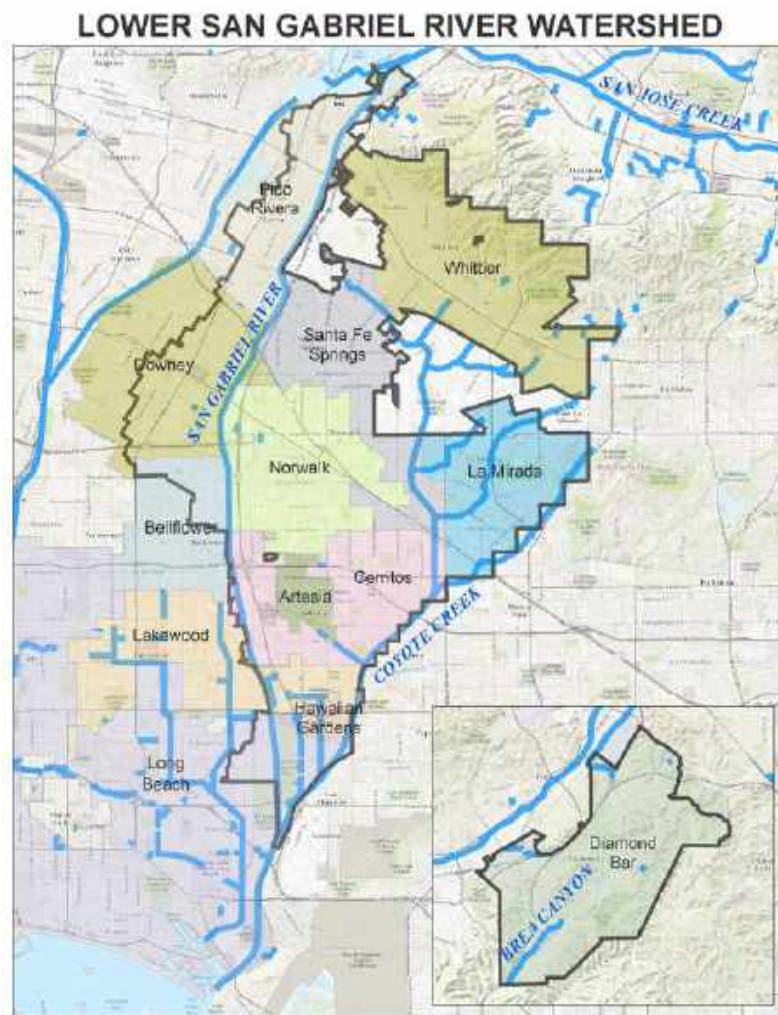


Figure 2, Lower San Gabriel River Watershed. Diamond Bar occupies the most northeasterly part of the Lower San Gabriel River Coordinated Integrated Monitoring Program.

Source: Gateway Water Management Authority. <https://gatewaywater.org/services/lsgf/>

Diamond Bar Watersheds

Diamond Bar is served by four watersheds, all with some channelization/urbanization: Tonner Canyon Creek, Diamond Bar Creek, Brea Canyon Creek, and San Jose Creek. Each system supports riparian habitat that provides resources for protected/special-status species. The following discussions describe each of these four drainage systems.

1. Tonner Canyon

With a watershed of 5,000 acres and very little development, Tonner Canyon ranks among the most ecologically significant, unchannelized, largely undisturbed drainages in the Los Angeles area (HFE 2018). Occupying parts of Los Angeles, San Bernardino and Orange Counties, Tonner Canyon drains the southeastern side of Diamond Bar and the northwestern side of the City of Chino Hills. The flow rate, controlled by natural rills, gullies and washes, varies throughout the year. The canyon's headwaters lie in a bowl of low hills just south of Diamond Ranch High School. Roughly 1.4 miles downstream, Grand Avenue cuts across the watershed, and just downstream from that road crossing lies the small Arnold Reservoir. Below the reservoir's dam, water flows southwest through natural open space lands the City of Industry has purchased from the Boy Scouts of America in recent years. After flowing for approximately a mile through open, rolling hills, the creek then enters a narrower canyon, with steeper hills on either side. At that point, the willow-, sycamore-, and oak-dominated riparian vegetation becomes more developed. The creek flows another six miles south and west to empty into Brea Creek, located near the 57 Freeway in the Coyote Creek drainage basin of Orange County.

2. Diamond Bar Creek

Originating in the neighborhoods west of Diamond Ranch High School, Diamond Bar Creek runs approximately 1.2 miles to the west, through Sycamore Canyon Park, and then continues west of Golden Springs Road through Diamond Bar Golf Course, and from there underneath the 57 and 60 Freeways, to a channel east of the freeway that is tributary to San Jose Creek. The upper segment, from Leyland Drive through the Sycamore Canyon Park, supports well-developed native sycamore/oak/willow riparian woodlands. The segment passing through Diamond Bar Golf Course supports broken, partially native riparian habitat.

3. Brea Canyon Creek

The southwestern part of Diamond Bar, including the "Brea Canyons" neighborhood east of the 57 Freeway, drains south toward Coyote Creek via Brea Canyon Creek. Most of this watershed is fully developed within the limits of Diamond Bar, but the southernmost portion, near the terminus of Castle Rock Road, is a soft-bottomed perennial creek that supports riparian vegetation.

4. San Jose Creek – South Branch/Fork

Located at Diamond Bar’s northwestern edge, the southern branch of San Jose Creek is a concrete-lined, trapezoidal channel that collects a small portion of urban runoff that is discharged north of the intersection of Sunset Crossing Road and North Diamond Bar Blvd. Runoff collected from catch basins drains west toward San Jose Creek in the City of Industry. At the eastern terminus of Back Lot Lane, in the City of Walnut, lies very small patch of riparian vegetation consisting of native and exotic trees and shrubs.

Flooding

Flood insurance maps issued by the Federal Emergency Management Agency (FEMA)², showing areas that may be subject to flooding in 100-year storm events, indicate that Diamond Bar is at low risk for major flood events. Only a limited section of the City, located north of SR-60 (Reed Canyon Channel at Brea Canyon Road and Lycoming Street) are a slightly elevated flood potential. Surrounding areas at potentially elevated risk of flooding include locations north of the 57 Freeway (across Baker Parkway) and an area covering roughly 2,000 acres near the border with Pomona.

An extensive system of concrete-lined drainages, many of which are independent of the natural streambeds, carries runoff through the City. Areas considered to be at elevated risk of flooding may require maintenance of drainage channels, which can include removal of native wetland and riparian vegetation, to maintain the flow of water through the stormwater system. Diamond Bar’s generally low risk for flooding allows for native riparian vegetation to be retained in natural streambeds, which can develop into important habitat for various wildlife species.

BIOLOGICAL RESOURCES

Natural Communities

This section briefly describes the Natural Communities (also known as “plant communities” or “vegetation types”) that occur in Diamond Bar and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits). The following discussions of Natural Communities refer to Natural Open Space Areas in the City and its Sphere of Influence, which are mapped subsequently (see Figures 3a–3d, starting on page 12). Please refer also to Appendix A, which describes the State-recommended methods used to classify Natural Communities for this report.

² Los Angeles county Flood Zone Definitions, See <http://dpw.lacounty.gov/wmd/floodzone/docs/FZDLegend.pdf>

ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS

Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence

The bottom of Tonner Canyon supports extensive grasslands. Most alliances of the widespread “California annual grassland” are not identified as Sensitive by CDFW, as they generally represent areas disturbed over long periods (e.g., by grazing) that no longer support many native plant species. Among the most prevalent alliances in the Diamond Bar area is “annual brome grassland.” Dominant species include ripgut brome (*Bromus diandrus*), foxtail brome (*Bromus madritensis* ssp. *rubens*), wild oats (*Avena fatua*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), shortpod mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), Italian thistle (*Carduus pycnocephalus*), and tocalote (*Centaurea melitensis*). Some disturbance-adapted native forbs, such as common fiddleneck (*Amsinckia intermedia*) and arroyo lupine (*Lupinus succulentus*), may also occur.

Areas of perennial grassland, distinguished by possessing non-trace cover of native grasses, are identified as Sensitive by CDFW. As examples, the *Nassella* spp. – *Melica* spp. herbaceous alliance is characterized by having at least 2–5 percent cover of native needlegrass (*Nassella* spp.) or other native grasses³; and the *Bromus carinatus* – *Elymus glaucus* herbaceous alliance has California brome (*Bromus carinatus*) characteristically present, with native plants providing more than 10 percent relative cover.⁴ It is likely that vernal pools/seasonal ponds occur in the site’s grasslands, and/or along dirt roads that pass through other Natural Communities.

Special-status species known to occur in Diamond Bar’s grasslands, or that have potential to occur there, include Catalina mariposa lily (*Calochortus catalinae*) small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*), Golden Eagle (*Aquila chrysaetos*), and Grasshopper Sparrow (*Ammodramus savannarum*).

COASTAL SAGE SCRUB, CACTUS SCRUB

Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence

Hillsides throughout the Puente Hills support stands of coastal sage scrub and cactus scrub, and this includes the dry, exposed slopes of Diamond Bar. Dominant native shrubs species in coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), coyote brush (*Baccharis pilularis*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Within the Study Area, cactus scrub is dominated by a combination of coastal prickly-pear (*Opuntia littoralis*) and shrubs characteristic of coastal sage scrub. The CDFW recognizes most of these scrub/cactus

³ <http://vegetation.cnps.org/alliance/536>

⁴ <http://vegetation.cnps.org/alliance/499>

alliances as Sensitive Natural Communities⁵ in their own right, and they often support special-status plant and/or wildlife species, such as intermediate mariposa lily (*Calochortus weedii* ssp. *intermedius*), Hubby's phacelia (*Phacelia hubbyi*), Coastal California Gnatcatcher (*Polioptila californica californica*), and Cactus Wren (*Campylorhynchus brunneicapillus*).

CHAPARRAL

Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence

On Diamond Bar's north- and east-facing slopes, coastal sage scrub is replaced by taller and denser shrubs and trees with greater requirements for moisture and shade. The mosaic consists of three main Natural Communities: chaparral, oak woodland, and walnut woodland. The lowland form of chaparral found in the study area is dominated by such species as laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), sugarbush (*Rhus ovata*), chaparral honeysuckle (*Lonicera subspicata*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Special-status species associated potentially found in chaparral in Diamond Bar include Fish's milkwort (*Polygala cornuta* var. *fishiae*) and the San Bernardino Ringneck Snake (*Diadophis punctatus modestus*).

COAST LIVE OAK WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence

Coast Live Oak Woodland, several associations of which are recognized as Sensitive by CDFW, is characterized by stands of coast live oak (*Quercus agrifolia*), and in some areas Engelmann oak (*Quercus engelmannii*), often growing together with chaparral and walnut woodland, on Diamond Bar's north- and east-facing slopes, as well as in the bottoms of some drainage courses. Oak savannah, characterized by scattered oaks growing in grassland, occurs in limited pockets and may be associated with human disturbance of oak woodlands. Coast live oaks are valuable to a variety of native wildlife, and are frequently utilized by nesting owls and hawks. Special-status species that may be found in oak woodlands in the Study Area include the Southern California Shoulderband Snail (*Helminthoglypta tudiculata*), Trask's Shoulderband Snail (*Helminthoglypta traskii*), and Long-eared Owl (*Asio otus*).

CALIFORNIA WALNUT WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence

This Natural Community, recognized as Sensitive by CDFW, is characterized by stands of southern California black walnut (*Juglans californica*) growing in association with chaparral and coast live oak woodland on Diamond Bar's north- and east-facing slopes. Walnut savannah, characterized by scattered walnuts growing in grassland, occurs in limited pockets and may be associated with human disturbance of walnut woodlands.

⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609>

Special-status species that may be found in walnut woodlands and walnut savannah in Diamond Bar include the species indicated previously for oak woodlands and chaparral.

RIPARIAN SCRUB AND WOODLANDS

Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence

Various forms of riparian scrub and woodland, nearly all of them recognized as Sensitive by CDFW, grow along streambeds in Diamond Bar. The dominant vegetation consists of willows, such as arroyo willow (*Salix lasiolepis*) and red willow (*S. laevigata*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), southern California black walnut (*Juglans californica*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Special-status species that may be found in riparian woodlands in Diamond Bar include the rough hedge-nettle (*Stachys rigida* var. *rigida*), Western Pond Turtle (*Emys marmorata*), Yellow-breasted Chat (*Icteria virens*), and Yellow Warbler (*Setophaga petechia*).

HUMAN-ALTERED HABITATS

Developed areas, such as turfed/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident ducks and other waterfowl.

Natural Open Space Areas

Figures 3a–3d, starting on the next page, depict 13 areas of extensive (>25 acres) native/naturalized habitat in Diamond Bar. Also depicted are Diamond Bar Golf Course and Tonner Canyon/Significant Ecological Area 15, within the city's Sphere of Influence. The figures also show potential habitat connections/choke points for wildlife movement between blocks of natural open space. Figures 3a–3d provide a basis for generally characterizing the existing ecological conditions within Diamond Bar and its Sphere of Influence, without accounting for such distinctions as the boundaries of parklands or private lots.

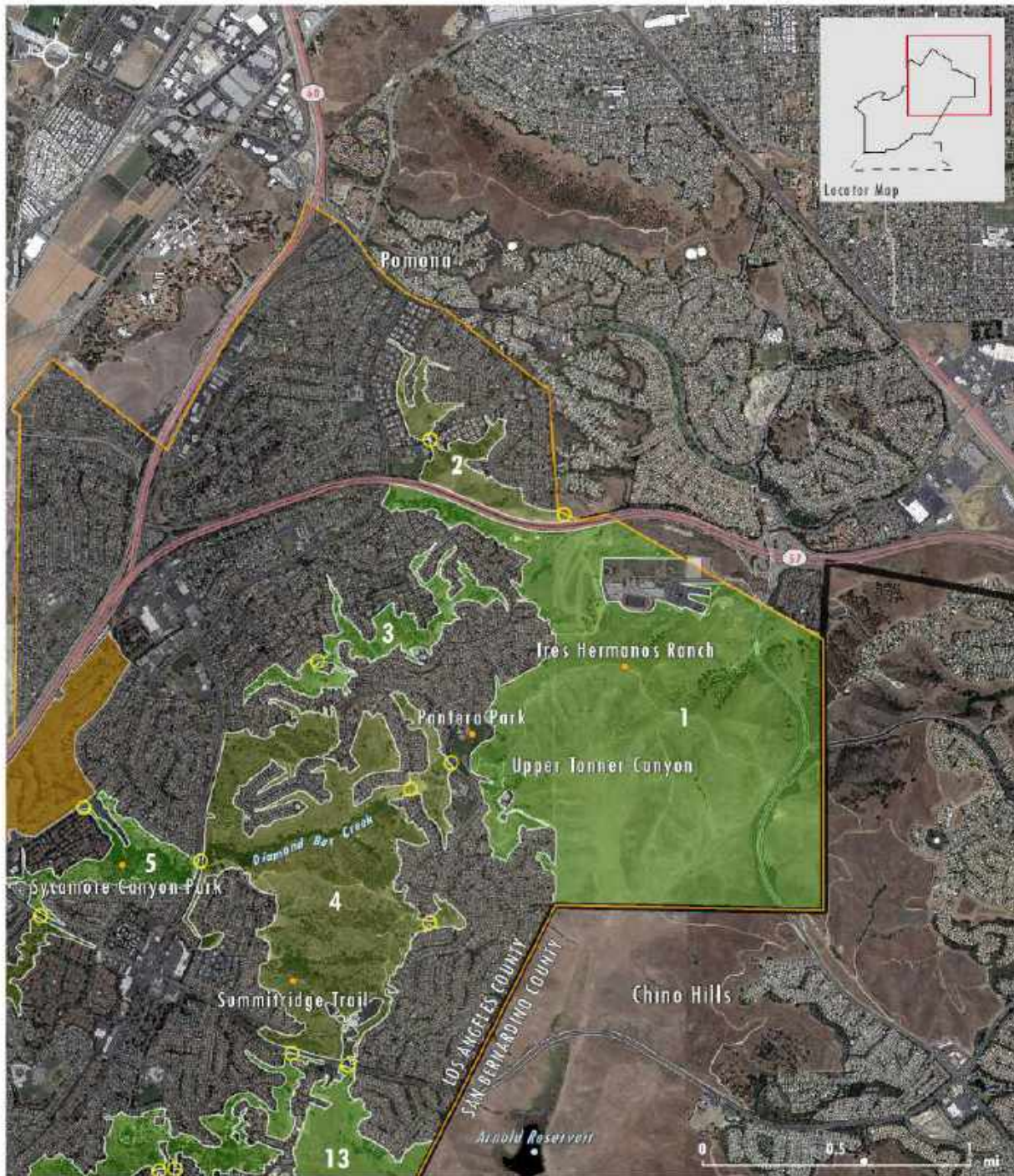


Figure 3a. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |


HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000, Graphic Scale Units: Miles.



Figure 3b. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |


HAMILTON BIOLOGICAL
 World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000, Graphic Scale Units: Miles.

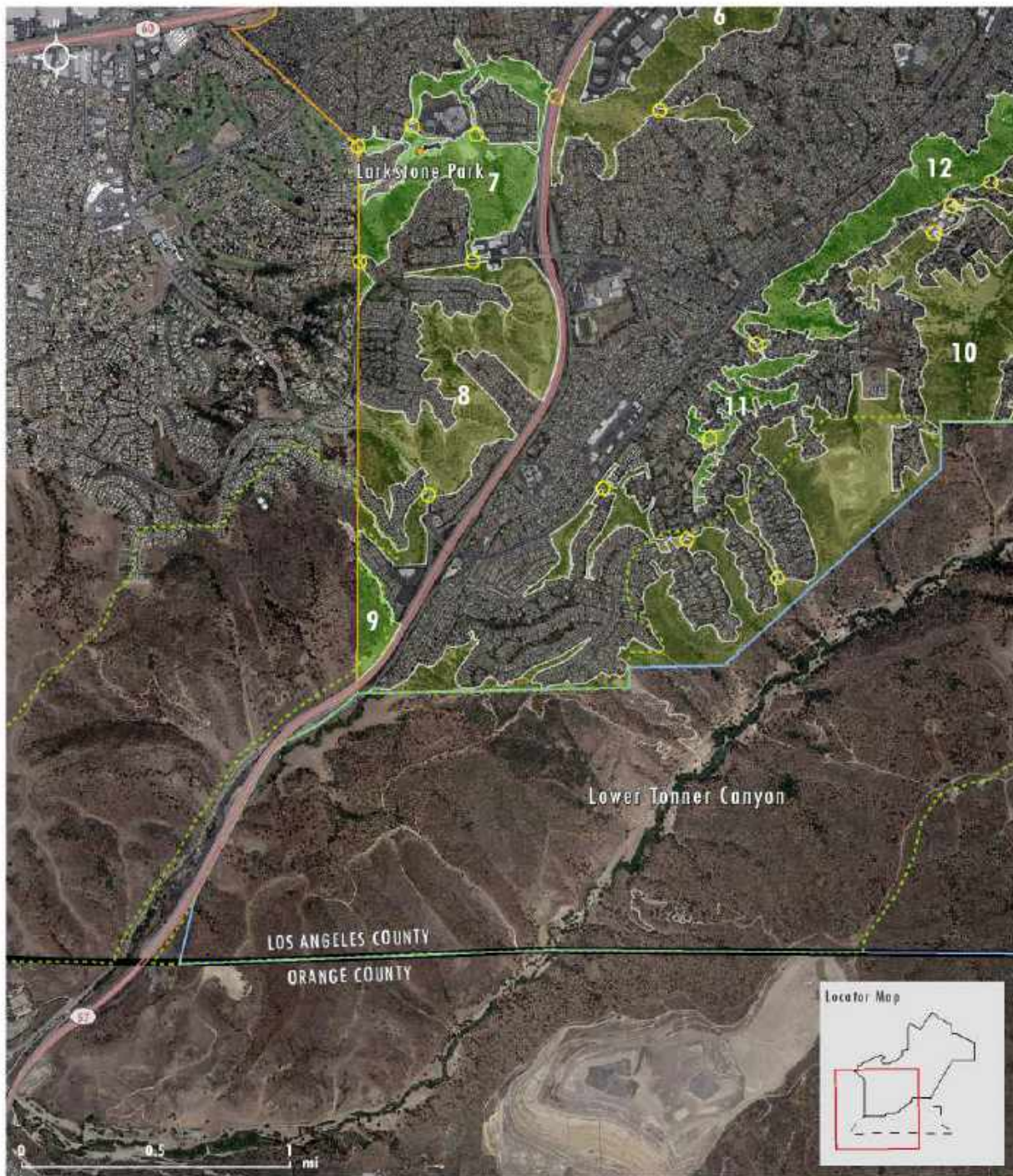



Figure 3c. Natural Open Space Areas

- | | |
|---|---|
|  Diamond Bar City Limits |  Natural Open Space Area |
|  Sphere of Influence |  SEA 15 |
|  Diamond Bar Golf Course |  Potential Habitat Linkages/Choke Points |
|  County Line | |


HAMILTON BIOLOGICAL
 World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits; Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator; Datum: WGS84; Map Scale 1:38,000. Graphic Scale Units: Miles.

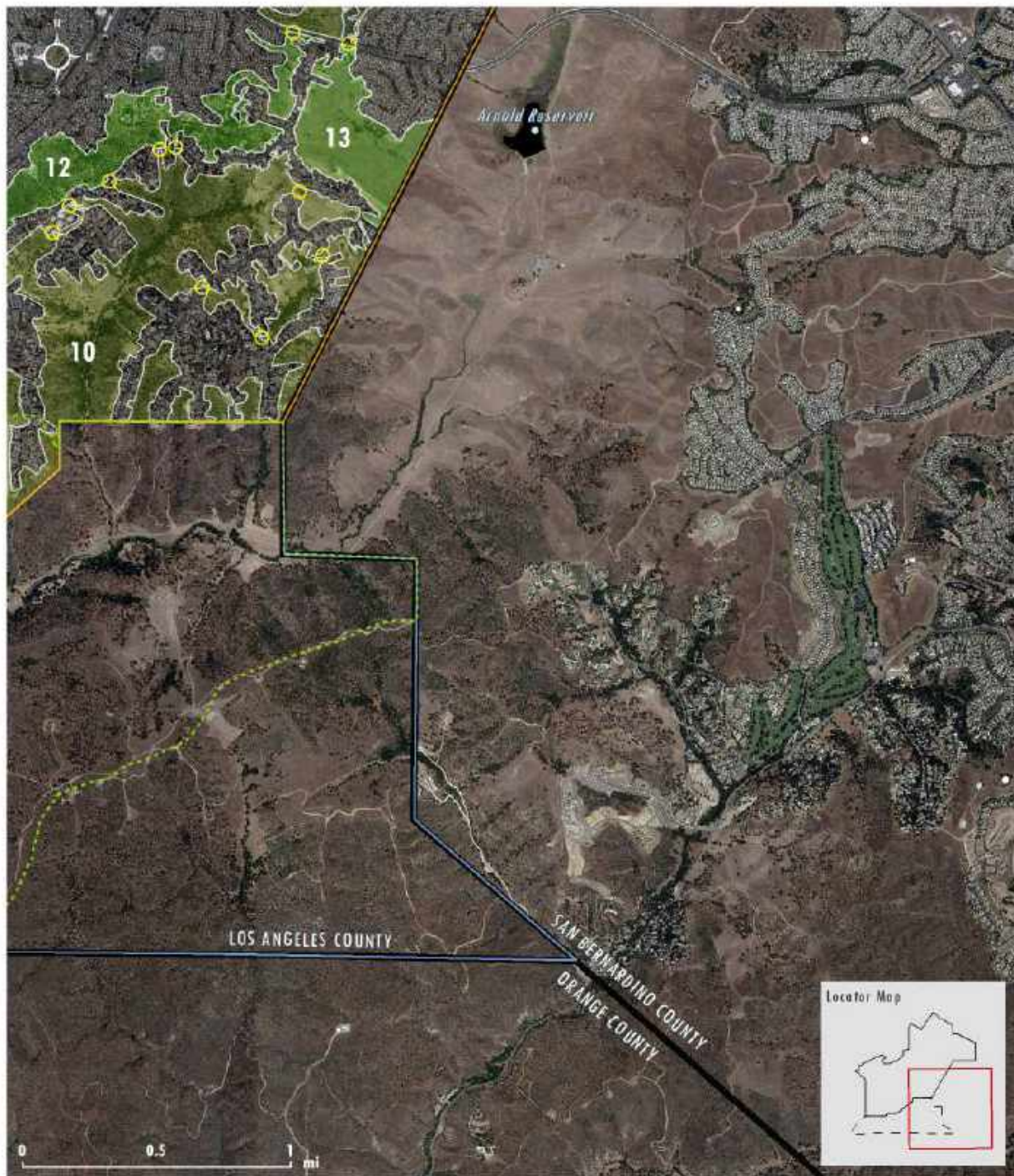


Figure 3d. Natural Open Space Areas

- | | | | |
|---|-------------------------|---|---|
|  | Diamond Bar City Limits |  | Natural Open Space Area |
|  | Sphere of Influence |  | SEA 15 |
|  | Diamond Bar Golf Course |  | Potential Habitat Linkages/Choke Points |
|  | County Line | | |

HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017; North American Primary Roads from ESRI, 2018; County Boundary from USGS; Diamond Bar City Limits, Significant Ecological Area (SEA prior OVDV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator, Datum: WGS84, Map Scale 1:38,000. Graphic Scale Units: Miles.



Resource Protection Recommendations

Resource Protection Recommendations

Table A, below, describes and characterizes the ecological characteristics of each mapped natural open space area at a general level of detail appropriate for a General Plan. Recommendations are made for the establishment of biological protection overlays for sensitive habitat areas with high ecological values (e.g., native woodlands and coastal sage scrub). Note that sensitive natural resources (e.g., special-status species) and/or important ecological functions (e.g., movement of wildlife) could also occur outside of the identified areas. More detailed, project-specific surveys would be required to accurately and adequately describe the ecological resources found in any open space area.

Table A. Resource Protection Recommendations

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
1	926	<p>Largest block of natural open space in Diamond Bar, including Pantera Park and northern part of Tres Hermanos Ranch.</p> <p>Grassland, Coastal Sage Scrub, Cactus Scrub, Chaparral, Oak Woodland, Walnut Woodland, Riparian, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) native scrub habitats with documented populations of California Gnatcatcher and Cactus Wren, (c) wetland and riparian habitats, and (d) native woodlands; maintain and fortify habitat connections and wildlife movement opportunities; minimize loss, fragmentation, and degradation of Natural Communities.</p>
2	64	<p>Only large block of natural open space in Diamond Bar north of 60 Freeway.</p> <p>Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak Woodland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
3	72	<p>“Island” of natural open space between Charmingdale Road and Armitos Place.</p> <p>Coast Live Oak Woodland, Coastal Sage Scrub, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>
4	438	<p>Includes Summitridge Park and Steep Canyon/Diamond Bar Creek.</p> <p>Coastal Sage Scrub, Cactus Scrub, Oak Woodland, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats with documented populations of California Gnatcatcher and Cactus Wren, wetland and riparian habitats, and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
5	62	<p>Includes Sycamore Canyon Park/Diamond Bar Creek.</p> <p>Coastal Sage Scrub, Cactus Scrub, Oak Woodland, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats, wetland and riparian habitats, and native woodlands; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
6	196	<p>Slopes east of City Hall.</p> <p>Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Chaparral, Grassland, Coastal Sage Scrub, Human-altered Habitats, Riparian.</p> <p>Establish biological protection overlay to conserve native woodlands and savannah; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
7	154	<p>Includes Larkstone Park.</p> <p>Coast Live Oak Woodland, Oak Savannah, Coastal Sage Scrub, Chaparral, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native woodlands, wetland and riparian habitats, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
8	231	<p>West of 57 Freeway, south of Pathfinder Road.</p> <p>Oak Woodland, Oak/Walnut Savannah, Coastal Sage Scrub, Chaparral, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native woodlands and savannah, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
9	27	<p>Southwestern corner.</p> <p>Oak Woodland, Chaparral, Grassland.</p> <p>Establish biological protection overlay to conserve native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>
10	712	<p>Tonner Canyon tributaries.</p> <p>Chaparral, Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Coastal Sage Scrub, Riparian, Grassland, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve native scrub habitats, wetland and riparian habitats, and native woodlands and savannah; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
11	39	<p>Southwestern section of The Country; part of Significant Ecological Area 15.</p> <p>Oak Woodland, Chaparral, Grassland.</p> <p>Establish biological protection overlay to conserve native woodlands; minimize loss, fragmentation, and degradation of Natural Communities.</p>

Area	Acres	Description/Main Communities/ Resource Protection Recommendations
12	197	<p>Slopes west of Ridge Line Road.</p> <p>Oak Woodland, Walnut Woodland, Chaparral, Grassland, Coastal Sage Scrub, Human-altered Habitats, Riparian.</p> <p>Establish biological protection overlay to conserve native woodlands, wetland and riparian habitats, and native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities; maintain and fortify habitat connections and wildlife movement opportunities.</p>
13	100	<p>Northeastern part of The Country, adjacent to Tres Hermanos Ranch.</p> <p>Grassland, Coastal Sage Scrub, Chaparral, Oak Woodland, Riparian, Human-altered Habitats.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) wetland and riparian habitats, and (c) native woodlands; maintain and fortify habitat connections and wildlife movement opportunities; minimize loss, fragmentation, and degradation of Natural Communities.</p>
Diamond Bar GC	174	<p>Golf course that provides wildlife habitat.</p> <p>Riparian, Human-altered Habitats (including man-made pond).</p> <p>Conserve wetland and riparian habitats; maintain and fortify habitat connections and wildlife movement opportunities.</p>
Sphere of Influence	3,513	<p>Large and important area of natural open space south of Diamond Bar, including Pantera Park and northern part of Tres Hermanos Ranch; heart of Significant Ecological Area 15.</p> <p>Chaparral, Oak Woodland, Walnut Woodland, Oak/Walnut Savannah, Riparian, Grassland, Coastal Sage Scrub.</p> <p>Establish biological protection overlay to conserve (a) large blocks of contiguous natural habitat for Golden Eagles, Mountain Lions, and other species with large foraging areas, (b) wetland and riparian habitats, (c) native woodlands, and (d) native scrub habitats; minimize loss, fragmentation, and degradation of Natural Communities.</p>

Sensitive Resources

This biological resources report acknowledges federal, state, and local laws and ordinances designed to protect and conserve sensitive resources, and identifies City policies designed to help achieve this objective. For purposes of this report, a sensitive resource refers to any of the following:

- A Natural Community recognized as having special-status by federal, State, and/or local governments, and requiring a permit or agreement prior to its disturbance.
- A plant or animal species identified by federal or state governments as endangered, threatened, rare, protected, sensitive, or a Species of Special Concern.
- A plant or animal that listed by a state or federal agency as a candidate species or proposed for state or federal listing.

SENSITIVE NATURAL COMMUNITIES

The State of California identifies as “Sensitive” the following Natural Communities that occur in Diamond Bar and its Sphere of Influence:

- Native Grasslands.
- Coastal Sage Scrub.
- Coast Live Oak Woodland (*Q. agrifolia/Juglans californica*; *Q. agrifolia/Q. berberidifolia/x acutidens*; *Q. agrifolia/Salvia leucophylla – Artemisia californica*; *Q. agrifolia/Salix lasiolepis*)⁶.
- California Walnut Woodland.
- Riparian Scrub and Woodland.

SPECIAL-STATUS SPECIES

In the following Table B, special-status plants and wildlife judged to have potential to occur within Diamond Bar and its Sphere of Influence are identified and briefly discussed. The potential for occurrence (low, moderate, high, or known to be present) is based upon consideration of the species’ habitat requirements and the distribution of previous verified or highly credible records.

Table B uses the following abbreviations:

- **E** **Endangered** (listed by State or Federal governments). “Take” of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **FP** **Fully Protected** by the State of California. These species may not be taken or possessed at any time, although take may be authorized for necessary scientific research.
- **T** **Threatened** (listed by State or Federal governments). “Take” of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **SSC** **Species of Special Concern.** The California Department of Fish and Wildlife has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as Species of Special Concern is to halt or reverse their decline by

⁶ In addition to the four coast live oak associations designated as “Sensitive” by CDFW, oak woodlands within the unincorporated Sphere of Influence are subject to the Los Angeles County Oak Woodlands Conservation Management Plan pursuant to California Public Resources Code Section 21083 (requires a county, when acting as a CEQA Lead Agency, to determine whether a proposed project “may result in a conversion of oak woodlands that will have a significant effect on the environment”).

calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all Species of Special Concern have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a Threatened or Endangered species under the State and/or Federal Endangered Species Acts.

- **CNPS California Native Plant Society.** Table B includes plant species assigned the following ranks by CNPS:
 - **1B.1**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
 - **1B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat).
 - **1B.3**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; not very threatened in California (less than 20% of occurrences threatened / moderate degree and immediacy of threat).
 - **2B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California, but more common elsewhere; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.1**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (>80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.2**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.3**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).
- **NatureServe Element Rankings.** In some cases, species have not been granted special status by state or federal agencies, but they may be recognized as ecologically sensitive by the California Natural Diversity Database (CNDDB), which uses a ranking methodology maintained by NatureServe. Species are given a Global rank (G-rank) that applies to the taxon's entire distribution, and a State rank (S-rank) that applies to the taxon's state distribution. Taxa with rankings of G1, G2, G3, S1, S2, or S3 may be considered "sensitive" and potentially worthy of special consideration in resource planning. NatureServe Element Rankings are identified in Table B only for taxa that have no other federal or state special status.

NatureServe Ranks:

- **G1, Critically Imperiled**, referring to taxa at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- **G2, Imperiled**, referring to taxa at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- **G3, Vulnerable**, referring to taxa at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- **S1, Critically Imperiled**, referring to taxa critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- **S2, Imperiled**, referring to taxa imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- **S3, Vulnerable**, referring to taxa vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

Table B. Special-Status Species

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
Plants						
<i>Astragalus brauntonii</i>	Braunton's Milk-Vetch	E	—	1B.1	Associated with calcareous soils. Unrecorded in the Puente Hills, but populations to the northwest (San Gabriel Mts.) and southeast (Chino Hills, Santa Ana Mts.).	Moderate potential to occur in calcareous substrate, if present. Detectable only after fire or other disturbance.
<i>Brodiaea filifolia</i>	Thread-leaved Brodiaea	—	—	1B.1	Associated with clay soils. Unrecorded in the Puente Hills, but populations to the north (San Gabriel Mts.) and southeast (Santiago Hills).	Low potential to occur in vernal pools, grasslands, or openings in coastal sage scrub.
<i>Calochortus catalinae</i>	Catalina Mariposa Lily	—	—	4.2	Widespread in region, occurring in clay soils.	Occurs in grasslands or openings in coastal scrub or chaparral.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender Mariposa Lily	—	—	1B.2	Unrecorded in the Puente Hills; populations to the northwest (San Gabriel Mts.).	Low potential to occur in openings in coastal scrub or chaparral.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Calochortus plummerae</i>	Plummer's Mariposa Lily	—	—	4.2	Several recent records of <i>C. weedii intermedius</i> from hills south of Diamond Bar, within the City's Sphere of Influence, may be <i>C. plummerae</i> hybrids.	Potentially present. Occurs in openings in coastal sage scrub or chaparral.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate Mariposa Lily	—	—	1B.2	Several recent records from hills south of Diamond Bar, within the City's Sphere of Influence, identified as <i>C. weedii intermedius</i> , but with potential for hybridization with <i>C. plummerae</i> .	Occurs in openings in coastal sage scrub and chaparral.
<i>Convolvulus simulans</i>	Small-flowered Morning-glory	—	—	4.2	Scattered records from the region, including an old record from 1 mile east of Brea.	Moderate potential to occur in grasslands or openings in coastal sage scrub. Found in moist areas.
<i>Dudleya multicaulis</i>	Many-stemmed Dudleya	—	—	1B.2	Recorded close to Diamond Bar, in west Pomona.	Moderate potential to occur in openings in coastal sage scrub or chaparral.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa Horkelia	—	—	1B.1	Unrecorded in the Puente Hills; scattered records across the region.	Low to moderate potential to occur in sandy openings in chaparral and oak woodland.
<i>Juglans californica</i>	Southern California Black Walnut	—	—	4.2	Widespread in region, including Diamond Bar and its Sphere of Influence.	Walnut and oak/walnut woodlands occur throughout Diamond Bar and surrounding hills.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's Peppergrass	—	—	4.3	Numerous historical records from the county's interior foothills, including the western Puente Hills; a few recent records in and near Diamond Bar.	Occurs in openings in coastal sage scrub and chaparral.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i>	Small-flowered Microseris	—	—	4.2	Recorded in Diamond Bar, south of Diamond Ranch High School.	Occurs in grasslands.
<i>Phacelia hubbii</i>	Hubby's Phacelia	—	—	4.2	Several recent records from Pomona, Whittier, and the Santa Ana Mountain foothills.	High potential to occur in openings in chaparral or coastal scrub, such as along edges of roads and trails.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Piperia cooperi</i>	Cooper's Rein-Orchid	—	—	4.2	Unrecorded in the Puente Hills; historical records from as close as Claremont and the Santa Ana River Canyon.	Low potential to occur in oak/walnut woodlands, chaparral, or coastal sage scrub.
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's Milkwort	—	—	4.3	Recorded in Chino Hills State Park and San Gabriel Mts.	Moderate to high potential to occur in oak/walnut woodlands or chaparral.
<i>Pseudognaphalium leucocephalum</i>	White Rabbit-tobacco	—	—	2B.2	Unrecorded in the Puente Hills; few recent records from surrounding areas.	Low potential to occur in any sandy wash habitat that may exist in the study area.
<i>Quercus engelmannii</i>	Engelmann Oak	—	—	4.2	Recorded in the Chino/Puente Hills, La Habra and Yorba Linda USGS quads.	Moderate potential to occur in oak/walnut woodlands.
<i>Senecio aphanactis</i>	California Groundsel	—	—	2B.2	Historical records from San Dimas; few recent records from surrounding areas.	Moderate potential to occur in chaparral, oak/walnut woodlands, or coastal sage scrub.
<i>Symphyotrichum defoliatum</i>	San Bernardino Aster	—	—	1B.2	Historical records from southeastern Los Angeles County. Presumed extirpated.	Very low potential to occur in moist areas, meadows.
Invertebrates						
<i>Bombas crotchii</i>	Crotch's Bumblebee	—	S1S2	—	Historical and recent records scattered around southern California.	High potential to occur in various habitats.
<i>Helminthoglypta tudiculata</i>	Southern California Shoulder-band Snail	—	S1S2	—	Numerous records from coastal slope of southern California.	High potential to occur in various habitats.
<i>Helminthoglypta traskii traskii</i>	Trask's Shoulder-band Snail	—	G1G2 S1	—	Numerous records from coastal slope of southern California.	High potential to occur in various habitats.
Amphibians						
<i>Taricha torosa</i>	Coast Range Newt	—	SSC	—	Not known from Chino Hills. Nearest records in San Gabriel Mts.	Low potential to occur in and around permanent water.
<i>Spea hammondi</i>	Western Spadefoot	—	SSC	—	Widespread in region but limited to expansive natural open space areas.	Moderate to high potential to occur in extensive grasslands and adjacent communities with temporary rain-pools for breeding.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
Reptiles						
<i>Emys marmorata</i>	Western Pond Turtle	—	SSC	—	Found in expansive natural areas, in and around permanent water that lacks non-native turtles or exotic predators.	Large population known from Brea Creek; probably occurs elsewhere in the study area. Occurs in creeks and ponds; lays eggs in nearby uplands.
<i>Phrynosoma blainvillii</i>	Coast Horned Lizard	—	SSC	—	Found in expansive natural areas with sandy openings and native harvester ants.	High potential to occur in areas of extensive chaparral, coastal sage scrub, and grassland.
<i>Aspidoscelis tigris stejnegeri</i>	Coastal Whiptail	—	SSC	—	Widespread in the region, in various habitats.	Occurs in chaparral and coastal sage scrub.
<i>Anniella stebbinsi</i>	So. California Legless Lizard	—	SSC	—	Local in a variety of habitats with sandy soil or deep leaf-litter.	Moderate potential in chaparral and chaparral/oak habitats.
<i>Lampropeltis zonata pulchra</i>	San Diego Mountain Kingsnake	—	SSC	—	Widespread in the region, in various habitats.	Moderate potential to occur in chaparral, coastal sage scrub, oak woodlands, and along streams.
<i>Arizona elegans occidentalis</i>	California Glossy Snake	—	SSC	—	Widespread, but uncommon, in habitats with soil loose enough for easy burrowing.	Moderate potential to occur in areas that have extensive patches of loose soil.
<i>Salvadora hexalepis virgulata</i>	Coast Patch-nosed Snake	—	SSC	—	Widespread in the region, in brushy and rocky habitats.	Moderate potential to occur in chaparral, coastal sage scrub, oak woodlands, and along streams.
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	—	SSC	—	Widespread in the region, in and around perennial water.	Moderate potential to occur near perennial water.
<i>Crotalus ruber</i>	Red Diamond Rattlesnake	—	SSC	—	Widespread in the region.	Occurs in cactus scrub, coastal sage scrub, and chaparral.
Birds						
<i>Geococcyx californianus</i>	Greater Roadrunner	—	—	—	Widespread in expansive natural areas with shrub cover. Sensitive species in Los Angeles County (Allen et al. 2009).	Resident in coastal sage scrub and chaparral habitats.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Aquila chrysaetos</i>	Golden Eagle	—	FP	—	Formerly widespread in many habitats, but now limited to expansive natural areas. Nests on cliffs and in tall trees away from settlements.	Regularly observed foraging in northeastern part of study area. Pair appears to be resident in the Chino Hills/Diamond Bar area; nesting status unknown. Additional birds may occur during migration/winter.
<i>Circus hudsonius</i>	Northern Harrier	—	SSC	—	Nests on the ground in expansive open space areas; more widespread during migration and winter.	Winters in open grassland habitats. Moderate potential to nest in the northeastern and southern parts of study area.
<i>Elanus leucurus</i>	White-tailed Kite	—	FP	—	Nests in trees within expansive open space areas; more widespread during migration and winter. Forages in rangelands and marshy areas.	One or more observed near Diamond Ranch High School on unspecified date (Sage Environmental Group 2012). High potential to occur in migration and winter, especially in northeastern and southern parts of study area. Moderate potential to nest in the northeastern or southeastern parts of the study area.
<i>Buteo regalis</i>	Ferruginous Hawk	—	—	—	Winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Moderate to high potential to occur in migration and winter, in northeastern and southern parts of study area. Does not nest in the region.
<i>Athene cunicularia</i>	Burrowing Owl	—	SSC	—	Nesting population west of the deserts nearly extirpated. Winters rarely and locally, usually in expansive open space areas.	Likely extirpated as nesting species in Diamond Bar area. Moderate potential to occur in migration and winter, especially in northeastern and southern parts of study area.
<i>Asio otus</i>	Long-eared Owl	—	SSC	—	Resident in oak woodlands, typically >1 km from urban areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Low to moderate potential to occur in woodlands in southeastern part of study area.
<i>Asio flammeus</i>	Short-eared Owl	—	SSC	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Low potential to occur in migration and winter, in northeastern and southern parts of study area. Does not nest in the region.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Falco mexicanus</i>	Prairie Falcon	—	—	—	Winters in expansive rangelands and agricultural areas in the region. Nests on remote cliffs. Sensitive species in Los Angeles County (Allen et al. 2009).	Low to moderate potential to occur in migration and winter, in northeastern and southern parts of study area. Unlikely to nest due to lack of remote cliffs.
<i>Empidonax traillii</i>	Willow Flycatcher	E	E	—	Does not nest in the local area. Uncommon during migration.	No potential for nesting. Species occurs in the study area regularly during migration periods.
<i>Lanius ludovicianus</i>	Loggerhead Shrike	—	SSC	—	Nests rarely in the region, in expansive open space areas; more widespread in migration and winter. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur in migration and winter, especially in northeastern and southern parts of study area. Low to moderate potential to nest in the study area.
<i>Vireo bellii bellii</i>	Least Bell's Vireo	E	E	—	Nests uncommonly in riparian scrub and woodlands, often in mulefat (<i>Baccharis salicifolia</i>) or willow (<i>Salix</i> spp.).	Moderate potential to nest in riparian habitats, especially in Tonner Canyon.
<i>Eremophila alpestris</i>	Horned Lark	—	—	—	Nests and winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Low potential to occur in the northeastern and southern parts of study area.
<i>Campylorhynchus brunneicapillus</i>	Cactus Wren, coastal populations	—	SSC	—	Rare and declining resident of cactus scrub habitat.	Resident in well-developed cactus scrub, including Summitridge Park, Pantera Park, Steep Canyon, and hills south of Diamond Ranch High School.
<i>Poliophtila californica californica</i>	Coastal California Gnatcatcher	T	SSC	—	Uncommon resident in coastal sage scrub habitat, favoring shallow slopes and elevations below 1,500 feet.	Resident in coastal sage scrub and cactus scrub, including Summitridge Park, Pantera Park, Steep Canyon, and hills south of Diamond Ranch High School.
<i>Sialia currucoides</i>	Mountain Bluebird	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur, at least during some winters, in northeastern and southern parts of study area. Does not nest in the region.
<i>Icteria virens</i>	Yellow-breasted Chat	—	SSC	—	Nests uncommonly in riparian scrub and woodlands.	High potential to nest in riparian habitats, especially in Tonner Canyon.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Setophaga petechia</i>	Yellow Warbler	—	SSC	—	Nests in riparian woodlands.	High potential to nest in riparian habitats, especially in Tonner Canyon.
<i>Poocetes gramineus</i>	Vesper Sparrow	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential to occur in northeastern and southern parts of study area. Does not nest in the region.
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	—	SSC	—	Nests in expansive grasslands and rangelands.	High potential to nest in open grassland and rangeland habitat. Several eBird records from the Diamond Bar area in the 1990s; lack of recent records probably reflects lack of survey effort.
<i>Sturnella neglecta</i>	Western Meadowlark	—	—	—	Nests rarely in the region, in expansive open space areas; widespread in migration and winter. Sensitive species in Los Angeles County (Allen et al. 2009).	Occurs in open areas throughout the study area; moderate potential to nest in the northeastern or southern parts of study area.
<i>Agelaius tricolor</i>	Tricolored Blackbird	—	SSC	—	Nests in wetlands adjacent to expansive grasslands and rangelands required for foraging. Winters in rangelands and parks.	Low potential to nest in the study area. Moderate potential to forage in open grassland and rangeland habitat during the nesting season. Recorded in winter at parks in the study area.
Mammals						
<i>Antrozous pallidus</i>	Pallid Bat	None	SSC	—	Widespread in chaparral and similar habitats, foraging on the ground and in vegetation. Roosts in rock crevices and under tree bark. Maternal roosts active between March and August.	High potential; chaparral and scrub on the site are potentially suitable for foraging and oaks provide potential roosting sites under exfoliating bark and in cavities.
<i>Eumops perotis californicus</i>	Western Mastiff Bat	None	SSC	—	Roosts in cliff crevices and in buildings.	Low potential; the species may fly over the site occasionally while foraging, but suitable cliff roosting habitat probably absent.
<i>Lasiurus blossevillii</i>	Western Red Bat	None	SSC	—	Roosts in foliage of many types of tree; feeds over a wide variety of habitats.	Moderate potential to roost in oak woodlands or landscape trees; high potential to forage over undeveloped areas.

Latin name	Common name	Fed.	State	CNPS	Local and/or Regional Status	Discussion
<i>Lasiurus xanthinus</i>	Western Yellow Bat	None	SSC	—	Roosts primarily or entirely in palms; often forages over water.	Moderate potential to roost in palm trees and to forage over water features.
<i>Chaetodipus fallax fallax</i>	NW San Diego Pocket Mouse	None	SSC	—	Scrub habitats with sandy or gravelly soils.	High potential to occur in cactus scrub and coastal sage scrub habitats with suitable soils.
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	None	SSC	—	Widespread in scrub habitats, especially those with cactus.	High potential to occur in cactus-containing scrub.
<i>Lepus californicus bennettii</i>	San Diego Black-tailed Jackrabbit	None	SSC	—	Occurs in various open habitats, usually in expansive open space areas.	Low potential to occur in the northeastern and southern parts of the study area.
<i>Taxidea taxus</i>	American Badger	None	SSC		Occurs in various habitats, usually in expansive open space areas.	Moderate to high potential to occur in the northeastern and southern parts of the study area.

EFFECTS OF DEVELOPMENT ON BIOLOGICAL RESOURCES

The capacity for a given natural open space area to maintain its ecological integrity (e.g., its resistance to invasion by exotic species, capacity to support special-status species) depends upon such considerations as (a) size, with larger natural areas generally possessing greater ecological value than do smaller ones; (b) plant communities represented, with relatively undisturbed native communities generally being more valuable than disturbed non-native communities; and (c) proximity to adjacent open spaces, with areas linked to other natural areas generally possessing greater ecological value compared with areas of similar size that are functionally isolated from other natural areas.

A small, functionally isolated area that provides habitat for a rare plant or wildlife species may have some ecological value, but conservation of such areas may prove to be practically infeasible due to habitat degradation that often occurs near development edges. Ecologically damaging “edge effects” include repeated clearing of habitat for fuel modification leading to replacement of native plants with disturbance-adapted exotic weeds; invasion of natural habitat by exotic ants facilitated by artificial irrigation near homes; predation of birds, reptiles, and mammals by outdoor cats; and changes in wildlife patterns associated with exterior lighting. To avoid perpetuating damaging patterns of development that result in ever-smaller blocks of functionally isolated habitat, the Open Space and Conservation Element must contain land-use policies that encourage the preservation, restoration, and appropriate management of larger blocks of well-connected habitat.

Readers seeking detailed information on these topics, with relevant citations from the scientific literature, should refer to Appendix A.

Edge/Fragmentation Effects on Wildlife Movement

Constricting the movement of wildlife and plant seeds increases the risk of local extinctions. Habitat fragmentation consequently threatens the viability of native plant and wildlife populations in preserved areas. Large areas of habitat, or narrower linkages of habitat between large areas, provide movement opportunities for wildlife. Movement serves to facilitate the geographic distribution of genetic material, thus maintaining a level of variability in the gene pool of an animal population. Influxes of animals from nearby larger populations contribute to the genetic diversity of a local population, helping to ensure the population's ability to adapt to changing environmental conditions. This is mainly accomplished through the dispersal of juveniles from their natal territories, but may also involve movements in response to drought or other adverse environmental conditions, or in response to wildfires or other catastrophic events. Many plant species that depend on relatively sedentary insects for pollination also benefit from habitat linkages that allow for genetic exchange and dispersal. Likewise, plant seeds and propagules can be transported via the feces, fur, or feathers of birds or mammals. Fragmentation effects are not limited to the physical severing of movement routes, such as through the construction of a road or housing development, but can include "edge effects" reviewed and described above. For example, increases in night lighting and noise can disrupt the movement patterns of species not well-adapted to such effects.

WILDLIFE MOVEMENT ISSUES IN THE PUENTE-CHINO HILLS

The Puente-Chino Hills ecosystem encompasses portions of four counties, and the open space network in this area is sometimes referred to as the "Puente-Chino Hills Wildlife Corridor." Preserving land in the corridor has been a cooperative endeavor with other public agencies and many nonprofit organizations. An important analysis by the Conservation Biology Institute (2005), *Maintaining Ecological Connectivity Across the "Missing Middle" of the Puente-Chino Hills Wildlife Corridor*, describes the situation as follows (page v):

The Puente-Chino Hills Wildlife Corridor is a peninsula of mostly undeveloped hills jutting about 42 km (26 miles) from the Santa Ana Mountains into the heart of the densely urbanized Los Angeles Basin. Intense public interest in conserving open space here has created a series of reserves and parks along most of the corridor's length, but significant gaps in protection remain. These natural habitat areas support a surprising diversity of native wildlife, from mountain lions and mule deer to walnut groves, roadrunners, and horned lizards. But maintaining this diversity of life requires maintaining functional connections along the entire length of the corridor, so that wildlife can move between reserves—from one end of the hills to the other.

Already the corridor is fragmented by development and crossed by numerous busy roads, which create hazards and in some cases barriers to wildlife movement. Proposed developments threaten to further degrade or even sever the movement corridor, especially within its so-called "Missing Middle." This mid-section of the corridor system, stretching from Tonner Canyon on the east to Harbor Boulevard on the west, includes several large properties proposed for new housing, roads, golf courses, and reservoirs. Such

developments would reduce habitat area and the capacity to support area-dependent species and, if poorly designed, could block wildlife movement through the corridor.

The above-quoted report considered numerous studies of wildlife movement conducted in the Puente-Chino Hills, and other relevant literature on wildlife movement corridors, and recommended “conservation and management actions to prevent further loss of ecological connectivity and retain native species.” The “Missing Middle” analysis identified the following wildlife movement issues specifically relevant to Diamond Bar and its Sphere of Influence:

- Tonner Canyon Bridge represents the only viable location for deer, mountain lions, bobcats, and other species to pass under the 57 Freeway.
- Any development in middle and especially lower Tonner Canyon could have severe impacts on corridor function, especially if wildlife access to Tonner Canyon Bridge is reduced. Any development that blocks access through the bridge area would make the 57 Freeway a complete barrier to many species and would likely lead to wildlife extirpations in segments farther west.
- An earlier plan to build a road running the length of Tonner Canyon would have split the Chino-Tonner “subcore” in two, potentially rendering dysfunctional the critical Tonner Bridge wildlife undercrossing for wide-ranging species such as the mountain lion, bobcat, and mule deer.
- At least the middle and lower portions of Tonner Canyon should be conserved, including a prohibition on any new road or other development that would fragment this critical habitat block.
- No project should be approved that would increase traffic under the Tonner Bridge or add any new impediments (structures, lights, noise, etc.) to the vicinity of the bridge.
- Restore riparian vegetation along Tonner Creek, where degraded by oil development activities.
- Fencing may be warranted along the 57 Freeway if monitoring suggests road mortality is high.

Planning of any future development in Diamond Bar and its Sphere of Influence should take exceptional care to preserve and enhance the viability of the Puente-Chino Hills Wildlife Corridor.

Regional Planning in the Puente-Chino Hills Wildlife Corridor

Two agencies are specifically involved in planning development and taking conservation actions in and around the Puente-Chino Hills Wildlife Corridor.

The **Wildlife Corridor Conservation Authority (WCCA)** was established to provide for the proper planning, conservation, environmental protection, and maintenance of lands

within and around the Puente-Chino Hills Wildlife Corridor. Its goal is to assure that sufficient continuity of habitat can be preserved to maintain a functioning wildlife corridor made up of about 40,000 acres of land located between the Santa Ana Mountains and Whittier Hills. The governing board of the WCCA consists of representatives from the cities of Brea, Whittier, Diamond Bar, La Habra Heights, the Santa Monica Mountains Conservancy, California Department of Parks and Recreation, California Department of Fish and Game (*ex officio* member), Los Angeles County, and two public members. A large Advisory Committee meets separately to provide input. The WCCA consistently provides comments on development proposals and other projects to support environmentally sensitive activities in the Puente-Chino Hills Wildlife Corridor.

The **Puente Hills Habitat Preservation Authority (PHHPA)** is a public agency, Joint Powers Authority, with a Board of Directors consisting of the City of Whittier, County of Los Angeles, Sanitation Districts of Los Angeles County, and the Hacienda Heights Improvement Association. The jurisdiction of the PHHPA extends from the intersection of the 605 and 60 Freeways east to Harbor Boulevard. The PHHPA is dedicated to the acquisition, restoration, and management of open space in the Puente Hills for preservation of the land in perpetuity, with the primary purpose to protect the biological diversity.

NATURAL RESOURCE CONSERVATION POLICIES

The City of Diamond Bar has developed a suite of conservation measures, presented in this section, designed to allow for the planned growth of the City while protecting and conserving irreplaceable natural communities and their component species. These policies align the local approach to development with the conservation regulations and policies set forth by the federal government (e.g., the federal Endangered Species Act); the State of California (e.g., the California Environmental Quality Act and the California Fish and Game Code); and local entities (e.g., the Los Angeles County Oak Woodlands Conservation Plan; see Los Angeles County Oak Woodlands Habitat Conservation Strategic Alliance 2011, Los Angeles County Dept. of Regional Planning 2014). Prioritizing the identification and protection of sensitive natural resources facilitates efforts of City planners and elected officials to ensure that Diamond Bar remains a beautiful and desirable place to live.

Goals and Policies of the Open Space and Conservation Element

- **RC-I-1.** Obtain and designate Open Space land through acquisition techniques, such as:
 - a. Design new development projects emphasizing preservation of sensitive natural resources, natural geological features, and wildlife corridors and habitat linkages, through site design approaches that include greenbelts, landscaping with locally native, drought-adapted plants, and dedication of a portion of the site as natural open space.

- b. Allow for acquisition of open space lands during the entitlement process through the transfer of densities among land uses of like designation.
 - c. Identify ecologically sensitive/unique habitats, including habitat linkages and choke-points, within the City of Diamond Bar and prioritize their acquisition/preservation/restoration as a preferred form of mitigation for future development.
 - d. Collaborate with land trusts, joint-power authorities, and other conservation groups to acquire and restore open space land through, but not limited to, conservation easements and conservation plans.
- **RC-I-2.** As future parks are developed or open space is acquired/dedicated:
 - a. Preserve sensitive natural communities to maintain ecological integrity and provide for passive recreation opportunities, such as hiking and bird-watching.
 - b. Site trails to avoid removal or fragmentation of sensitive natural communities and to minimize erosion.
 - c. Prohibit the application of use of outdoor pesticide bait stations, or similar, within 500 feet of any natural open space.
- **RC-G-4.** Provide recreational and cultural opportunities to the public in a manner that maintains, restores, protects, and preserves sensitive natural resources in the City of Diamond Bar and its Sphere of Influence.
- **RC-I-12.** Support and cooperate with efforts to identify and preserve environmentally sensitive and strategically located canyon areas and hillsides that serve as wildlife corridors and habitat linkages/choke points within Diamond Bar and its Sphere of Influence, including components of the Puente-Chino Hills Wildlife Corridor, Tres Hermanos Ranch, Tonner Canyon, and Significant Ecological Area (SEA) 15, to provide regional connectivity, and to sustain the ecological function of natural habitats and biological resources.
 - a. Establish appropriate resource protection overlays for ecologically sensitive areas (see page 18 of this report).
 - b. Require adequate biological resources surveys as part of planning of development proposed in any area with potential for special-status species or sensitive natural communities to occur.
 - c. Discourage development in areas with identified sensitive natural resources, natural geological features, and wildlife corridors and habitat linkages/choke points, in order to preserve them in a natural state, unaltered by grading, fill, or diversion activities (except as may be desirable for purposes of habitat restoration and/or facilitation of wildlife movement).

- d. Preserve and restore native woodlands in perpetuity, with a goal of no net loss of existing woodlands, through compliance with Chapter 22.38 of the Diamond Bar – Tree Preservation and Protection.
 - e. In the unincorporated Sphere of Influence, require that impacts to native oak trees be treated in a manner consistent with Section 22.46.2100 of the County of Los Angeles Code of Ordinances, except that in-lieu fees shall not be accepted as mitigation for removal of regulated oaks. If replacement of oaks is determined to be necessary, this should be conducted under a City-administered Tree Mitigation Program developed in consultation with a qualified biologist and Certified Arborist or Certified Urban Forester to establish a to ensure that replacement trees are planted on public property in areas that (a) shall not impact any existing sensitive habitat areas; (b) are appropriate for the long-term survival of native trees planted as mitigation; and (c) shall be maintained and preserved by the city, in perpetuity, as natural open space for the mitigation trees and any associated understory species deemed appropriate to provide valuable woodland habitat.
 - f. For development proposed adjacent to natural open space, require use of highly fire-resistant building materials and methods, which minimize fuel modification treatments.
 - g. In areas adjacent to natural open space, require use of highly fire-resistant building materials and architecture for public safety and to minimize requirements for damaging fuel modification treatments.
 - h. Fuel modification adjacent to natural open spaces should employ exclusively native plant species approved for use in fuel modification zones, which provide important habitat for native wildlife and minimize ongoing irrigation and disturbance of the exterior slopes, reducing the potential for exotic ants and weeds to become established on the site and then spread to nearby natural open space areas.
- **RC-I-28.5.** Conserve natural open spaces, biological resources, and vegetation, recognizing their roles in the reduction and mitigation of air pollution impacts, and the promotion of carbon sequestration.

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
- City of Diamond Bar and Diamond Bar Historical Society. 2014. *Images of America, Diamond Bar*. Arcadia Publishing, Charleston, South Carolina.
- Conservation Biology Institute. 2005. *Maintaining Ecological Connectivity Across the "Missing Middle" of the Puente-Chino Hills Wildlife Corridor*. Encinitas, CA.
<https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/pcmismissingmiddle.pdf>

- Dyett & Bhatia. 2017. City of Diamond Bar General Plan Update, Existing Conditions Report – Volume III. Redline draft dated February 21, 2017, prepared for City of Diamond Bar.
- Los Angeles County, Dept. of Regional Planning. 2014. Los Angeles County Oak Woodlands Conservation Management Plan Guide. Report dated March 18, 2014.
http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf
- Los Angeles County Oak Woodlands Habitat Conservation Strategic Alliance. 2011. Los Angeles County Oak Woodlands Conservation Management Plan. Report dated May 2011.
https://file.lacounty.gov/SDSInter/bos/bc/162273_official_20110620_oak-woodlands.pdf
- Lower San Gabriel River Watershed Group. 2015. Lower San Gabriel River Watershed Management Program.
<https://www.waterboards.ca.gov/rwqcb4/waterissues/programs/stormwater/municipal/watershedmanagement/sangabriel/lowersangabriel/LowerSGRiverFinalWMP.pdf>
- Neal, S. 2011. Brea History – the Brea Creek. Brea Historical Society Brea Museum & Heritage Center.
- Sage Environmental Group. 2012. Affordable Housing Land Use and Zoning Designation Project, Biological Survey Report. Report dated August 2012 prepared for City of Diamond Bar.
- Sheng, J. and J. P. Wilson. 2008. The Green Visions Plan for 21st Century Southern California. 16. Watershed Assets Assessment Report. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, CA.
- U.S. Army Corps of Engineers. 1991. Los Angeles County Drainage Area Review, Final Feasibility Study, Interim Report and Environmental Impact Statement. Vandergast, A. G., A. J. Bohonak, D. B. Weissman, and R. N. Fisher. 2006. Understanding the genetic effects of recent habitat fragmentation in the context of evolutionary history: Phylogeography and landscape genetics of a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus*). *Molecular Ecology* 16:977–92.



HAMILTON BIOLOGICAL

February 20, 2019

Greg Gubman
Director of Community Development
City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

**SUBJECT: APPENDIX A TO OPEN SPACE AND CONSERVATION ELEMENT
DIAMOND BAR GENERAL PLAN UPDATE
METHODS AND TECHNICAL INFORMATION**

Dear Mr. Gubman,

A consortium of Diamond Bar residents retained Hamilton Biological, Inc., (hereafter “Hamilton Biological”) to prepare an Open Space and Conservation Element for the City of Diamond Bar (hereafter the “City”) to consider incorporating into a forthcoming update to its General Plan. This letter describes the methods used to prepare the proposed Open Space and Conservation Element, and provides technical biological information that underpins the report’s findings and recommendations.

METHODS

Literature Review

As an initial step, Robert Hamilton, President of Hamilton Biological, reviewed the Biological Resources section of Dyett & Bhatia (2017) and a partial rough draft of an Open Space and Conservation Element prepared by Cooper Ecological Monitoring, Inc. Mr. Hamilton also reviewed a biological report prepared by Sage Environmental Group (2012) for an Affordable Housing Land Use and Zoning Designation Project proposed on a site covering 78 acres in the northeastern part of the City, near Diamond Ranch High School.

Special-status species with potential to occur in Diamond Bar and adjacent areas were identified through review of the California Natural Diversity Database (2018a, 2018b, 2018c) and searches of eBird (<https://ebird.org>); California Native Plant Society’s Online Inventory of Rare and Endangered Plants (www.rareplants.cnps.org); review of the list of Los Angeles County’s Sensitive Bird Species (Allen et al. 2009; https://losangelesaudubon.org/images/stories/pdf/WesternTanager_pdfs/Vol.75/vol75no03jan-feb2009.pdf); the Consortium of California Herbaria web page (www.ucjeps.berkeley.edu/consortium); Sage Environmental Group (2012); Dyett &

Bhatia (2017); and the online *Flora of the Skyline Trail, Puente Hills, Los Angeles County* (Muns, B., 1982; http://tchester.org/plants/muns/pr/skyline_trail.html).

Mapping and Field Surveys

Robert A. Hamilton mapped the natural open space areas throughout the City and its Sphere of Influence using Google Earth Pro. Potential habitat linkages and/or choke-points for wildlife movement were identified by examination of aerial imagery. Mr. Hamilton conducted reconnaissance field surveys on January 4 and 8, and February 4 and 8, 2019, to field-check the mapping and to observe the existing conditions throughout most of Diamond Bar. Mr. Hamilton has visited the portion of Tonner Canyon that lies within the City's Sphere of Influence on numerous occasions in recent years, and thus has viewed the natural resources found in that part of the study area, as well.

Classification of Natural Communities

Since the mid-1990s, CDFW and its partners, including the California Native Plant Society (CNPS), have been working on classifying vegetation types using standards embodied in the Survey of California Vegetation, which comply with the National Vegetation Classification Standard (NVCS; <http://usnvc.org/explore-classification/>). The NVCS is a hierarchical classification, with the most granular level being the Association. Associations are grouped into Alliances, Alliances into Groups, and upward, as follows: Formation Class > Formation Subclass > Formation > Division > Macrogroup > Group > Alliance > Association. For purposes of this Open Space and Conservation Element, Natural Communities are generally classified at the more generalized levels (e.g., Group), but for environmental review of specific projects in Diamond Bar, Natural Communities should be classified and mapped at the more detailed Alliance or Association level.

The method recommended by CDFW for classifying Natural Communities and conducting CEQA review reads as follows:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California Vegetation, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 1. Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.

2. Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 3. Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 4. Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
 5. Vegetation types that are not on the state's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).
- If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP (Todd Keeler-Wolf or Diana Hickson) about documenting the Natural Community.
 - If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.

Identifying Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW), at its VegCAMP page, provides guidance on appropriate methods for “Addressing Sensitive Natural Communities in Environmental Review”:

<https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities>

The State's guidance consists of the following steps:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 - Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.

- Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 - Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 - Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
- Vegetation types that are not on the State's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).
 - If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP (Todd Keeler-Wolf or Diana Hickson) about documenting the Natural Community.
 - If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.
 - The Department's document, [Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities](#) (PDF) provides information on reporting.

The City of Diamond Bar should employ the above-described methods to ensure the thoroughness and adequacy of CEQA documentation completed within the City and its Sphere of Influence.

Important Considerations for Oak Woodlands

As of January 2005, California Public Resources Code Section 21083.4 (2004 Senate Bill 1334) requires that when a county is determining the applicability of CEQA to a project, it must determine whether that project "may result in a conversion of oak woodlands that will have a significant effect on the environment." If such effects (either individual impacts or cumulative) are identified, the law requires that they be mitigated. Acceptable mitigation measures include, but are not limited to, conservation of other oak woodlands through the use of conservation easements and planting replacement trees, which must be maintained for seven years.

Diamond Bar's Sphere of Influence, south of the city limits, lies within unincorporated Los Angeles County, and thus the City's General Plan should acknowledge that the County of Los Angeles Department of Regional Planning issued in 2014 an Oak Woodlands Conservation Management Plan Guide¹, with three important objectives: (1) pri-

¹ http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf

oritize the preservation of oak woodlands; (2) promote conservation by integrating oak woodlands into the development process in a sustainable manner; and (3) effectively mitigate the loss of oak woodlands.

ADVERSE EFFECTS OF DEVELOPMENT ON PRESERVED HABITAT AREAS

One purpose of a General Plan is to guide future development so as to minimize adverse effects upon sensitive Natural Communities and declining native plant and wildlife populations, to the extent feasible. Beyond the outright removal of natural areas, which obviously impacts natural resources, development projects inevitably degrade and fragment habitats along the urban/wildland interface. Such secondary, or indirect, impacts have been subject to intensive study in recent years, to (a) understand and characterize them, and (b) develop strategies for minimizing and mitigating them. The following discussions, including citations from the scientific literature, provide the basis for the General Plan's land-use policies concerning edge and fragmentation effects.

Urbanization typically includes residential, commercial, industrial, and road-related development. At the perimeter of the built environment is an area known as the urban/wildland interface, or "development edge." Edges are places where natural communities interface, vegetation or ecological conditions within natural communities interact (Noss 1983), or patches with differing qualities abut one another (Ries and Sisk 2004). "Edge effects" are spillover effects from the adjacent human-modified matrix that cause physical gradients in light, moisture, noise, etc. (Camargo and Kapos 1995; Murcia 1995; Sisk et al. 1997) and/or changes in biotic factors such as predator communities, density of human-adapted species, and food availability (Soulé et al. 1988; Matlack 1994; Murcia 1995; Ries and Sisk 2004). Loss, degradation, and fragmentation of habitat due to urbanization are the most pervasive threats to biodiversity in southern California (Soulé 1991). Edge-related impacts may include:

- Introduction/expansion of invasive exotic vegetation carried in from vehicles, people, animals or spread from backyards or fuel modification zones adjacent to wildlands.
- Increased frequency and/or severity of fire as compared to natural fire cycles or intensities.
- Companion animals (pets) that often act as predators of, and/or competitors with, native wildlife.
- Creation and use of trails that often significantly degrade intact ecosystems through such changes as increases in soil disturbance, vegetation damage, and noise.
- Introduction of or increased use by exotic animals which compete with or prey on native animals.
- Pesticide exposure can be linked to cancer, endocrine disruption, reproductive effects, neurotoxicity, kidney and liver damage, birth defects, and developmental changes in a wide range of species, from insects to top predators.

- Influence on earth systems and ecosystem processes, such as solar radiation, soil richness and erosion, wind damage, hydrologic cycle, and water pollution that can affect the natural environment.

Any of these impacts, individually or in combination, can result in the effective loss or degradation of habitats used for foraging, breeding or resting, with concomitant effects on population demographic rates of sensitive species.

The coastal slope of southern California is among the most highly fragmented and urbanized regions in North America (Atwood 1993). Urbanization has already claimed more than 90 percent of the region's coastal sage scrub habitat, 99 percent of the coastal prairie, and 95 percent of the vernal pools (McCaull 1994; Mattoni & Longcore 1997; Bauder & McMillan 1998). A review of studies completed by Harrison and Bruna (1999) identified a general pattern of reduction of biological diversity in fragmented habitats compared with more intact ones, particularly with regard to habitat specialists. While physical effects associated with edges were predominant among species impacts, they found evidence for indirect effects including altered ecological interactions. Fletcher et al. (2007) found that distance from edge had a stronger effect on species than did habitat patch size, but they acknowledged the difficulty in separating those effects empirically. Many southern California plant and animal species are known to be sensitive to fragmentation and edge effects; that is, their abundance declines with fragment size and proximity to an edge (Wilcove 1985; Soulé et al. 1992; Bolger et al. 1997a,b; Suarez et al. 1998; Burke and Nol 2000).

Wildlife populations are typically changed in proximity to edges, either by changes in their demographic rates (survival and fecundity), or through behavioral avoidance of or attraction to the edge (Sisk et al. 1997; Ries and Sisk 2004). For example, coastal sage scrub areas within 250 meters of urban edges consistently contain significantly less bare ground and more coarse vegetative litter than do more "intermediate" or "interior" areas, presumably due increased human activity/disturbance of the vegetation structure near edges (Kristan et al. 2003). Increases in vegetative litter often facilitate growth of non-native plants (particularly grasses), resulting in a positive feedback loop likely to enhance plant invasion success (Wolkovich et al. 2009). In another coastal southern California example, the abundance of native bird species sensitive to disturbance is typically depressed within 200 to 500 meters (650 to 1640 feet) of an urban edge, and the abundance of disturbance-tolerant species is elevated up to 1000 meters (3280 feet) from an urban edge, depending on the species (Bolger et al. 1997a).

Habitat fragmentation is usually defined as a landscape scale process involving habitat loss and breaking apart of habitats (Fahrig 2003). Habitat fragmentation is among the most important of all threats to global biodiversity; edge effects (particularly the diverse physical and biotic alterations associated with the artificial boundaries of fragments) are dominant drivers of change in many fragmented landscapes (Laurance and Bierregaard 1997; Laurance et al. 2007).

Fragmentation decreases the connectivity of the landscape while increasing both edge and remnant habitats. Urban and agricultural development often fragments wildland ecosystems and creates sharp edges between the natural and human-altered habitats. Edge effects for many species indirectly reduce available habitat use or utility in surrounding remaining areas; these species experience fine-scale functional habitat losses (e.g., see Bolger et al. 2000; Kristan et al. 2003; Drolet et al. 2016). Losses of coastal sage scrub in southern California have increased isolation of the remaining habitat fragments (O'Leary 1990) and led to calls to preserve and restore landscape connectivity to permit long-term persistence of native species with low vagility (e.g., Vandergast et al. 2006).

Fragmentation has a greater relative negative impact on specialist species (e.g., coastal populations of the Cactus Wren, *Campylorhynchus brunneicapillus*) that have strict vegetation structure and area habitat requirements (Soulé et al. 1992). Specialist species have an increased risk of extirpation in isolated habitat remnants because the specialized vegetative structures and/or interspecific relationships on which they depend are more vulnerable to disruption in these areas (Vaughan 2010). In studies of the coastal sage scrub and chaparral systems of coastal southern California, fragment area and age (time since isolation) were the most important landscape predictors of the distribution and abundance of native plants (Soulé et al. 1993), scrub-breeding birds (Soulé et al. 1988; Crooks et al. 2001), native rodents (Bolger et al. 1997b), and invertebrates (Suarez et al. 1998; Bolger et al. 2000).

Edge effects that emanate from the human-dominated matrix can increase the extinction probability of isolated populations (Murcia 1995; Woodroffe and Ginsberg 1998). In studies of coastal sage scrub urban fragments, exotic cover and distance to the urban edge were the strongest local predictors of native and exotic carnivore distribution and abundance (Crooks 2002). These two variables were correlated, with more exotic cover and less native shrub cover closer to the urban edge (Crooks 2002).

The increased presence of human-tolerant “mesopredators” in southern California represents an edge effect of development; they occur within the developed matrix and are thus more abundant along the edges of habitat fragments, and they are effective predators on birds, bird nests, and other vertebrates in coastal sage scrub and chaparral systems and elsewhere (Crooks and Soulé 1999). The mammalian carnivores more typically detected in coastal southern California habitat fragments are resource generalists that likely benefit from the supplemental food resources (e.g., garden fruits and vegetables, garbage, direct feeding by humans) associated with residential developments. As a result, the overall mesopredator abundance, of such species as raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), and domestic cats (*Felis catus*), increases at sites with more exotic plant cover and closer to the urban edge (Crooks 2002). Although some carnivores within coastal sage scrub fragments seem tolerant of disturbance, many fragments have (either actually or effectively) already lost an entire suite of predator species, including mountain lion, bobcats (*Lynx rufus*), spotted skunks (*Spilogale gracilis*), long-tailed weasels (*Mustela frenata*), and badgers (*Taxidea taxus*) (Crooks 2002). Most

“interior” sites within such fragments are still relatively near (within 250 meters of) urban edges (Crooks 2002).

Fragmentation generally increases the amount of edge per unit land area, and species that are adversely affected by edges can experience reduced effective area of suitable habitat (Temple and Cary 1988), which can lead to increased probability of extirpation/extinction in fragmented landscapes (Woodroffe and Ginsberg 1998). For example, diversity of native bees (Hung et al. 2015) and native rodents (Bolger et al. 1997b) is lower, and decomposition and nutrient cycling are significantly reduced (Treseder and McGuire 2009), within fragmented coastal sage scrub ecosystems as compared to larger core reserves. Similarly, habitat fragmentation and alterations of sage scrub habitats likely have reduced both the genetic connectivity and diversity of coastal-slope populations of the Cactus Wren in southern California (Barr et al. 2015). Both Bell’s Sparrows (*Artemisiospiza belli*) and California Thrashers (*Toxostoma redivivum*) show strong evidence of direct, negative behavioral responses to edges in coastal sage scrub; that is, they are edge-averse (Kristan et al. 2003), and California Thrashers and California Quail (*Callipepla californica*) were found to be more vulnerable to extirpation with smaller fragment size of the habitat patch (Bolger et al. 1991), demonstrating that both behavioral and demographic parameters can be involved. Other species in coastal sage scrub ecosystems, particularly the Cactus Wren and likely the California Gnatcatcher and San Diego Pocket Mouse (*Chaetodipus fallax*), are likely vulnerable to fragmentation, but for these species the mechanism is likely to be associated only with extirpation vulnerability from habitat degradation and isolation rather than aversion to the habitat edge (Kristan et al. 2003). Bolger (et al. 1997b) found that San Diego coastal sage scrub and chaparral canyon fragments under 60 acres that had been isolated for at least 30 years support very few populations of native rodents, and they suggested that fragments larger than 200 acres in size are needed to sustain native rodent species populations.

The penetration of exotic species into natural areas can reduce the effective size of a reserve in proportion to the distance they penetrate within the reserve: Argentine Ants serve as an in-depth example of edge effects and fragmentation. Spatial patterns of Argentine Ant abundance in scrub communities of southern California indicate that they are likely invading native habitats from adjacent developed areas, as most areas sampled greater than 200 to 250 meters from an urban edge contained relatively few or no Argentine Ants (Bolger 2007, Mitrovich et al. 2010). The extent of Argentine Ant invasions in natural environments is determined in part by inputs of urban and agricultural water run off (Holway and Suarez 2006). Native ant species were more abundant away from edges and in areas with predominately native vegetation. Post-fragmentation edge effects likely reduce the ability of fragments to retain native ant species; fragments had fewer native ant species than similar-sized plots within large unfragmented areas, and fragments with Argentine ant-free refugia had more native ant species than those without refugia (Suarez et al. 1998). They displace nearly all surface-foraging native ant species (Holway and Suarez 2006) and strongly affect all native ant communities within about 150 to 200 meters from fragment edges (Suarez et al. 1998; Holway 2005; Fisher et al. 2002; Bolger 2007; Mitrovich et al. 2010). Argentine Ants are widespread in frag-

mented coastal scrub habitats in southern California, and much of the remaining potential habitat for Blainville's Horned Lizards (*Phrynosoma blainvillii*) is effectively unsuitable due to the penetration of Argentine ants and the subsequent displacement of the native ant species that Coastal Horned Lizards need as prey (Fisher et al. 2002). Invasion of Argentine Ants into coastal sage scrub has also shown a strong negative effect on the abundance of the gray shrew (*Notiosorex crawfordi*) (Laakkonen et al. 2001).

An evaluation by the U.S. Environmental Protection Agency (2008) concluded that each of ten of the most common active ingredients in rodenticides "poses significant risks to non-target wildlife when applied as grain-based bait products. The risks to wildlife are from primary exposure (direct consumption of rodenticide bait) for all compounds and secondary exposure (consumption of prey by predators or scavengers with rodenticide stored in body tissues) from the anticoagulants." Thus, the common practice of setting out bait within or near natural areas can be expected to have adverse effects upon a range of native wildlife species.

Finally, in the Santa Monica Mountains of Los Angeles County, populations of such native amphibians as the California newt (*Taricha torosa*) and California treefrog (*Pseudacris cadaverina*) were found to decline with urbanization of as little as 8% of a given watershed (Riley et al. 2005). Such faunal community changes appear to be related to changes in physical stream habitat, such as fewer pool and more run habitats and increased water depth and flow. These changes are associated with increased erosion and with invasion by damaging exotic species, such as the red swamp crayfish (*Procambarus clarkii*).

CONCLUSION

I appreciate the opportunity to provide this technical information in support of the Open Space and Conservation Element for the Diamond Bar General Plan. If you have questions, please call me at (562) 477-2181 or send e-mail to robb@hamiltonbiological.com.

Sincerely,



Robert A. Hamilton
President, Hamilton Biological, Inc.

316 Monrovia Avenue
Long Beach, CA 90803
562-477-2181
robb@hamiltonbiological.com

Attached: Literature Cited

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
- Barr, K. R., B. E. Kus, K. L. Preston, S. Howell, E. Perkins, and A. G. Vandergast. 2015. Habitat fragmentation in coastal southern California disrupts genetic connectivity in the Cactus Wren (*Campylorhynchus brunneicapillus*). *Molecular Ecology* 24:2349–2363.
- Bauder, E. T., and S. McMillan. 1998. Current distribution and historical extent of vernal pools in southern California and northern Baja California, Mexico. Pp. 56–70 in *Ecology, Conservation and Management of Vernal Pool Ecosystems* (C. W. Witham, E. T. Bauder, D. Belk, W. R. Ferren Jr., and R. Ornduffm, editors). California Native Plant Society, Sacramento.
- Bolger, D. T. 2007. Spatial and temporal variation in the Argentine ant edge effect: implications for the mechanism of edge limitation. *Biological Conservation* 136:295–305.
- Bolger, D. T., A. C. Alberts, and M. E. Soulé. 1991. Occurrence patterns of bird species in habitat fragments: sampling, extinction, and nested species subsets. *The American Naturalist* 137(2):155–166.
- Bolger, D. T., T. A. Scott, and J. T. Rotenberry. 1997a. Breeding bird abundance in an urbanizing landscape in coastal southern California. *Conservation Biology* 11(2):406–421.
- Bolger, D. T., A. C. Alberts, R. M. Sauvajot, P. Potenza, C. McCalvin, D. Tran, S. Mazzoni, and M. E. Soulé. 1997b. Response of rodents to habitat fragmentation in coastal southern California. *Ecological Applications* 7(2):552–563.
- Bolger, D. T., A. V. Suarez, K. R. Crooks, S. A. Morrison, and T. J. Case. 2000. Arthropods in urban habitat fragments in southern California: area, age, and edge effects. *Ecological Applications* 10(4):1230–1248.
- Burke, D. M., and E. Nol. 2000. Landscape and fragment size effects on reproductive success of forest-breeding birds in Ontario. *Ecological Applications* 10(6):1749–1761.
- California Natural Diversity Database. 2018a. Special Vascular Plants, Bryophytes, and Lichens List. Current list of vegetative taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated November 2018.
- California Natural Diversity Database. 2018b. Special Animals List. Current list of wildlife taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated November 2018.
- California Natural Diversity Data Base. 2018c. Rarefind data accessed online on July 6, 2018, for the U.S. Geologic Survey's Yorba Linda, San Dimas, Ontario, and Prado Dam 7.5' topographic quadrangles.
- Camargo, J. L. C., and V. Kapos. 1995. Complex edge effects on soil moisture and microclimate in central Amazonian forest. *Journal of Tropical Ecology* 11(2):205–221.
- Conservation Biology Institute. 2005. Maintaining Ecological Connectivity Across the “Missing Middle” of the Puente-Chino Hills Wildlife Corridor. Encinitas, CA.
https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/pc_missing_middle.pdf
- Crooks, K. R. 2002. Relative sensitivities of mammalian carnivores to habitat fragmentation. *Conservation Biology* 16(2):488–502.

- Crooks, K. R., and M. E. Soulé. 1999. Mesopredator release and avian extinctions in a fragmented system. *Nature* 400:563–566.
- Crooks, K. R., A. V. Suarez, D. T. Bolger, and M. E. Soulé. 2001. Extinction and colonization of birds on habitat islands. *Conservation Biology* 15(1):159–172.
- Drolet, A., C. Dussault, and S. D. Côté. 2016. Simulated drilling noise affects the space use of a large terrestrial mammal. *Wildlife Biology* 22(6):284–293.
- Dyett & Bhatia. 2017. City of Diamond Bar General Plan Update, Existing Conditions Report – Volume III. Redline draft dated February 21, 2017, prepared for City of Diamond Bar.
- Fahrig, L. 2003. Effects of habitat fragmentation on biodiversity. *Annual Review of Ecology, Evolution, and Systematics* 34:487–515.
- Fisher, R. N., A. V. Suarez, and T. J. Case. 2002. Spatial patterns in the abundance of the Coastal Horned Lizard. *Conservation Biology* 16(1):205–215.
- Fletcher Jr., R. J., L. Ries, J. Battin, and A. D. Chalfoun. 2007. The role of habitat area and edge in fragmented landscapes: definitively distinct or inevitably intertwined? *Canadian Journal of Zoology* 85:1017–1030.
- Haas, C., and K. Crooks. 1999. Carnivore Abundance and Distribution Throughout the Puente-Chino Hills, Final Report – 1999. Report prepared for The Mountains Recreation and Conservation Authority and State of California Department of Transportation.
- Haas, C., and G. Turschak. 2002. Responses of Large and Medium-bodied Mammals to Recreation Activities: the Colima Road Underpass. Final report prepared by US Geological Survey for Puente Hills Landfill Native Habitat Preservation Authority.
- Haas, C. D., A. R. Backlin, C. Rochester, and R. N. Fisher. 2006. Monitoring Reptiles and Amphibians at Long-Term Biodiversity Monitoring Stations: the Puente-Chino Hills. Final report prepared by US Geological Survey for Mountains Recreation and Conservation Authority, Puente Hills Landfill Native Habitat Preservation Authority, and California State Parks.
- Harrison, S., and E. Bruna. 1999. Habitat fragmentation and large-scale conservation: what do we know for sure? *Ecography* 22(3):225–232.
- Holway, D. A. 2005. Edge effects of an invasive species across a natural ecological boundary. *Biological Conservation* 121:561–567.
- Holway, D. A. and A. V. Suarez. 2006. Homogenization of ant communities in Mediterranean California: the effects of urbanization and invasion. *Biological Conservation* 127:319–326.
- Hung, K. J., J. S. Ascher, J. Gibbs, R. E. Irwin, and D. T. Bolger. 2015. Effects of fragmentation on a distinctive coastal sage scrub bee fauna revealed through incidental captures by pitfall traps. *Journal of Insect Conservation* DOI 10.1007.
- Kristan, W. B. III, A. J. Lynam, M. V. Price, and J. T. Rotenberry. 2003. Alternative causes of edge-abundance relationships in birds and small mammals of California coastal sage scrub. *Ecography* 26:29–44.
- Laakkonen, J., R. N. Fisher, and T. J. Case. 2001. Effect of land cover, habitat fragmentation and ant colonies on the distribution and abundance of shrews in southern California. *Journal of Animal Ecology* 70(5):776–788.
- Laurance, W. F., and R. O. Bierregaard Jr., eds. 1997. Tropical forest remnants: ecology, management, and

- conservation of fragmented communities. University of Chicago Press, Chicago.
- Laurance, W. F., H. E. M. Nascimento, S. G. Laurance, A. Andrade, R. M. Ewers, K. E. Harms, R. C. C. Luizão, and J. E. Ribeiro. 2007. Habitat fragmentation, variable edge effects, and the landscape-divergence hypothesis. *PLoS ONE* 2(10):e1017.
- Los Angeles County, Dept. of Regional Planning. 2014. Los Angeles County Oak Woodlands Conservation Management Plan Guide. Report dated March 18, 2014. Described as a "resource for assisting County staff when processing development applications that are not exempt from the California Environmental Quality Act (CEQA) and may impact oak woodlands. The Guide includes definitions, application procedures, case processing, project mitigation and mitigation monitoring."
http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide.pdf
- Matlack, G. R. 1994. Vegetation dynamics of the forest edge – trends in space and successional time. *Journal of Ecology* 82(1):113–123.
- Mattoni, R., and T. Longcore. 1997. The Los Angeles coastal prairie, a vanished community. *Crossosoma* 23:71–102.
- McCaull, J. 1994. The natural community conservation planning program and the coastal sage scrub ecosystem of southern California. *In* Environmental Policy and Biodiversity (R. E. Grumbine, editor). Island Press, Washington, D.C.
- Mitrovich, M., T. Matsuda, K. H. Pease, and R. N. Fisher. 2010. Ants as a measure of effectiveness of habitat conservation planning in southern California. *Conservation Biology* 24:1239–1248.
- Murcia, C. 1995. Edge effects in fragmented forests: implications for conservation. *Trends in Ecology & Evolution* 10(2):58–62.
- Noss, R. F. 1983. A regional landscape approach to maintain diversity. *BioScience* 33(11):700–706.
- O’Leary, J. F. 1990. California coastal sage scrub: general characteristics and considerations for biological conservation. *In*: A. A. Schoenherr (ed.). *Endangered Plant Communities of Southern California*, Southern California Botanists Special Publication No. 3.
- Ries, L., and T. D. Sisk. 2004. A predictive model of edge effects. *Ecology* 85(11):2917–2926.
- Riley, S. P. D., G. T. Busteed, L. B. Kats, T. L. Vandergon, L. F. S. Lee, R. G. Dagit, J. L. Kerby, R. N. Fisher, and R. M. Sauvajot. 2005. Effects of urbanization on the distribution and abundance of amphibians and invasive species in southern California streams. *Conservation Biology* 19:1894–1907.
- Sage Environmental Group. 2012. Affordable Housing Land Use and Zoning Designation Project, Biological Survey Report. Report dated August 2012 prepared for City of Diamond Bar.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. *A Manual of California Vegetation*, second edition. California Native Plant Society, Sacramento.
- Sisk, T. D., N. M. Haddad, and P. R. Ehrlich. 1997. Bird assemblages in patchy woodlands: modeling the effects of edge and matrix habitats. *Ecological Applications* 7(4):1170–1180.
- Soulé, M. E. 1991. Theory and strategy. *In*: W. E. Hudson (ed.). *Landscape Linkages and Biodiversity*. Island Press, Covello, CA.
- Soulé, M. E., A. C. Alberts, and D. T. Bolger. 1992. The effects of habitat fragmentation on chaparral plants and vertebrates. *Oikos* 63(1):39–47.

- Soulé, M. E., D. T. Bolger, A. C. Alberts, J. Wright, M. Sorice, and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. *Conservation Biology* 2(1):75–92.
- Suarez, A. V., D. T. Bolger and T. J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041–2056.
- Temple, S. A., and J. R. Cary. 1988. Modeling dynamics of habitat-interior bird populations in fragmented landscapes. *Conservation Biology* 2(4):340–347.
- Treseder, K. K., and K. L. McGuire. 2009. Links Between Plant and Fungal Diversity in Habitat Fragments of Coastal Sage Scrub. The 94th ESA Annual Meeting, 2009.
- U.S. Environmental Protection Agency. 2008. Risk mitigation decision for ten rodenticides. Report dated May 28, 2008. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2006-0955-0764>
- Vandergast, A. G., A. J. Bohonak, D. B. Weissman, and R. N. Fisher. 2006. Understanding the genetic effects of recent habitat fragmentation in the context of evolutionary history: phylogeography and landscape genetics of a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus*). *Molecular Ecology* 16:977–92.
- Vaughan, J. R. 2010. Local Geographies of the Coastal Cactus Wren and the Coastal California Gnatcatcher on Marine Corps Base Camp Pendleton. Master of Science thesis, San Diego State University, San Diego, California. 97 pp.
- Wilcove, D. S. 1985. Nest predation in forest tracks and the decline of migratory songbirds. *Ecology* 66(4):1211–1214.
- Wolkovich, E. M., D. T. Bolger, and K. L. Cottingham. 2009. Invasive grass litter facilitates native shrubs through abiotic effects. *Journal of Vegetation Science* 20:1121–1132.
- Woodroffe, R., and J. R. Ginsberg. 1998. Edge effects and the extinction of populations inside protected areas. *Science* 280:2126–2128.

October 31, 2019

Grace Lee
City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

Re: Comments on Draft Environmental Impact Report and Diamond Bar General Plan

Ms. Lee,

Thank you very much for the opportunity to provide comments on Diamond Bar's Draft Environmental Impact Report (DEIR) and General Plan (DBGP). The process has been very open, and I have greatly appreciated the transparency in which the plan and report development has been conducted. The General Plan Advisory Committee provided some reasonable solutions where the City should focus its development. I appreciate that the General Plan and EIR have primarily focused on the redevelopment of infill or existing commercial areas, rather than rezoning out existing open spaces for development. Also you have given some thought and consideration on how the City of Diamond Bar is part of a larger environment (Sphere of Influence) that needs to be thoughtfully considered for wildlife movement and for the greater ecosystem of the Puente and Chino Hills in general.

The comments I provide below are similar to three of the priorities identified during the City's outreach and input in the GPAC Meetings: Environment, Recreation and Traffic.

Environment

Although I understand that most development will be targeted in areas of in-fill or reconstruction of existing commercial areas, we should consider that in areas where there is potential for sensitive or protected resources, that we are specific to what would be required to ensure that the City is in compliance and ensures their protection or conservation. I am professional environmental specialist, so these edits are requirements that I am familiar with and are reasonable to implement, and minimize potential for inadvertent discoveries resulting in schedule delays in subsequent permitting and mitigation or agency actions from environmental non-compliance impacts. I would like to suggest a few minor changes to the language—my comments are in red and strikeout.

RC-P-9 on page 3.3-45

B9-1

B9-2

B9-3

B9-4

Require, as part of the environmental review process, prior to approval of discretionary development projects involving parcels within, adjacent to, or surrounding a significant biological resource area, a biotic resources evaluation of the site by a qualified biologist.; ~~Focused plant surveys shall be conducted at the appropriate time of year, and local reference populations checked to ensure detectability of the target species. requiring that time-specific issues such as the seasonal cycle of plants~~ ~~Wildlife shall also be evaluated by a qualified biologist through appropriate survey or trapping techniques necessary to determine presence. and migration of wildlife are evaluated.~~ Such evaluation shall analyze the existing and potential natural resources of a given site ~~following at least one site visit~~ as well as the potential for significant adverse impacts on biological resources. ~~The report and~~ shall identify measures to avoid, minimize, or mitigate any impacts ~~to species that have been observed or have the potential of being present on the site. that would degrade its healthy function.~~ In approving any permit based on the evaluation, the City shall require implementation of mitigation measures supported by the evaluation, or work with the applicant to modify the project if mitigation is determined not to be adequate to reduce the impacts to a non-significant level.

B9-4

MM-BIO-1A on page 3.3-47

To the extent feasible the preconstruction surveys shall be completed when species are in bloom, typically between May and June ~~and reference populations checked~~. Two species, the white rabbit-tobacco and San Bernardino aster, are perennial herbs that grow up to three feet in height and can be identified by their dried stalks and leaves following their blooming period.

The suggestion of adding language for checking reference populations will ensure accuracy of detecting target sensitive plant species. This requirement is not overly burdensome, but more of due diligence and ensuring that the species being surveyed for will even be detectable. Many sensitive species have identified reference populations that can be easily checked prior to conducting any field work—this should save time and effort on subsequent fieldwork as well.

B9-5

MM-BIO-1B on page 3.3-47

At a minimum, the plan shall include a description of the existing conditions of the project and receiver site(s), transplanting and/or seed collection/off-site seeding or installation methods, ~~an adaptive~~ two-year monitoring program, any other necessary monitoring procedures, plant spacing, and maintenance requirements. ~~In the event, that the City of DB determines that agreed success criteria are not met, additional remediation may be required beyond the two-year maintenance/monitoring period to ensure mitigation requirements are met.~~

B9-6

If the mitigation measure conditions are not met in the established two-year timeframe, it should be the developer's obligation to meet those mitigation measure requirements. It has been my experience that there needs to be assurance that the developer has met obligations. In the two years of monitoring, there should be adaptive management of the site to ensure success. This is common language that many land use agencies have added to their requirements to put the onus on the developer to ensure the intent of the mitigation measure is met. My concern for the City is if it is not clear to the developer on what the requirements are, the City of Diamond Bar risks being the responsible party for the additional restoration expense, or risk the establishment of exotic weed species that could exacerbate the potential for wildfire.

B9-6

MM-BIO-1D Environmental Awareness Program on page 3.3-48

B9-7

The City shall implement an Environmental Awareness **Training** Program on its web site intended to increase awareness to **developers**, residents and city workers of the sensitive plants, wildlife and associated habitats that occur in the preserved open space areas. The ~~intention~~ **purpose** of the program shall be to **inform developers, city workers and residents. The program shall address safety, environmental resource sensitivities and impacts associated with the introduction of invasive plant species as a result of new development. At a minimum, the Environmental Awareness Program shall include the following components:**

~~encourage~~ **Provide, on the City website, information about pro**active conservation efforts ~~among~~ **for** the residents and city to help conserve the habitats in the preserved open space. ~~The program shall address impacts associated with the introduction of invasive plant species as a result of new development. At a minimum, the Environmental Awareness Program shall include the following components:~~

I appreciate the approach that the City is taking to increase environmental awareness. My edits were an attempt to include the developer in this outreach. The Environmental and Safety Awareness Training should be developed that is tailored and specific to each project based on resource or safety concerns. It should be the responsibility of the contractor or developer to ensure that the workers have taken the awareness training and provide documentation if requested by the City of Diamond Bar that the project proponent understands their role in safety and compliance. Again, this is a reasonable requirement common on many construction projects.

MM-BIO-1E on page 3.3-49

B9-8

Preconstruction Surveys for Special-Status Wildlife: Within one (1) week prior to initiating disturbance activities, clearance surveys for special-status animal species shall be

performed by a qualified biologist(s) within the boundaries of the future project disturbances. If any special-status animals are found on the site, a qualified biologist(s) **flag the area for avoidance and discuss possible seasonal avoidance measures with the developer. If avoidance is not feasible, the Project Biologist,** with a CDFG Scientific Collection Permit shall relocate these species to suitable habitats within surrounding open space areas that would remain undisturbed, unless the biologist determines that such relocation cannot reasonably be accomplished at which point CDFG will be consulted regarding whether relocation efforts should be terminated. Relocation methods (e.g., trap and release) and receiver sites shall be verified and approved by the CDFG prior to relocating any animals.

B9-8

It is important that as a first option in protection of resources, avoidance is the preferred option. Therefore, this measure should include the steps to avoid or minimize impacts to identified resources. If after all possible avoidance measures are used, then a qualified biologist should consider relocation of the resource (*ie.* plant or animal). This suggested language is common practice and is reasonable in consultation with a permitted or approved biologist.

Recreation

As a father of two young girls, recreational opportunities and parks are very important to my family. I am a member of the Board for our local AYSO Soccer Region as well as a coach and referee, so I am familiar with the shortage of parks for practice and recreation. I also live on the south side of Diamond Bar, so I also know that the lack of adequate park facilities on the southern end of town. I was concerned when I read that the City determined that the impacts to recreation were Significant and Unavoidable. You had identified a Core Community Overlay as part of the DBGP Preferred Alternative. Understanding that the Los Angeles County Golf Course is not currently a viable alternative, it was still identified in this EIR as an alternative option. So, why did the City not consider the golf course in addressing the significant recreation impacts associated with the low ratio of 2 acres per 1000 residents? I would encourage an additional discussion regarding the necessary acreage needed to mitigate these impacts. As part of the Core Community Overlay how much of that property could be reserved to meet the requirement of the Quimby Act (5 acres per 1000 residents)?

B9-9

Also, as a question regarding CEQA analysis. It is my understanding that the Golf Course, in order to be used for other purposes, would need to be mitigated for that loss with another comparable location as a golf course. If there are additional environmental impacts associated with the Golf Course's conversion in the Core Community Overlay option, those impacts would need to be disclosed in this DEIR. Or alternatively another subsequent EIR would need to be developed if in the future the Community Overlay option is viable. Is my assumption correct,

B9-10

that the Golf Course property is only theoretical and any future development of that property would be contingent on another CEQA analysis?

B9-10

Traffic and other Project Alternatives

B9-11

As a resident of Diamond Bar, I am well aware of the issues around the through traffic on Diamond Bar Blvd, Grand Ave. and Golden Springs/Colima Road. I understand that the impacts associated with traffic, although significant for Level of Service and Vehicle Miles Traveled, would be difficult to mitigate and therefore are determined to be unmitigatable. So, I understood that the GPAC elected to not select, in their recommendations, to continue the Diamond Bar Blvd and Grand Ave intersection as the Diamond Bar City Center due to the traffic congestion. Although I agree with this approach, it does not seem reasonable that the existing City Center is not analyzed as a feasible alternative in the EIR. The DEIR only analyzed the existing City Center as infeasible as the No Project Alternative under the existing GP. However, I think the existing City Center warrants an Alternatives Analysis under the proposed mitigation measures and City land use policies. I suggest that the City analyze this alternative because the City's preferred alternative and Alternative 2 are contingent on the Golf Course being developed. These alternatives, if contingent on the Golf Course, are incomplete in that the impacts associated with an alternative county golf course were neither described nor analyzed in this EIR—and would therefore require a subsequent EIR analysis. Therefore, it is not clear that either of these two alternatives are feasible at this time.

Again, thank you for your consideration and the opportunity to provide comments on the DEIR and DBGP. I look forward to additional correspondence from the City as the Final EIR becomes available.

B9-12

Sincerely,

Gary Busteed
20850 Gold Run Drive
Diamond Bar, CA 91765

This page intentionally left blank.

3 Responses to Comments

This chapter includes responses to comments on environmental issues, in the same order as presented in Chapter 2: Comments on the Draft EIR. The responses are marked with the same number-letter designator as the comment to which they respond.

Responses to written comments received during the public review period are summarized in the matrix below. The reference number and text of the comments are presented alongside the response for ease of reference. Where the same comment has been made more than once, a response may direct the reader to another numbered comment and response.

Responses focus on comments that raise important environmental issues or pertain to the adequacy of analysis in the Draft EIR or to other aspects pertinent to the potential effects of the Proposed Project on the environment pursuant to CEQA. Comments that address policy issues, opinions or other topics beyond the purview of the Draft EIR or CEQA are noted as such for the public record. Where comments are on the merits of the Proposed Project rather than on the Draft EIR, these are also noted in the responses. Where appropriate, the information and/or revisions suggested in the comment letters have been incorporated into the Final EIR. Revisions are acknowledged where necessary to clarify or amplify and are included in Chapter 4. Figure revisions required in response to comments are noted in the matrix and the revised figures are included in Chapter 4.

This page intentionally left blank.

4 Revisions to the Draft EIR

This chapter lists revisions to the Draft EIR by chapter and page, in the same order as the revisions would appear in the Draft EIR. New text is indicated with an underline and deleted text is indicated with ~~strikethrough~~.

Executive Summary

On page ES-4, revise the text as follows.

FOCUS AREAS

Overall, the Proposed Project retains the existing land use framework of the 1995 General Plan, with some targeted changes. The Proposed Project provides for four focus areas where major land use changes are planned to take place as part of a strategy to provide walkable mixed-use activity centers. These focus areas provide opportunities for infill development that can incorporate a range of housing, employment, and recreational uses to meet the needs of families, young people, senior citizens, and residents of all incomes.

- The Town Center focus area is proposed along Diamond Bar Boulevard, between SR-60 and Golden Springs Drive, to build on the success of recent commercial redevelopment in that area.
- The Neighborhood Mixed Use focus area is envisioned as a combination of residential and ancillary neighborhood-serving retail and service uses to promote revitalization of the segment of North Diamond Bar Boulevard between the SR-60 interchange and Highland Valley Road.
- The Transit-Oriented Mixed Use focus area leverages underutilized sites adjacent to the Metrolink station to provide for higher-density housing, offices, and supporting commercial uses close to regional transit.
- The Community Core focus area covers the existing Diamond Bar Golf Course, which is currently operated by Los Angeles County. Should the County choose to discontinue operation of the golf course or to reduce the size of the golf course, the Community Core would be the City's preferred approach for reuse of the site. The Community Core is envisioned as a master-planned mixed-use, pedestrian-oriented community and regional destination.

On page ES-56, revise the text as follows.

3.11 Noise Public Facilities and Recreation			
3.11-1 Implementation of the Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.	None required	Less than significant	N/A
3.11-2 Implementation of the Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	None required	Significant and unavoidable	Significant and unavoidable
3.11-3 Implementation of the Proposed Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	None required	Less than significant	N/A

Chapter 3.1: Aesthetics

On page 3.1-11, revise the text as follows.

- LU-P-8 ~~Ensure~~ Require that new residential development be compatible with the prevailing character of the surrounding neighborhood in terms of building scale, density, massing, and design. Where the General Plan designates higher densities, ~~provide~~ require adequate transitions to existing development.

On page 3.1-12, revise the text as follows.

- LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:
- a. ~~Minimizes~~—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations ~~Ordinance~~—excavation, grading, and earthwork to retain natural vegetation and topography;
 - b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
 - c. ~~Does not~~ create unsafe conditions;
 - d. Incorporate site and architectural designs that are and is sensitive to natural contours and land forms and in its site design, including hydrological features;
 - e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
 - f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's ~~District's~~ approved fuel modification program;
 - g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors ~~similar to those of native materials~~ in the surrounding area; and
 - h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

On page 3.1-13, revise the text as follows.

- RC-P-1 As opportunities arise, Obtain and designate open space land through acquisition techniques such as:

- a. ~~Requiring the incorporation of~~Incorporating open space and recreational areas into the design of new development projects, preserving and enhancing as open space significant stands of vegetation, natural landforms, and any areas of special ecological significance through site design approaches such as clustering and ecological planning.
- b. Allowing clustering or transferring of all or part of the development potential of a site to a portion of the site to preserve significant environmental resources such as natural and native habitats (oak woodland, coastal sage scrub, etc.), natural creeks, artesian springs, vernal pools, seeps, riverines, wetlands, riparian habitats, wildlife corridors and linkages, and natural geological features within proposed developments as open space.
- c. Allowing for acquisition of open space lands through the entitlement process and the transfer of densities among land uses of like designation.
- d. Collaborating with land trusts and other conservation groups to acquire open space land through, but not limited to, conservation easements.

On page 3.1-14, revise the text as follows.

RC-P-8 ~~Work~~To the extent feasible, support and cooperate with the efforts of other jurisdictions and conservation organizations to protect prominent ridges, slopes, and hilltops in and adjacent to the City and its Sphere of Influence.

Such features include, but are not limited to, areas identified by Los Angeles County as Significant Ecological Areas; Tonner Canyon; the hills within Tres Hermanos Ranch; and the hillsides along SR-57, between Diamond Bar and Brea.

On page 3.1-16, revise the text as follows.

RC-P-11 Require that all development, including roads and trails, proposed adjacent to riparian and other biologically sensitive habitats avoid, to the greatest extent feasible, significant impacts that would undermine the healthy natural functioning of those areas. Require that new development proposed in such locations be designed to:

- a. Minimize to the greatest extent possible or eliminate impacts on environmentally sensitive areas;
- b. Protect the visual seclusion of forage areas from road intrusion by providing vegetative buffering;
- c. ~~Protect~~Provide wildlife movement linkages to water, food, shelter, and nesting sites;
- d. Allow wildlife and migration access by use of tunnels or other practical means;
- e. Provide vegetation that can be used by wildlife for cover along roadsides;

- f. Avoid intrusion of night lighting into identified areas through properly designed lighting systems;
- g. Avoid impacts to wetlands, natural springs and seeps and maintain access for wildlife or when natural water areas are removed or blocked provide a locally suitable and equal replacement; and
- h. To the greatest extent possible, prevent street water runoff from flowing into waterways

Chapter 3.2: Air Quality

On page 3.2-34, revise the text as follows.

- LU-P-17 ~~Promote~~ Require that site designs ~~that~~ create active street frontages and introduce pedestrian-scaled street networks and street designs.
- LU-P-34 ~~Ensure~~ Require that development ~~incorporates~~ evaluates and mitigates to extent practical noise and air quality issues related to the proximity of the SR-60 and Metrolink.
- LU-P-49 ~~Promote~~ Require convenient, attractive, and safe pedestrian, bicycle, and transit connections both within the Community Core area and between the Community Core and surrounding neighborhoods and other destinations within Diamond Bar.

On page 3.2-34, revise the text as follows.

- CR-P-6 ~~Require that all new development study the impact of vehicle miles traveled (VMT) and~~ Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.
- CR-P-32 ~~Provide~~ Promote pedestrian and bicycle connectivity in existing residential neighborhoods, utility easements, and/or flood control channels, including connections through cul-de-sacs to other streets or community facilities where feasible.
- CR-P-55 ~~Consider the establishment of~~ Incorporate common bicycle parking requirements for appropriate uses— including multi-family residential and office—in the Municipal Code.

On page 3.2-35, revise the text as follows.

- RC-P-10 Require, to the greatest extent feasible, new development to preserve mature native trees including oak and walnut, and trees of significant cultural or historical value such as sycamore and arroyo willow, etc., as set forth under the Diamond Bar Tree

Preservation and Protection Ordinance. Review the ordinance periodically and update it as necessary to reflect current best practices.

- ~~RC P 19~~ — ~~Require new development to reduce the waste of potable water through the use of drought tolerant plants, efficient landscape design and application, and reclaimed water systems.~~
- ~~RC P 20~~ — ~~Require the implementation of the latest water conservation technologies into new developments.~~
- ~~RC P 21~~ — ~~Require builders to provide information to prospective buyers or tenants within the City of Diamond Bar regarding drought tolerant planting concepts.~~
- ~~RC P 22~~ — ~~Require the use of mulch in landscape areas to improve the water holding capacity of the soil by reducing evaporation and soil compaction in accordance with the standards set forth by state law and the City's Water Efficient Landscape Ordinance.~~

On page 3.2-35, revise the text as follows.

- ~~RC-P-3329.~~ Ensure that project applicants consult with SCAQMD when siting new facilities with dust, odors, or Toxic Air Contaminant (TAC) emissions to avoid siting those facilities near sensitive receptors and avoid siting sensitive receptors near sources of air pollution. Require proposed land uses that produce TACs to incorporate setbacks and design features that reduce TACs at the source to minimize potential impacts from TACs. For new or modified land uses that have the potential to emit dust, odors, or TACs that would impact sensitive receptors require the business owners to notify the SCAQMD, and residents and businesses adjacent to the proposed use prior to business license or building permit issuance. (New from SCAQMD Guidance)

Examples of facilities that may emit TACs as identified by the SCAQMD include dry cleaners, gas stations, auto body shops, furniture repair shops, warehouses, printing shops, landfills, recycling and transfer stations, and freeways and roadways. Refer to SCAQMD guidance for the most current list of facilities that may emit TACs.

- ~~RC-P-304~~ For new or modified land uses that have the potential to emit dust, odors, or TACs that would impact sensitive receptors, require the business owners to obtain all necessary notify the SCAQMD clearances or permits, and residents and businesses adjacent to the proposed use prior to business license or building permit issuance.

Sensitive receptors include residences, schools, childcare centers, playgrounds, parks and other recreational facilities, nursing homes, hospitals, and other medical care facilities.

On page 3.2-26, revise the text as follows.

- CHS-P-5 ~~As opportunities and resource become available, implement~~ street design features that facilitate walking and biking in both new and established areas. Require a minimum standard of these features for all new developments where appropriate and feasible.
- CHS-P-14 ~~Encourage the development of. Develop and incorporate~~ “destinations”—such as the clusters of commercial uses that draw residents from the entire community into the Neighborhood Mixed Use, the Transit-Oriented Mixed Use, and the Town Center focus areas.
- CHS-P-15 ~~Establish opportunities for~~ Encourage the establishment of gathering areas in new neighborhoods.
- CHS-P-33 ~~Plan~~ Encourage land uses to reduce vehicle miles traveled (VMT), prioritizing infill development and incorporating vertical and horizontal mixed-use development, public transit, and active transportation facilities where appropriate, recognizing that the transportation sector is the largest source of GHG emissions in Diamond Bar and in California more broadly.
- CHS-P-38 ~~Accelerate~~ Consider the adoption of rooftop and parking lot solar power and/or other alternative energy usage on developed sites in Diamond Bar through actions such as:
- a. Establishing incremental growth goals for solar power/alternative energy systems in Diamond Bar;
 - b. Developing guidelines, recommendations, and examples for cost-effective solar and/or other alternative energy-based installation; and
 - c. Installing solar/alternative energy technology on ~~available~~ existing City ~~facilities~~ spaces.

On page 3.2-37, revise the text as follows.

- ~~CHS P 57 Encourage water conservation, drought tolerant landscaping and the use of greywater and reclaimed and recycled water, where appropriate, with a view to reducing water use.~~

On page 3.2-41, revise the text as follows.

- MM-AQ-1 Construction Features. Future development projects implemented under the General Plan will be required to demonstrate consistency with SCAQMD construction emission thresholds. Where emissions from individual projects exceed SCAQMD thresholds, the following measures shall be incorporated as necessary to minimize impacts. These measures do not exclude the use of other, equally effective mitigation measures.

- Require all off-road diesel equipment greater than 50 horsepower (hp) used for this Project to meet current USEPA standards, which are currently Tier 4 final off-road emission standards or equivalent. Such equipment shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board certified Level 3 Diesel Particulate Filter (DPF) or equivalent. This DPF will reduce diesel particulate matter and NOX emissions during construction activities.
- Require a minimum of 50 percent of construction debris be diverted for recycling.
- Require building materials to contain a minimum 10 percent recycled content.
- Require materials such as paints, primers, sealants, coatings, and glues to have a low volatile organic compound concentration compared to conventional products. If low VOC materials are not available, architectural coating phasing should be extended sufficiently to reduce the daily emissions of VOCs.

Chapter 3.3: Biological Resources

On page 3.3-6, revise the text as follows.

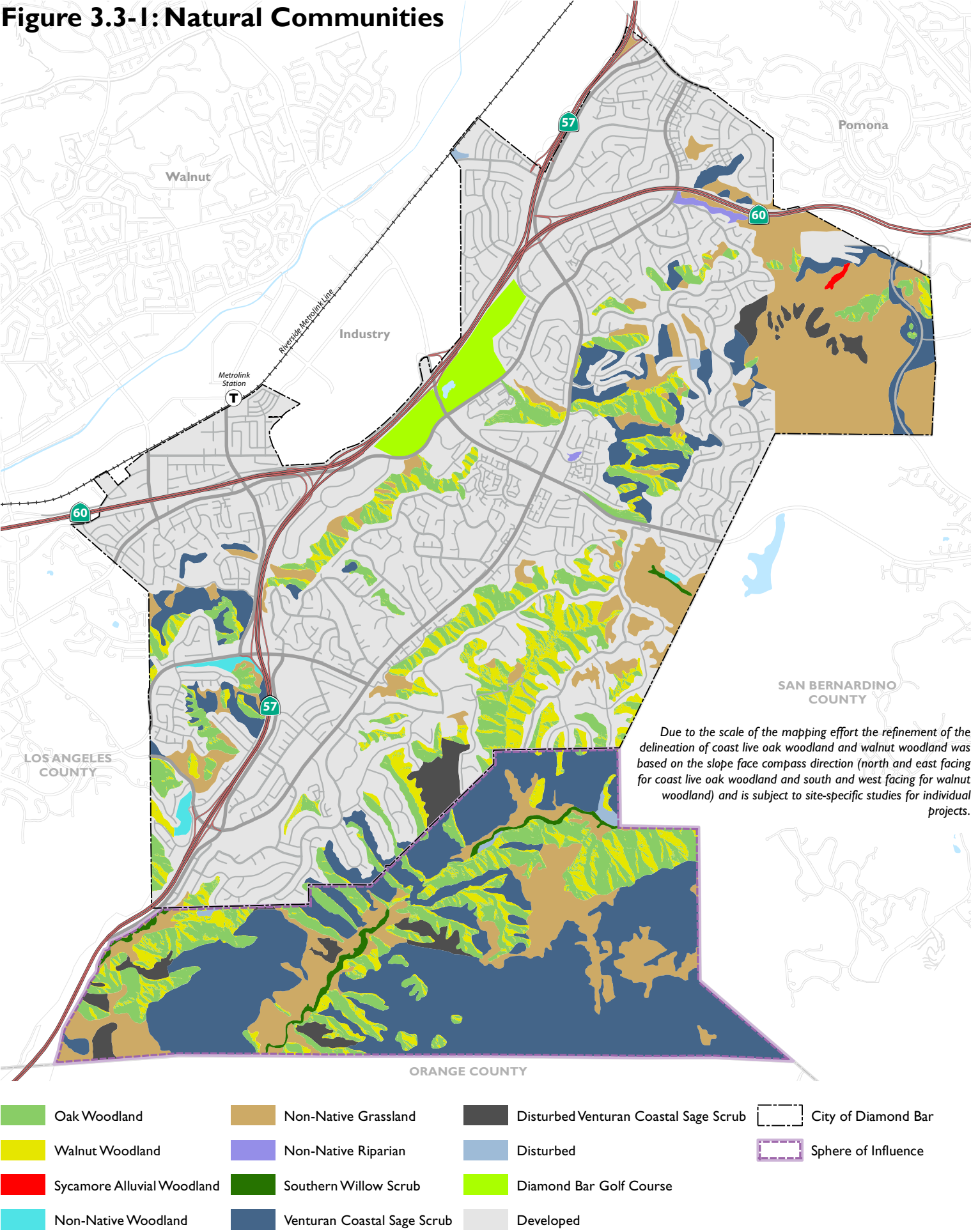
Native Grasslands

Native grasslands are a sensitive natural community with the potential to occur in the Planning Area. In addition, native grassland species may occur in areas of shrublands, scrub, and oak woodland. Areas of perennial grassland, distinguished by possessing non-trace cover of native grasses, are identified as Sensitive by CDFW. The *Nassella* spp. – *Melica* spp. Herbaceous alliance is characterized by having at least two to five percent cover of native needlegrass (*Nassella* spp.) or other native grasses. The *Bromus carinatus* – *Elymus glaucus* herbaceous alliance has California brome (*Bromus carinatus*) characteristically present, with native plants providing more than 10 percent relative cover. Vernal pools and seasonal ponds could occur in grasslands within the Planning Area, and/or along dirt roads that pass through other natural communities within the Planning Area.

On page 3.3-10, revise Figure 3.3-1 as follows.

On page 3.3-11, revise Figure 3.3-2 as follows.

Figure 3.3-1: Natural Communities



Source: City of Diamond Bar 2019;
ESA PCR, 2016; Dyett & Bhatia, 2019

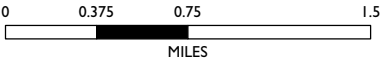
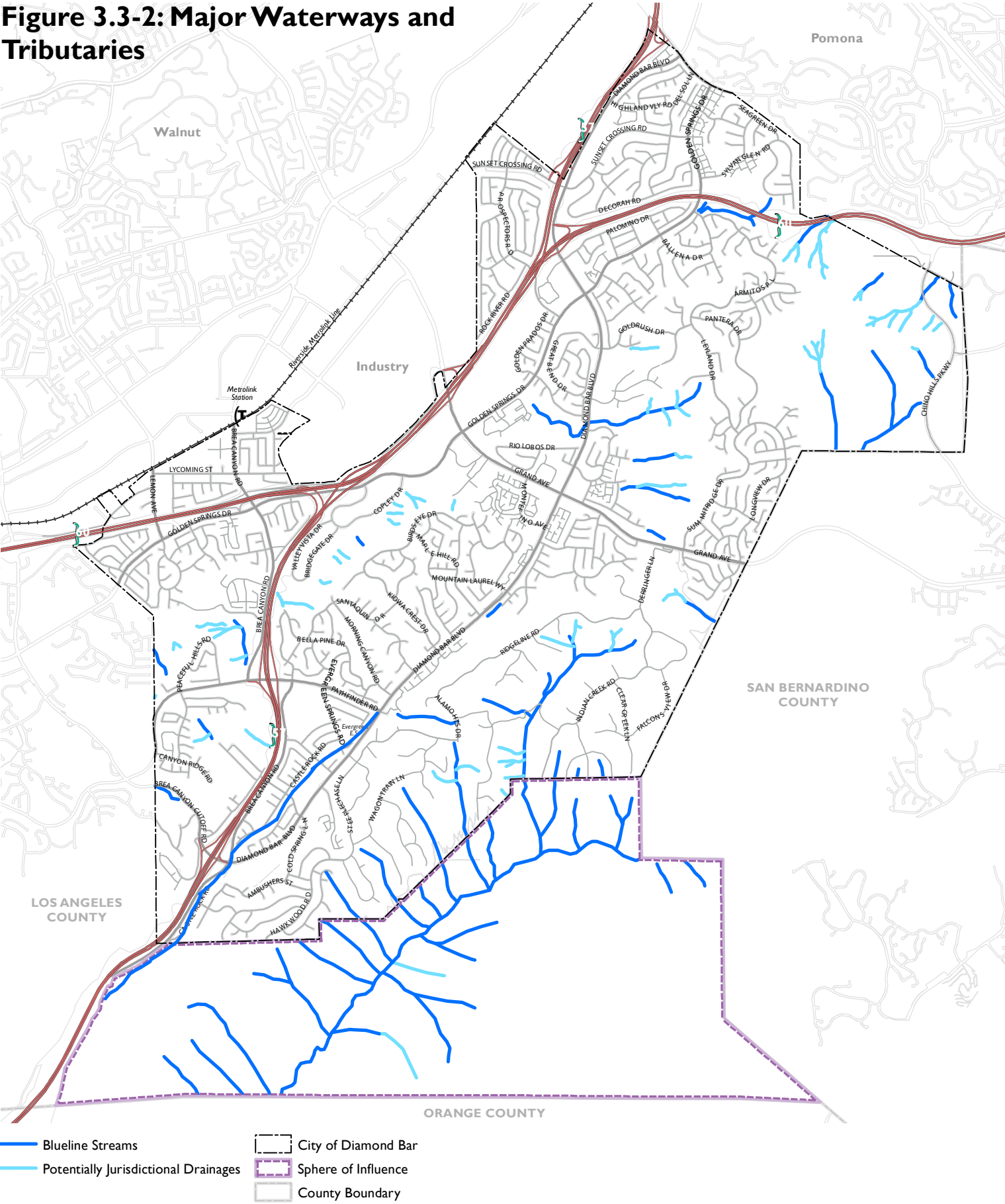
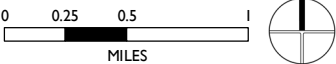


Figure 3.3-2: Major Waterways and Tributaries



Source: ESA, 2019;
City of Diamond Bar 2019; Dyett & Bhatia, 2019



On page 3.3-12, revise the text as follows.

United States Fish and Wildlife Service (USFWS) designated critical habitat for listed plant or wildlife species does not occur within the Planning Area. The nearest critical habitat for the Coastal California gnatcatcher is located within the southwest corner of the SOI and extends through the Puente-Chino Hills Wildlife Corridor in the City of Puente Hills located to the southwest of the SOI. Additional critical habitat for the Coastal California gnatcatcher is located within the City of Walnut and within Chino Hills State Park but is not adjacent to the Planning Area boundaries.

On page 3.3-34, revise the text as follows.

As a point of clarification and in accordance with revised interpretive guidelines provided in the Principal Deputy Solicitor Exercising the Authority of the Solicitor Pursuant to Secretary's Order 3345 on December 22, 2017, the MBTA's prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control.

On page 3.3-37, revise the text as follows.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) provides guidance on appropriate methods within "Addressing Sensitive Natural Communities in Environmental Review." The CDFW's guidance consists of the following steps:

- Identify all Natural Communities within the project footprint using the best means possible, for example, keying them out in the Manual of California, Second Edition (Sawyer et al. 2009) or in classification or mapping reports from the region, available on VegCAMP's Reports and Maps page.
- Refer to the current standard list of Natural Communities to determine if any of these types are ranked Sensitive (S1-S3 rank); if so, see CEQA Guidelines checklist at IVb.
- Other considerations when assessing potential impacts to Sensitive Natural Communities from a project include:
 1. Compliance with state and federal wetland and riparian policies and codes, as certain Natural Communities are restricted to wetlands or riparian settings.
 2. Compliance with the Native Plant Protection Act and the state and federal Endangered Species Acts, as some Natural Communities either support rare species or are defined by the dominance or presence of such species.
 3. Compliance with CEQA Guidelines Section 15065(a), which mandates completion of an EIR if a project would threaten to eliminate a plant community.
 4. Compliance with local regional plans, regulations, or ordinances that call for consideration of impacts to Natural Communities.
 5. Vegetation types that are not on the state's sensitive list but that may be considered rare or unique to the region under CEQA Guidelines Section 15125(c).

- If a Natural Community in the project area has not previously been described, it may be a rare type. In this case, please contact VegCAMP about documenting the Natural Community.
- If there are Sensitive Natural Communities on your project site and you need guidance, contact the appropriate regional staff person through the local CDFW Regional Office to discuss potential project impacts; these staff have local knowledge and context.
- The Department's document "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" provides information on reporting.

On page 3.3-35, revise the text as follows.

RC-G-6. ~~Promote the use of native and drought tolerant vegetation in landscaping where practical.~~ Utilize native and drought-tolerant vegetation in landscaping, site stabilization and restoration where practical to prevent the spread of invasive plant species into natural open spaces.

RC-P-9. Require, as part of the environmental review process prior to approval of discretionary development projects involving parcels within, adjacent to, or surrounding a significant biological resource area, a biotic resources evaluation of the site by a qualified biologist. Focused plant surveys shall be conducted at the appropriate time of year, and local reference populations checked to ensure detectability of the target species. Wildlife shall also be evaluated by a qualified biologist through appropriate survey or trapping techniques necessary to determine presence. ~~requiring that time specific issues such as the seasonal cycle of plants and migration of wildlife are evaluated.~~ Such evaluation shall analyze the existing and potential natural resources of a given site following at least one site visit as well as the potential for significant adverse impacts on biological resources; ~~and.~~ The report shall identify measures to avoid, minimize, or mitigate any impacts to species that have been observed or have the potential of being present on the site. that would degrade its healthy function. In approving any permit based on the evaluation, the City shall require implementation of mitigation measures supported by the evaluation, or work with the applicant to modify the project if mitigation is determined not to be adequate to reduce the impacts to a non-significant level.

On page 3.3-46, revise the text as follows.

RC-P-10 Require, to the greatest extent feasible, new development to preserve mature native trees including oak and walnut, and trees of significant cultural or historical value such as sycamore and arroyo willow, etc., as set forth under the Diamond Bar Tree Preservation and Protection Ordinance. Review the ordinance periodically and update it as necessary to reflect current best practices.

- RC-P-11 Require that all development, including roads and trails, proposed adjacent to riparian and other biologically sensitive habitats avoid, to the greatest extent feasible, significant impacts that would undermine the healthy natural functioning of those areas. Require that new development proposed in such locations be designed to:
- a. Minimize to the greatest extent possible or eliminate impacts on environmentally sensitive areas;
 - b. Protect the visual seclusion of forage areas from road intrusion by providing vegetative buffering;
 - c. ~~Protect~~Provide wildlife movement linkages to water, food, shelter, and nesting sites;
 - d. Allow wildlife and migration access by use of tunnels or other practical means;
 - e. Provide vegetation that can be used by wildlife for cover along roadsides;
 - f. Avoid intrusion of night lighting into identified areas through properly designed lighting systems;
 - g. Avoid impacts to wetlands, natural springs and seeps and maintain access for wildlife or when natural water areas are removed or blocked provide a locally suitable and equal replacement; and
 - h. To the greatest extent possible, prevent street water runoff from flowing into waterways
- RC-P-14 ~~Partner~~ Support and cooperate with the efforts of local school districts, environmental groups and volunteers to offer environmental education programs.

On pages 3.3-47 through 3.3-49, revise the text as follows.

Mitigation Measures

The Proposed Project could result in potentially significant impacts on special-status plant and wildlife species during both construction and use of specific projects, including plant and animal species included in Tables 3.3-3 and 3.3-4, as well as nesting birds protected under the MTBA and CDFG Code (3503). However, implementation of project-specific Mitigation Measures MM BIO-1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I and 1K will minimize impacts so as to be less than significant. Mitigation Measures MM BIO-1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, and 1K apply to future development under the Proposed Project in the following areas where special-status species have been identified: Planning Area 1 (Tres Hermanos Ranch), Planning Area 2, Planning Area 4 (under the South Pointe West Specific Plan), and the Golf Course. It should be noted that assessing potential impacts to which one or more of the MM-BIO-1 may apply, both direct (on-site) and indirect (off-site) should be considered.

MM-BIO-1A Preconstruction Surveys for Special-Status Plants: To mitigate impacts on special status plant species, the applicant shall implement the following measures:

- Prior to initiating disturbance activities, clearance surveys for special-status plant species shall be performed by a qualified biologist(s) within the boundaries of the future project disturbances. If any special-status plants are found on the Planning Area, a qualified biologist(s) with a CDFG Scientific Collection Permit shall prepare a plan to relocate these species to suitable habitats within surrounding public open space areas that would remain undisturbed. For those species that cannot be physically transplanted, the biologist(s) shall collect seeds from the plants.¹
- To the extent feasible the preconstruction surveys shall be completed when species are in bloom, typically between May and June and reference populations checked. Two species, the white rabbit-tobacco and San Bernardino aster, are perennial herbs that grow up to three feet in height and can be identified by their dried stalks and leaves following their blooming period.

MM-BIO-1B Special-Status Plant Planting Plan: Prior to any ground disturbance for projects that have the potential to cause direct or indirect impacts on special-status plants, the project applicants shall prepare a Special Status Plant Planting Plan for the species to be transplanted. At a minimum, the plan shall include a description of the existing conditions of the project and receiver site(s), transplanting and/or seed collection/off-site seeding or installation methods, an adaptive two-year monitoring program, any other necessary monitoring procedures, plant spacing, and maintenance requirements. In the event that the City of Diamond Bar determines that agreed success criteria are not met, additional remediation may be required beyond the two-year maintenance/monitoring period to ensure mitigation requirements are met. The City shall also require proof that the plan preparer consulted with US Fish and Wildlife Service and California Department of Fish and Wildlife personnel or appropriate herbarium botanists in order to maximize transplanting success.²

MM-BIO-1C Listed Endangered and Threatened Plants: In addition to MM BIO-1A and -1B, the City shall require the project applicant to provide proof of the US Fish and Wildlife Service and California Department of Fish and Wildlife permitting the take of listed endangered and threatened plants. The FESA does not address listed plants on private property. However, if a federal action is required for a project (funding, Clean Water Act compliance, etc.), a permit from the USFWS and CDFW to take a listed species is required.

¹ Lilies generally can be transplanted in bulb-form.

² Such as CDFW in Ontario, the Rancho Santa Ana Botanical Gardens in Claremont, UC Riverside, or Cal Poly Pomona.

MM-BIO-1D Environmental Awareness Program: In order to reduce indirect impacts on special-status plants, sensitive natural communities, preserved open space and wildlife corridors, the City shall implement the following measures:

- The City shall implement an Environmental Awareness Program on its web site intended to increase awareness to developers, residents and city workers of the sensitive plants, wildlife and associated habitats that occur in the preserved open space areas. The intention of the program shall be to inform developers, city workers, and residents and encourage active conservation efforts among the residents and city to help conserve the habitats in the preserved open space. The program shall address impacts associated with the introduction of invasive plant species as a result of new development. At a minimum, the Environmental Awareness Program shall include the following components:
 - Informational kiosks shall be added or modified at entrance points to hiking and equestrian trails to inform city workers, residents and trail users on the sensitive flora and fauna that rely on the habitats found within the preserved open space. The intent of these kiosks is to bring awareness to the sensitive plants, wildlife and associated habitats which occur in the area.
 - ~~For informational purposes, the~~ City shall provide future project applicants a brochure which includes a list of sensitive plant and tree species to avoid impacting as well as suggested plant palettes to be used in residential landscaping near natural areas to prevent the introduction of invasive plant species to the surrounding natural communities.

MM-BIO-1E Preconstruction Surveys for Special-Status Wildlife: Within one (1) week prior to initiating disturbance activities, clearance surveys for special-status animal species shall be performed by a qualified biologist(s) within the boundaries of the future project disturbances. If any special-status animals are found on the site, a qualified biologist(s) flag the area for avoidance and discuss possible seasonal avoidance measures with the developer. If avoidance is not feasible, the Project Biologist, with a CDFG Scientific Collection Permit shall relocate these species to suitable habitats within surrounding open space areas that would remain undisturbed, unless the biologist determines that such relocation cannot reasonably be accomplished at which point CDFG will be consulted regarding whether relocation efforts should be terminated. Relocation methods (e.g., trap and release) and receiver sites shall be verified and approved by the CDFG prior to relocating any animals.

On page 3.3-50, revise the text as follows.

MM-BIO-1H Protection of Eagle Nests: No development or project activities shall be permitted within one-half mile of a historically active or determined active golden eagle nest unless the planned activities are sited in such a way that the activity has minimal potential to cause abandonment of the nesting site, as determined by a qualified

biologist.³ In addition, the eagle nest (if active) shall be monitored by a biologist who is highly familiar with the signs of eagle distress during the project development activities. The monitoring shall continue until the monitoring biologist is confident the nest will not be disturbed. The monitoring biologist shall have the authority to stop project activities as needed.

On page 3.5-52, revise the text as follows.

Therefore, impacts to oak woodlands and other native woodlands could be significant and unavoidable without mitigation.

On page 3.3-58, revise the text as follows.

LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:

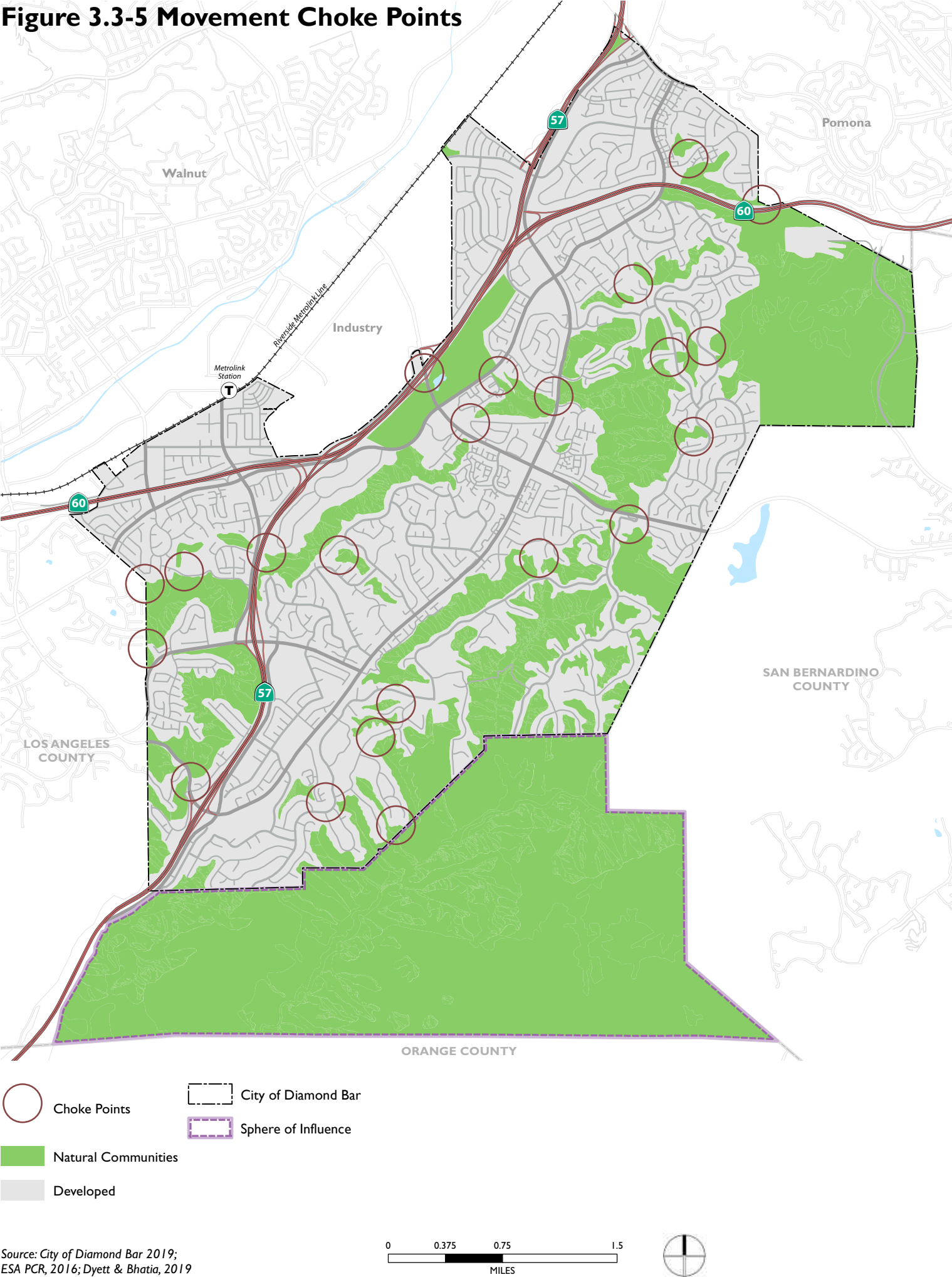
- a. Minimizes—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations Ordinance—excavation, grading, and earthwork to retain natural vegetation and topography;
- b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
- c. ~~Does~~ not create unsafe conditions;
- d. Incorporate site and architectural designs that are and is sensitive to natural contours and land forms and in its site design, including hydrological features;
- e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
- f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's District's approved fuel modification program;
- g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors ~~similar to those of native materials~~ in the surrounding area; and
- h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

³ Generally, information regarding the location of raptorial bird nests is kept highly confidential. As such it is recommended that representatives of CDFW, USFWS and/or the Chino Hills State Park be notified of any proposed projects in the SOI or Tres Hermanos portions of the Planning Area. In consultation with agency representatives, it can be determined if the project is within one-half mile of the eagle nest without the location being specifically identified.

- ~~RC P 25. Control and improve the quality of stormwater entering local water bodies by requiring new development to incorporate best management practices (BMPs), and Low Impact Development (LID) strategies that support on-site retention, detention, and/or treatment of stormwater through means such as infiltration, evapotranspiration, biofiltration, and rainfall harvest and use.~~
- ~~RC P 26. Require the implementation of a stormwater pollution prevention plan (SWPPP), and inspection by a Construction General Permit Qualified SWPPP Practitioner (QSP), during construction and post construction to limit land disturbance activities such as clearing and grading and cut and fill; avoid steep slopes, unstable areas, and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.~~

On page 3.3-59, insert Figure 3.3-5 as follows.

Figure 3.3-5 Movement Choke Points



On page 3.3-64, revise the text as follows.

RC-P-4 Maintain an inventory of open lands ~~which that~~ were set aside for open space uses as part of ~~previous developments approved through the County prior to City incorporation,~~ and require verification as to the existence of any potential open space restrictions previously approved on a subject property prior to ~~accepting~~approving development proposals.

RC-P-8 ~~Work~~To the extent feasible, support and cooperate with the efforts of other jurisdictions and conservation organizations to protect prominent ridges, slopes, and hilltops in and adjacent to the City and its Sphere of Influence.

Such features include, but are not limited to, areas identified by Los Angeles County as Significant Ecological Areas; Tonner Canyon; the hills within Tres Hermanos Ranch; and the hillsides along SR-57, between Diamond Bar and Brea.

Chapter 3.4: Cultural, Historic, and Tribal Cultural Resources

On page 3.4-20, revise the text as follows.

LU-P-8 ~~Ensure~~Require that new residential development be compatible with the prevailing character of the surrounding neighborhood in terms of building scale, density, massing, and design. Where the General Plan designates higher densities, ~~provide~~require adequate transitions to existing development.

LU-P-12 ~~Require~~ Ensure that commercial uses and shopping centers are designed in a manner compatible with adjacent residential areas in terms of traffic and noise impacts, building scale, and appropriate transitions and buffers.

LU-P-18 ~~Require~~Development ~~to~~should be sensitive to the building form, density, massing, and scale of surrounding residential neighborhoods.

Chapter 3.5: Energy, Climate Change, and Greenhouse Gases

On page 3.5-36, revise the text as follows.

LU-P-17 ~~Promote~~Require that site designs ~~that~~ create active street frontages and introduce pedestrian-scaled street networks and street designs.

LU-P-49 ~~Promote~~Require convenient, attractive, and safe pedestrian, bicycle, and transit connections both within the Community Core area and between the Community Core and surrounding neighborhoods and other destinations within Diamond Bar.

- CR-P-6 ~~Require that all new development study the impact of vehicle miles traveled (VMT) and~~ Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.
- CR-P-32 ~~Provide~~ Promote pedestrian and bicycle connectivity in existing residential neighborhoods, utility easements, and/or flood control channels, including connections through cul-de-sacs to other streets or community facilities where feasible.
- CR-P-55 Consider the establishment of ~~incorporate~~ common bicycle parking requirements for appropriate uses— including multi-family residential and office—in the Municipal Code.
- RC-P-10 Require, to the greatest extent feasible, new development to preserve mature native trees including oak and walnut, and trees of significant cultural or historical value such as sycamore and arroyo willow, etc., as set forth under the Diamond Bar Tree Preservation and Protection Ordinance. Review the ordinance periodically and update it as necessary to reflect current best practices.
- RC-P-198 ~~Require~~ Ensure new development to reduce the waste of potable water through the use of drought-tolerant plants, efficient landscape design and application, and reclaimed water systems where available.
- RC-P-2019 ~~Require~~ Encourage the implementation of the latest water conservation technologies into new developments.
- RC-P-2120 ~~Require~~ Ensure ~~builders/developers~~ to provide information to prospective buyers or tenants within the City of Diamond Bar regarding drought-tolerant planting concepts.
- RC-P-22 ~~Require the use of mulch in landscape areas to improve the water holding capacity of the soil by reducing evaporation and soil compaction in accordance with the standards set forth by state law and the City's Water Efficient Landscape Ordinance.~~

On page 3.5-37, revise the text as follows.

- CHS-P-5 As opportunities and resource become available, ~~Implement~~ street design features that facilitate walking and biking in both new and established areas. Require a minimum standard of these features for all new developments where appropriate and feasible.
- CHS-P-14 Encourage the development of ~~Develop and incorporate~~ “destinations”—such as the clusters of commercial uses that draw residents from the entire community

into the Neighborhood Mixed Use, the Transit-Oriented Mixed Use, and the Town Center focus areas.

- CHS-P-15 ~~Establish opportunities for~~ Encourage the establishment of gathering areas in new neighborhoods.
- CHS-P-33 ~~Plan~~ Encourage land uses to reduce vehicle miles traveled (VMT), prioritizing infill development and incorporating vertical and horizontal mixed-use development, public transit, and active transportation facilities where appropriate, recognizing that the transportation sector is the largest source of GHG emissions in Diamond Bar and in California more broadly.
- CHS-P-35 Use the City's CAP as the platform when considering ~~for outlining and implementing~~ measures to improve energy conservation and increase renewable energy use in existing and new development.
- CHS-P-38 ~~Accelerate~~ Consider the adoption of rooftop and parking lot solar power and/or other alternative energy usage on developed sites in Diamond Bar through actions such as:
- a. Establishing incremental growth goals for solar power/alternative energy systems in Diamond Bar;
 - b. Developing guidelines, recommendations, and examples for cost-effective solar and/or other alternative energy-based installation; and
 - c. Installing solar/alternative energy technology on ~~available~~ existing City ~~facilities~~ spaces.
- CHS-P-523 ~~Support and cooperate with County and State regulatory agency efforts to~~ Require commercial and industrial generators to develop and implement a source reduction and recycling plan tailored to their individual waste streams.
- CHS-P-535 ~~Encourage the protection~~ Protect and ~~enhancement of~~ areas identified as healthy functioning ecosystems that provide the ecological, cultural, public health and safety, and economic value of ecosystem services, or benefits.

On page 3.5-49, revise the text as follows.

- CR-P-1 When redesigning streets, plan for the needs of different modes by ~~incorporating~~ considering elements such as shade for pedestrians, safe pedestrian-friendly crossings/intersections, lighting at the pedestrian scale, bike lanes, signage visible to relevant modes, transit amenities, etc.
- CR-P-2 ~~Require that~~ Promote new street designs and efforts to retrofit existing streets in residential neighborhoods minimize traffic volumes and/or speed as appropriate without compromising connectivity for emergency vehicles, bicycles, pedestrians, and users of mobility devices.

- CR-P-6 ~~Require that all new development study the impact of vehicle miles traveled (VMT) and~~ Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.
- CR-P-24 ~~As opportunities arise, c~~Coordinate with local, regional, and State agencies to encourage and support programs that reduce vehicle miles traveled, such as preferential carpool and car share parking, parking pricing, on-site childcare, flexible work schedules, subsidized transit passes, and ridesharing.
- CR-P-32 ~~Provide~~ Promote pedestrian and bicycle connectivity in existing residential neighborhoods, utility easements, and/or flood control channels, including connections through cul-de-sacs to other streets or community facilities where feasible.
- CR-P-53 ~~Update~~Consider updating parking standards in the ~~Municipal Development~~ Code to ensure that they are reflective of the community's needs, using current data on parking demand and taking into consideration demographics and access to alternative modes of transportation.
- CR-P-54 ~~Consider incorporating~~Incorporate criteria in the ~~Municipal Development~~ Code to allow reductions in parking requirements in exchange for VMT reduction measures.
- CR-P-55 Consider the establishment of ~~incorporate~~ common bicycle parking requirements for appropriate uses— including multi-family residential and office—in the Municipal Code.
- CR-P-57 Consider incentives to encourage carpooling, such as ~~Incentivize the provision of preferential parking for high-occupancy vehicles to encourage carpooling.~~
- CR-P-59 As opportunities arise, w~~ork~~ with Caltrans to evaluate existing Caltrans-operated park-n-ride facilities within the City and expand the facilities where necessary.

On page 3.5-51, revise the text as follows.

- CHS-P-5 As opportunities and resource become available, i~~mplement~~ street design features that facilitate walking and biking in both new and established areas. Require a minimum standard of these features for all new developments where appropriate and feasible.
- CHS-P-14 Encourage the development of ~~Develop and incorporate~~ “destinations”—such as the clusters of commercial uses that draw residents from the entire community into the Neighborhood Mixed Use, the Transit-Oriented Mixed Use, and the Town Center focus areas.

- CHS-P-15 ~~Establish opportunities for~~ Encourage the establishment of gathering areas in new neighborhoods.
- CHS-P-33 ~~Plan~~ Encourage land uses to reduce vehicle miles traveled (VMT), prioritizing infill development and incorporating vertical and horizontal mixed-use development, public transit, and active transportation facilities where appropriate, recognizing that the transportation sector is the largest source of GHG emissions in Diamond Bar and in California more broadly.
- CHS-P-35 Use the City's CAP as the platform when considering ~~for outlining and implementing~~ measures to improve energy conservation and increase renewable energy use in existing and new development.
- CHS-P-38 ~~Accelerate~~ Consider the adoption of rooftop and parking lot solar power and/or other alternative energy usage on developed sites in Diamond Bar through actions such as:
- a. Establishing incremental growth goals for solar power/alternative energy systems in Diamond Bar;
 - b. Developing guidelines, recommendations, and examples for cost-effective solar and/or other alternative energy-based installation; and
 - c. Installing solar/alternative energy technology on ~~available~~ existing City ~~facilities spaces~~.

Chapter 3.6: Geology, Soils, and Seismicity

On page 3.6-27, revise the text as follows.

- LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:
- a. ~~Minimizes~~—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations ~~Ordinance~~—excavation, grading, and earthwork to retain natural vegetation and topography;
 - b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
 - c. ~~Does not~~ create unsafe conditions;
 - d. Incorporate site and architectural designs that are and is sensitive to natural contours and land forms and in its site design, including hydrological features;

- e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
- f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's ~~District's~~ approved fuel modification program;
- g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors similar to those of native materials in the surrounding area; and
- h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

On page 3.6-28, revise the text as follows.

- PS-P-1 Require new emergency facilities subject to City land use regulations and permitting requirements, including, but not limited to, ~~fire stations~~, paramedic services, ~~police stations~~, hospitals, ambulance services, and emergency operations centers be designed to withstand and remain in operation following the maximum credible earthquake event.
- PS-P-4 Carry out a review of City-owned critical facilities that may be vulnerable to major earthquakes and landslides and develop programs to upgrade them.
- PS-P-6 Prevent and control soil erosion and corresponding landslide risks on public property and in conjunction with new private development through hillside protection and management.

On page 3.6-29, revise the text as follows.

- ~~RC P 26 Require the implementation of a stormwater pollution prevention plan (SWPPP), and inspection by a Construction General Permit Qualified SWPPP Practitioner (QSP), during construction and post construction to limit land disturbance activities such as clearing and grading and cut and fill; avoid steep slopes, unstable areas, and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.~~

On page 3.6-32, revise the text as follows.

As new development occurs, the LACSD requires the new developments to annex into its service area for operation, maintenance, and treatment services. The LACSD are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater discharged from connected facilities. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before any development projects are permitted to discharge to the Districts' Sewerage System.

On page 3.6-33, revise the text as follows.

- PF-P-310 Require when appropriate, the construction of water, sewer, drainage, and other necessary public facilities, and encourage storm water capture prior to or concurrent with new development.
- PF-P-312 Require when appropriate, project sponsors to provide all necessary infrastructure improvements, including the pro rata share of system-wide improvements.
- PF-P-323 Maintain a development fee structure that ensures when appropriate, that costs for new capital facilities and expansion of existing facilities necessitated by the approval of new development or intensification of existing development are funded by the proponents or beneficiaries of projects, in proportion to the demand created by the development.
- PF-P-387 As opportunities arise, ~~work~~ work with the Los Angeles County Public Works Department (LACPWD) and Los Angeles County Sanitation District (LACSD) to ensure that wastewater treatment conveyance systems and treatment facility capacity is available to serve planned development within Diamond Bar.

Chapter 3.7: Hazards, Hazardous Materials, and Wildfire

On page 3.7-33, revise the text as follows.

- PS-P-38 Maintain, review, and update Diamond Bar's Local Hazard Mitigation Plan as needed to take every five years, taking into account new hazard conditions in the Planning Area and new emergency management techniques.

On page 3.7-34, revise the text as follows.

- CR-P-62 ~~Revise the designation of truck routes to minimize truck traffic through or near residential areas.~~ Maintain truck routes with signage between industrial areas and freeway interchanges to discourage truck travel through residential neighborhoods, and provide truck route information to truck routing software providers.

On page 3.7-37, revise the text as follows.

- PS-P-26 Prohibit (or oppose when outside of the City's jurisdiction) the development of projects that would reasonably be anticipated to emit hazardous air emissions or handle extremely hazardous substances within a quarter-mile of a school.

On page 3.7-41, revise the text as follows.

- PS-P-15 ~~Ensure~~ Require adherence to applicable Diamond Bar Fire and Building Codes, including standards for minimum road widths, ~~and adequate~~ access and clearance for emergency vehicles, and the identification of all roads, streets, and major public

buildings ~~a~~ in a manner that is clearly visible to fire protection and other emergency vehicles.

On page 3.7-42, revise the text as follows.

CR-P-6 ~~Require that all new development study the impact of vehicle miles traveled (VMT) and~~ Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.

On page 3.7-50, revise the text as follows.

CHS-P-27 Recognizing the adverse health impacts associated with compromised air quality, ensure the protection of sensitive receptors from exposure to hazardous concentrations of air pollutants when reviewing development proposals.

On page 3.7-52, revise the text as follows.

PS-P-4 Carry out a review of City-owned critical facilities that may be vulnerable to major earthquakes and landslides and develop programs to upgrade them.

PS-P-6 Prevent and control soil erosion and corresponding landslide risks on public property and in conjunction with new private development through hillside protection and management.

On page 3.7-53, revise the text as follows.

PS-P-13 As resources become available, Reduce the flooding impact of a storm event by enhancing the city's green infrastructure system to complement the gray infrastructure system where feasible.

LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:

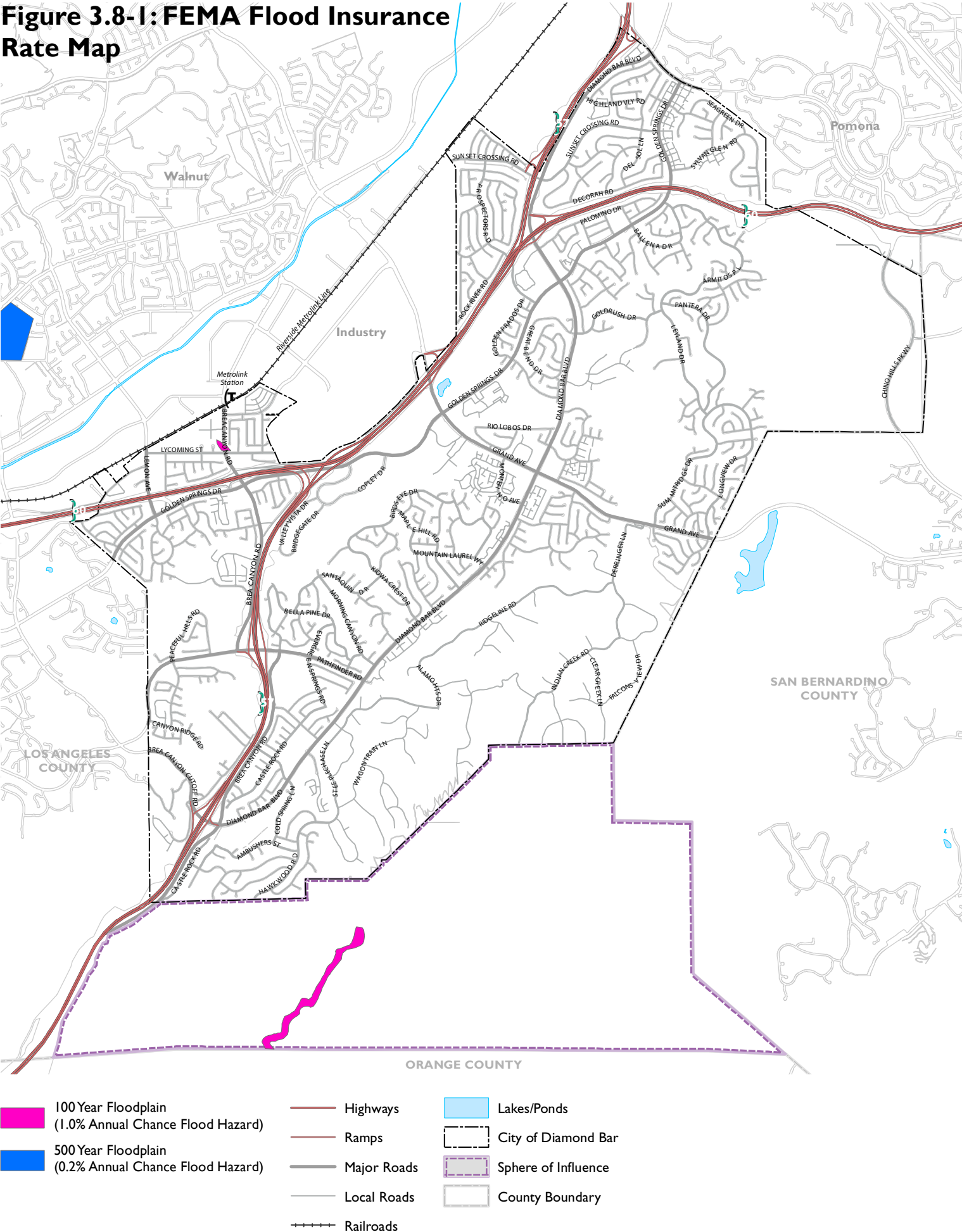
- a. Minimizes—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations Ordinance—excavation, grading, and earthwork to retain natural vegetation and topography;
- b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
- c. ~~Does~~ not create unsafe conditions;
- d. Incorporate site and architectural designs that are and is sensitive to natural contours and land forms and in its site design, including hydrological features;

- e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
- f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's ~~District's~~ approved fuel modification program;
- g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors ~~similar to those of native materials~~ in the surrounding area; and
- h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

Chapter 3.8: Hydrology and Water Quality

On page 3.8-5, revise Figure 3.8-1 to remove the beige shading for the City of Diamond Bar in the legend as follows.

Figure 3.8-1: FEMA Flood Insurance Rate Map



Source: FEMA's NFHL Viewer, Effective Map Date 2008;
City of Diamond Bar 2019; Dyett & Bhatia, 2019

On page 3.8-17, revise the text as follows.

- LU-P-42 Avoid expanses of surface parking and ~~require~~encourage the consolidation and location of parking to the rear or side of buildings where appropriate.
- LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:
- a. ~~Minimizes~~—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations ~~Ordinance~~—excavation, grading, and earthwork to retain natural vegetation and topography;
 - b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
 - c. ~~Does not~~ create unsafe conditions;
 - d. Incorporate site and architectural designs that are ~~and is~~ sensitive to natural contours and land forms and in its site design, including hydrological features;
 - e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
 - f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's ~~District's~~ approved fuel modification program;
 - g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors ~~similar to those of native materials~~ in the surrounding area; and
 - h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

On page 3.8-18, revise the text as follows.

- ~~RC P 25. Control and improve the quality of stormwater entering local water bodies by requiring new development to incorporate best management practices (BMPs), and Low Impact Development (LID) strategies that support on-site retention, detention, and/or treatment of stormwater through means such as infiltration, evapotranspiration, biofiltration, and rainfall harvest and use.~~
- ~~RC P 26. Require the implementation of a stormwater pollution prevention plan (SWPPP), and inspection by a Construction General Permit Qualified SWPPP Practitioner (QSP), during construction and post construction to limit land disturbance activities such as clearing and grading and cut and fill; avoid steep slopes, unstable areas, and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.~~

RC-P-273. ~~Require~~ Ensure that post-development peak stormwater runoff discharge rates do not exceed the estimated pre-development rate and that dry weather runoff from new development not exceed the pre-development baseline flow rate to receiving water bodies.

On page 3.8-21, revise the text as follows.

RC-P-16. ~~As opportunities arise, c~~Coordinate with local water agencies to encourage and expand the use of reclaimed water, stored rainwater, or household gray water for irrigation and other appropriate uses and consider construction of dual water systems, where feasible, for development

~~RC P 18. Carry out a comprehensive public outreach program to educate residents and businesses about water conservation, stormwater pollution prevention, and water reuse opportunities and advantages.~~

RC-P-198. ~~Require~~ Ensure new development to reduce the waste of potable water through the use of drought-tolerant plants, efficient landscape design and application, and reclaimed water systems where available.

RC-P-2019. ~~Require~~ Encourage the implementation of the latest water conservation technologies into new developments.

RC-P-2120. ~~Require~~ Ensure developers, builders to provide information to prospective buyers or tenants within the City of Diamond Bar regarding drought-tolerant planting concepts.

~~RC P 22. Require the use of mulch in landscape areas to improve the water holding capacity of the soil by reducing evaporation and soil compaction in accordance with the standards set forth by state law and the City's Water Efficient Landscape Ordinance.~~

PF-P-410 ~~As resources become available, seek cooperation~~Work with the LACFCD to complete a drainage master plan for Diamond Bar with a view to identifying any deficiencies within the city's drainage infrastructure system, and update it periodically, as needed.

On page 3.8-22, revise the text as follows.

CHS-P-59 ~~As resources become available, i~~ncrease the efficiency of water usage in public places, such as irrigation in public parks, and utilize drought-tolerant landscaping in City parks and streetscapes.

On page 3.8-23, revise the text as follows.

- LU-P-6 ~~When appropriate, require~~ Require new development to pay its fair share of the public facilities and off-site improvements needed to serve the proposed use.
- LU-P-22 ~~Encourage~~ Require commercial development to incorporate outdoor green spaces appropriate and usable for patrons and visitors.
- LU-P-42 Avoid expanses of surface parking and ~~require~~ encourage the consolidation and location of parking to the rear or side of buildings where appropriate.
- LU-P-45 ~~Prepare~~ ~~Require that~~ a master plan or specific plan ~~be prepared~~ for any future development within the Community Core overlay area that creates a ~~master-planned~~ mixed-use, pedestrian-oriented community and regional destination. Approximately 100 acres north of Grand Avenue is to support a park or consolidated golf course along with additional community or civic uses. The southern portion is to accommodate a mix of uses emphasizing destination and specialty retail, dining, and entertainment, including opportunities for residential, hospitality, and community and civic uses.

On page 3.8-24, revise the text as follows.

- PF-P-7 Work with the Federal Emergency Management Agency (FEMA) as needed to ensure that the City's floodplain information is up to date with the latest available hydrologic and hydraulic engineering data.

On page 3.8-25, revise the text as follows.

- PS-P-13 As resources become available, ~~R~~educe the flooding impact of a storm event by enhancing the city's green infrastructure system to complement the gray infrastructure system where feasible.

Chapter 3.9: Land Use and Housing

On page 3.9-20, revise the text as follows.

- LU-G-16 Create a well-designed, ~~walkable~~ pedestrian-friendly, mixed-use neighborhood that encourages community interaction and healthy lifestyles while reducing reliance on automobiles.
- LU-P-7 As larger vacant or underutilized sites within the built environment are developed or redeveloped, maximize multimodal accessibility ~~with~~ by requiring appropriately designed street networks, and walkable block sizes scaled to proposed uses.
- LU-P-39 ~~Provide~~ Streetscape and intersection improvements along the major corridors of South Diamond Bar Boulevard and Golden Springs Drive ~~to~~ should enhance

connectivity, comfort, and safety for all modes of travel, and increase accessibility to and from surrounding areas.

- LU-P-40 Study, as necessary, the implementation of safe pedestrian connectivity between the north and south sections of the Town Center Mixed-Use project site and at Lorbeer Middle School.

Potential strategies for achieving safe pedestrian connectivity may include traffic calming measures along the roadways, crosswalk visibility improvements, ensuring adequate time for walk signals, refuge islands, bulb-outs, bridges, and others.

On page 3.9-21, revise the text as follows.

- CR-P-32 ~~Provide~~Promote pedestrian and bicycle connectivity in existing residential neighborhoods, utility easements, and/or flood control channels, including connections through cul-de-sacs to other streets or community facilities where feasible.

- CR-P-38 If warranted by demand, ~~sStudy~~ the feasibility of implementing a bike share program to connect neighborhoods and major destinations, such as the Transit-Oriented, Neighborhood, Town Center, and Community Core Overlay mixed-use areas; local schools and colleges; parks; and commercial centers.

On page 3.9-32, revise the text as follows.

- LU-P-33 ~~Consider amendments to the Amend Development Code~~ parking regulations ~~in Title 22: Development Code of the Municipal Code as needed to allow~~require lower parking minimums for developments with a mix of uses with different peak parking needs, as well as developments that implement enforceable residential parking demand reduction measures, such as parking permit and car share programs.

- LU-P-52 ~~When opportunities arise~~, ~~Ccollaborate~~ with public service providers and agencies including, but not limited to, the Los Angeles County Department of Parks and Recreation, Walnut Valley and Pomona school districts, Los Angeles County Sheriff's Department, Los Angeles County Fire Department, and Walnut Valley Water District to designate and pursue acquisition of land for public facilities as necessary to serve unmet facility needs of Diamond Bar residents.

- LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:

- a. Minimizes—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations ~~Ordinance~~—

- excavation, grading, and earthwork to retain natural vegetation and topography;
- b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
- c. Does not create unsafe conditions;
- d. Incorporate site and architectural designs that are ~~and is~~ sensitive to natural contours and land forms and in its site design, including hydrological features;
- e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
- f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's ~~District's~~ approved fuel modification program;
- g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors ~~similar to those of native materials~~ in the surrounding area; and
- h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

On page 3.9-23, revise the text as follows.

- | | |
|---------|---|
| LU-P-18 | Require <u>Development to</u> should be sensitive to the building form, density, massing, and scale of surrounding residential neighborhoods. |
| LU-P-23 | <u>Residential and mixed-use developments on</u> For sites larger than two acres in size should include <u>, require the construction of</u> a range of housing types that meet the needs of a diversity of income levels and household sizes. |
| CH-P-11 | Evaluate and make changes to the project review and permitting process to <u>Encourage and facilitate incorporation of universal lifecycle design principles</u> (design that promotes the ability to remain in one's house as one ages) in new residential development, allowing community members to stay in their homes and neighborhoods longer. |

Chapter 3.10: Noise

On page 3.10-33, revise the text as follows.

- | | |
|---------|--|
| PS-P-49 | Require <u>Ensure</u> that detailed site-specific noise analysis, including the identification of noise mitigation measures, be prepared for all development proposals located where project noise exposure would be other than normally or conditionally acceptable as specified in Table 7-1. With mitigation, development should meet the allowable exterior and interior noise exposure standards established in the Noise Control Ordinance. |
|---------|--|

Chapter 3.11: Public Facilities and Recreation

On page 3.11-13, revise the text as follows.

Table 3.11-6: Existing and Proposed Trail Network (2019)

<i>Existing Trails</i>	<i>Miles</i>
Pantera Park Trail	0.60
Peterson Park Trail	0.29
Schabarum Trail (Skyline Extension)	7.94
Summitridge Trail	0.98
Summitridge Trail (Alternate Route)	0.61
Summitridge Trail (Canyon Route)	0.52
Summitridge Trail (Ridge Route)	0.62
Sycamore Canyon Park Trail	0.92
Tonner Canyon Trail	3.84
Subtotal: Existing Trails	16.31 4.53
<i>Proposed Trails</i>	<i>Miles</i>
Crooked Creek Trail Head	0.31
Larkstone Park Trail	0.44
Sandstone Canyon Trail Lower	0.79
Sandstone Canyon Trail Upper	1.80
Sandstone Canyon Trail Upper (Alt)	0.46
Schabarum Trail (Skyline Extension)	7.94
Tonner Canyon Trail	3.84
Subtotal: Proposed Trails	3.81 15.59
Total Existing Plus Proposed Trails	20.11

Source: City of Diamond Bar Parks and Recreation Master Plan, 2011, Dyett and Bhatia, 2019.

On page 3.11-14, revise the text as follows.

The trail allows ~~recreational users and commuters~~ hikers, mountain bikers, and equestrians to connect to a variety of other trails in the area, such as those in the Peter F. Schabarum Regional Park and Puente Hills Nature Preserve, as well as the San Gabriel and Rio Hondo River Trails.²

² The development of staging areas and trailheads will be considered at strategic locations to accommodate multi-use trail users.

On page 3.11-28, revise the text as follows.

- LU-P-6 ~~When appropriate, r~~Require new development to pay its fair share of the public facilities and off-site improvements needed to serve the proposed use.
- LU-P-19 ~~To meet the recreational needs of new residents, Require ensure that new residential and mixed-use~~ developments larger than four acres to incorporate public parkland in the neighborhoods where such developments are located. ~~Residential and mixed-use developments under four acres may Require other development to provide dedicated parkland, in lieu fees for sites under four acres, or a combination, in accordance with Diamond Bar's park acreage standards, to meet the recreational needs of new residents.~~
- LU-G-27 Designate adequate ~~and equitably distributed~~ land throughout the community for educational, cultural, recreational, and public service activities to meet the needs of Diamond Bar residents.
- LU-P-52 ~~When opportunities arise, C~~collaborate with public service providers and agencies including, but not limited to, the Los Angeles County Department of Parks and Recreation, Walnut Valley and Pomona school districts, Los Angeles County Sheriff's Department, Los Angeles County Fire Department, and Walnut Valley Water District to designate and pursue acquisition of land for public facilities as necessary to serve unmet facility needs of Diamond Bar residents.
- LU-P-56 Ensure that development on privately-owned, residentially designated land in hillside areas is compatible with surrounding natural areas by promoting the following design principles requiring that development:
- a. ~~Minimizes—as articulated by the landform grading criteria of the~~ Development Code's Hillside Management regulations Ordinance— excavation, grading, and earthwork to retain natural vegetation and topography;
 - b. Preserves existing vistas of significant hillside features such as ridgelines, particularly from public places;
 - c. ~~Does not create unsafe conditions;~~
 - d. Incorporate site and architectural designs that are and is sensitive to natural contours and land forms and in its site design, including hydrological features;
 - e. Preserves natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials;
 - f. ~~Permits~~ Incorporate fuel modification as part of the Fire Department's District's approved fuel modification program;

- g. Utilizes planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those colors similar to those of native materials in the surrounding area; and
- h. Groups plants within swale areas to more closely reflect natural conditions within landform graded slopes.

On page 3.11-30, revise the text as follows.

CR-P-5 ~~Require a~~ Necessary transportation improvements ~~to~~ should be in place, or otherwise guaranteed to be installed in a timely manner, before or concurrent with new development. In evaluating whether a transportation improvement is necessary, consider alternatives to the improvement consistent with CR-G-1, and the extent to which the improvement will offset the traffic impacts generated by proposed and expected development.

CR-P-6 ~~Require that all new development study the impact of vehicle miles traveled (VMT) and~~ Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.

On page 3.11-31, revise the text as follows.

RC-P-1 As opportunities arise, obtain and designate open space land through acquisition techniques such as:

- a. ~~Requiring the incorporation of~~ Incorporating open space and recreational areas into the design of new development projects, preserving and enhancing as open space significant stands of vegetation, natural landforms, and any areas of special ecological significance through site design approaches such as clustering and ecological planning.
- b. Allowing clustering or transferring of all or part of the development potential of a site to a portion of the site to preserve significant environmental resources such as natural and native habitats (oak woodland, coastal sage scrub, etc.), natural creeks, artesian springs, vernal pools, seeps, riverines, wetlands, riparian habitats, wildlife corridors and linkages, and natural geological features within proposed developments as open space.
- c. Allowing for acquisition of open space lands through the entitlement process and the transfer of densities among land uses of like designation.
- d. Collaborating with land trusts and other conservation groups to acquire open space land through, but not limited to, conservation easements.

RC-P-6 ~~Develop~~ Update, as appropriate, standards for planning, design, management, and maintenance of trails and pathways within parks, preserves, open space, and rights-of-way.

- RC-P-8 ~~Work~~ To the extent feasible, support and cooperate with the efforts of other jurisdictions and conservation organizations to protect prominent ridges, slopes, and hilltops in and adjacent to the City and its Sphere of Influence.
- Such features include, but are not limited to, areas identified by Los Angeles County as Significant Ecological Areas; Tonner Canyon; the hills within Tres Hermanos Ranch; and the hillsides along SR-57, between Diamond Bar and Brea.*
- RC-P-10 Require, ~~to the greatest extent feasible~~, new development to preserve mature native trees including oak and walnut, and trees of significant cultural or historical value such as sycamore and arroyo willow, etc., as set forth under the Diamond Bar Tree Preservation and Protection Ordinance. Review the ordinance periodically and update it as necessary to reflect current best practices.
- RC-P-11 Require that all development, including roads and trails, proposed adjacent to riparian and other biologically sensitive habitats avoid, ~~to the greatest extent feasible~~, significant impacts that would undermine the healthy natural functioning of those areas. Require that new development proposed in such locations be designed to:
- Minimize to the greatest extent possible or eliminate impacts on environmentally sensitive areas;
 - Protect the visual seclusion of forage areas from road intrusion by providing vegetative buffering;
 - ~~Protect~~ Provide wildlife movement linkages to water, food, shelter, and nesting sites;
 - Allow wildlife and migration access by use of tunnels or other practical means;
 - Provide vegetation that can be used by wildlife for cover along roadsides;
 - Avoid intrusion of night lighting into identified areas through properly designed lighting systems;
 - Avoid impacts to wetlands, natural springs and seeps and maintain access for wildlife or when natural water areas are removed or blocked provide a locally suitable and equal replacement; and
 - To the greatest extent possible, prevent street water runoff from flowing into waterways
- RC-P-16. ~~As opportunities arise, c~~Coordinate with local water agencies to encourage and expand the use of reclaimed water, stored rainwater, or household gray water for irrigation and other appropriate uses and consider construction of dual water systems, where feasible, for development
- RC-P-19~~8~~. ~~Require~~ Ensure new development to reduce the waste of potable water through the use of drought-tolerant plants, efficient landscape design and application, and reclaimed water systems where available.

RC-P-2019. ~~Require~~ Encourage the implementation of the latest water conservation technologies into new developments.

~~RC P 25. Control and improve the quality of stormwater entering local water bodies by requiring new development to incorporate best management practices (BMPs), and Low Impact Development (LID) strategies that support on-site retention, detention, and/or treatment of stormwater through means such as infiltration, evapotranspiration, biofiltration, and rainfall harvest and use.~~

~~RC P 39. Address impacts of new development projects that may individually have insignificant impacts on air quality, but which together with other projects in the Planning Area may be cumulative significant by establishing mitigation programs at the area wide or citywide level.~~

On page 3.11-36, revise the text as follows.

PF-G-2 Provide new parks in concert with new residential development, and strive to distribute ~~while ensuring that parkland is distributed equitably across~~ throughout the eCity.

PF-G-3 ~~Require~~ Ensure that new development bears the costs of new parks and recreation facilities that are needed to meet any increase in demand resulting from the new development, or from which the new development would benefit.

PF-P-6 Monitor and seek to ~~Actively engage in~~ Cal Poly Pomona's plans for the redevelopment of the former Lanterman site, and seek joint use opportunities for parks and recreation facilities developed on the site.

PF-P-7 Endeavor to ~~D~~ distribute new parks equitably throughout Diamond Bar, striving to ensure that residents are within a ¾-mile radius of a neighborhood park or community park.

PF-P-11 Where appropriate, ~~P~~ promote the joint development, use, and maintenance of parks and open space facilities with adjacent jurisdictions, the County of Los Angeles, and the State of California.

PF-P-13 When planning and designing ~~Develop facility, public facilities and parks, design and site planning standards that~~ take into consideration accessibility, flexible use, adaptability, energy and water efficiency, ease of maintenance, and sustainable design elements that take advantage of the natural processes of healthy ecosystems, while preserving historic and cultural resources and sensitive habitats.

PF-P-17 ~~Require that~~ Address the recreational needs of all children and adults, including persons with disabilities, seniors, and dependent adults, ~~be addressed~~ in recreational facility planning efforts.

- PF-P-18 Where feasible, link parks, open spaces, and regional hiking trails with a trail network. Incorporate existing trails and bicycle and pedestrian infrastructure, working with willing landowners to prioritize land acquisition where necessary. Where possible, incorporate landscaping and enhance natural features.
- PF-P-19 Consider updating the Parks and Recreation Master Plan to include standards for planning, design, management, and maintenance of trails and pathways within parks, preserves, open spaces, and right-of-way. Encourage the installation of amenities such as rest areas, benches, water facilities, hitching posts and wayfinding signs serving trails and scenic routes that adhere to a standard signage palette.
- PF-P-20 Strive to maintain the Parks and Recreation Master Plan goal of at least one mile of recreational trails for each 10,000 persons.
- PF-P-22 Consider opportunities to partner with non-profit organizations to assist in developing and managing the trails system and providing community outreach and education.
- ~~PF-P-23 Coordinate trail planning with regional trail and open space plans to ensure connectivity and access to the regional trail system.~~

On page 3.11-38, revise the text as follows.

- PS-P-1 Require new emergency facilities subject to City land use regulations and permitting requirements, including, but not limited to, ~~fire stations~~, paramedic services, ~~police stations~~, hospitals, ambulance services, and emergency operations centers be designed to withstand and remain in operation following the maximum credible earthquake event.
- PS-P-6 Prevent and control soil erosion and corresponding landslide risks on public property and in conjunction with new private development through hillside protection and management.
- PS-P-13 As resources become available, reduce the flooding impact of a storm event by enhancing the city's green infrastructure system to complement the gray infrastructure system where feasible.
- PS-P-15 Ensure ~~Require~~ adherence to applicable Diamond Bar Fire and Building Codes, including standards for minimum road widths, ~~and adequate~~ access and clearance for emergency vehicles, and the identification of all roads, streets, and major public buildings ~~a~~ in a manner that is clearly visible to fire protection and other emergency vehicles.
- PS-P-49 ~~Require~~ Ensure that detailed site-specific noise analysis, including the identification of noise mitigation measures, be prepared for all development proposals located where project noise exposure would be other than normally or

conditionally acceptable as specified in Table 7-1. With mitigation, development should meet the allowable exterior and interior noise exposure standards established in the Noise Control Ordinance.

On page 3.11-41, revise the text as follows.

CHS-P-29 ~~Require~~Incorporate noise mitigation measures, which could include buffers, noise barriers, or natural open space, and vegetation, between new sensitive uses such as residential units and schools, and major noise polluters such as SR-57 and SR-60, the Metrolink Riverside rail line, and heavy industry.

On page 3.11-43, revise the text as follows.

RC-P-1 ~~As opportunities arise, Obtain~~Obtain and designate open space land through acquisition techniques such as:

- a. ~~Requiring the incorporation of~~Incorporating open space and recreational areas into the design of new development projects, preserving and enhancing as open space significant stands of vegetation, natural landforms, and any areas of special ecological significance through site design approaches such as clustering and ecological planning.
- b. Allowing clustering or transferring of all or part of the development potential of a site to a portion of the site to preserve significant environmental resources such as natural and native habitats (oak woodland, coastal sage scrub, etc.), natural creeks, artesian springs, vernal pools, seeps, riverines, wetlands, riparian habitats, wildlife corridors and linkages, and natural geological features within proposed developments as open space.
- c. Allowing for acquisition of open space lands through the entitlement process and the transfer of densities among land uses of like designation.
- d. Collaborating with land trusts and other conservation groups to acquire open space land through, but not limited to, conservation easements.

RC-P-6 ~~Develop~~Update, as appropriate, standards for planning, design, management, and maintenance of trails and pathways within parks, preserves, open space, and rights-of-way.

Chapter 3.12: Transportation

On page 3.12-37, revise the text as follows.

CR-P-31 ~~When updating~~Update the Parks and Recreation Master Plan using community input and best practices to identify bicycle infrastructure needs such as gaps in the network, prioritize facilities and improvements, and identify funding for proposed facilities. Review and update the plan as necessary.

- CR-P-32 ~~Provide~~Promote pedestrian and bicycle connectivity in existing residential neighborhoods, utility easements, and/or flood control channels, including connections through cul-de-sacs to other streets or community facilities where feasible.
- CR-P-34 ~~As opportunities arise,~~Collaborate with neighboring jurisdictions and colleges such as Cal Poly Pomona and Mt. San Antonio College to establish a safe and efficient bicycle route between Diamond Bar and these institutions.
- CR-P-38 ~~If warranted by demand,~~Study the feasibility of implementing a bike share program to connect neighborhoods and major destinations, such as the Transit-Oriented, Neighborhood, Town Center, and Community Core Overlay mixed-use areas; local schools and colleges; parks; and commercial centers.
- CR-P-39 Ensure a safe environment for pedestrians and cyclists while allowing for local traffic to access freeways in the Neighborhood Mixed Use area through the following strategies:
- ~~a. Traffic calming measures such as reduced vehicle speed limits and road narrowing;~~
 - a. Widening sidewalks, providing planting strips between sidewalks and streets and providing pedestrian amenities such as shade trees and street furniture along Diamond Bar Boulevard;
 - b. Implementing traffic calming measures such as reduced vehicle speeds, striping and signageroad diets along Diamond Bar Boulevard;
 - c. Buffering bike lanes along Diamond Bar Boulevard;
 - d. Enhancing pedestrian crossings at the intersection of Diamond Bar Boulevard and Sunset Crossing Road, at Diamond Bar Boulevard and Highland Valley Road, and at Diamond Bar Boulevard and the SR-60 on/off ramps; and
 - e. Incorporating multi-use pathways internal to new development and connecting to existing development.
- CR-P-42 Develop and implement ~~Safe Routes to School and Safe Routes for Seniors programs~~ in collaboration with interested stakeholders such as school districts, senior living facilities, and community organizations to encourage active transportation among students and seniors while ensuring student and senior safety.
- CR-P-43 ~~When planning capital improvement programs, consider projects that~~Strengthen the protection of cyclists in bike lanes by implementing improvements such as increasing visibility of lane markings and signage, increasing bike lane widths, raising lanes, designing safer intersection crossings and turns, and buffering lanes from traffic wherever feasible, prioritizing bicycle lanes along arterials.

- CR-G-13 ~~Maximize~~Support the availability, efficiency, and effectiveness of Integrate transit nodes and connections with adjacent existing and proposed developments and destinations—such as employment centers, commercial centers, major attractions, and public pedestrian spaces—to make them more accessible to transit users.
- CR-P-46 ~~Where feasible,~~ Integrate transit nodes and connections with adjacent existing and proposed developments and destinations—such as employment centers, commercial centers, major attractions, and public pedestrian spaces—to make them more accessible to transit users.
- CR-P-47 ~~As opportunities arise,~~ Coordinate with Foothill Transit, Metrolink, and other transit providers to incorporate real-time information systems at transit stops so that passengers will know when their vehicle is expected to arrive.
- CR-P-48 ~~As opportunities arise,~~ Work with Foothill Transit to maintain and improve bus stops and shelters, as well as identify areas where service can be improved or expanded to increase system use.
- CR-P-50 ~~As opportunities arise,~~ Coordinate with Metrolink and Union Pacific Railroad (UPRR) to provide more frequent service at the City of Industry station, including service for shorter trips, to increase the convenience and use of transit.
- CR-P-51 ~~Continue to~~Support, ~~where feasible,~~ privately funded local transit systems that are accessible for seniors, youths, and individuals with disabilities, to ensure that all community members have the ability to travel while decreasing congestion.

On page 3.12-33, revise the text as follows.

- CR-P-1 When redesigning streets, plan for the needs of different modes by ~~incorporating~~ considering elements such as shade for pedestrians, safe pedestrian-friendly crossings/intersections, lighting at the pedestrian scale, bike lanes, signage visible to relevant modes, transit amenities, etc.
- CR-P-2 ~~Require that~~ Promote new street designs and efforts to retrofit existing streets in residential neighborhoods minimize traffic volumes and/or speed as appropriate without compromising connectivity for emergency vehicles, bicycles, pedestrians, and users of mobility devices.
- CR-P-6 ~~Require that all new development study the impact of vehicle miles traveled (VMT) and~~ Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.
- CR-P-7 Support the ~~Development of~~ City street design standards that:
- a. Address the needs of different modes according to roadway classification;

- b. Reduce the potential for conflicts and safety risks between modes; and
 - c. Support and manage the use of transportation options that will become increasingly popular in the future, such as TNCs, AVs, micro-transit (privately operated transit), and other emerging transportation technologies.
- CR-P-22 Implement traffic calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management where appropriate and feasible.
- CR-P-24 As opportunities arise, cCoordinate with local, regional, and State agencies to encourage and support programs that reduce vehicle miles traveled, such as preferential carpool and car share parking, parking pricing, on-site childcare, flexible work schedules, subsidized transit passes, and ridesharing.
- CR-P-26 As opportunities arise, Coordinate with other jurisdictions, including neighboring cities, Los Angeles County, San Bernardino County, and Caltrans, on improvements to street segments common to the City of Diamond Bar and other jurisdictions.
- CR-P-53 Update~~Consider updating~~ parking standards in the ~~Municipal Development~~ Code **to ensure that they are reflective of the community's needs, using current data on** parking demand and taking into consideration demographics and access to alternative modes of transportation.
- CR-P-54 Consider incorporating~~Incorporate~~ criteria in the ~~Municipal Development~~ Code to allow reductions in parking requirements in exchange for VMT reduction measures.
- CR-P-55 Consider the establishment of ~~Incorporate~~ common bicycle parking requirements for appropriate uses— including multi-family residential and office—in the Municipal Code.
- CR-P-57 Consider incentives to encourage carpooling, such as ~~Incentivize the provision of~~ preferential parking for high-occupancy vehicles ~~to encourage carpooling.~~
- CR-P-59 As opportunities arise, Work with Caltrans to evaluate existing Caltrans-operated park-n-ride facilities within the City and expand the facilities where necessary.

On page 3.12-36, revise the text as follows.

- CR-P-62 ~~Revise the designation of truck routes to minimize truck traffic through or near residential areas.~~ Maintain truck routes with signage between industrial areas and freeway interchanges to discourage truck travel through residential neighborhoods, and provide truck route information to truck routing software providers.

Chapter 3.13: Utilities and Service Systems

On page 3.13-24, revise the text as follows.

- LU-P-6 ~~When appropriate, r~~Require new development to pay its fair share of the public facilities and off-site improvements needed to serve the proposed use.
- LU-P-52 ~~When opportunities arise, c~~collaborate with public service providers and agencies including, but not limited to, the Los Angeles County Department of Parks and Recreation, Walnut Valley and Pomona school districts, Los Angeles County Sheriff's Department, Los Angeles County Fire Department, and Walnut Valley Water District to designate and pursue acquisition of land for public facilities as necessary to serve unmet facility needs of Diamond Bar residents.
- PF-P-340 Require, ~~when appropriate,~~ the construction of water, sewer, drainage, and other necessary public facilities, and encourage storm water capture prior to or concurrent with new development.
- PF-P-376 ~~Support and take part in~~~~Collaborate with the~~ WVWD's efforts to develop future plans to expand the use of recycled water within Diamond Bar as additional recycled water supplies become available.
- PF-P-440 ~~As resources become available, seek cooperation~~Work with the LACFCD to complete a drainage master plan for Diamond Bar with a view to identifying any deficiencies within the city's drainage infrastructure system, and update it periodically, as needed.

On page 3.13-26, revise the text as follows.

- PF-P-365 ~~Work with~~Support the Walnut Valley Water District (WVWD) in efforts to assess the condition of water distribution and storage systems within Diamond Bar and plan for refurbishments as needed.

On page 3.13-27, revise the text as follows.

- PF-P-387 ~~As opportunities arise, w~~work with the Los Angeles County Public Works Department (LACPWD) and Los Angeles County Sanitation District (LACSD) to ensure that wastewater treatment conveyance systems and treatment facility capacity is available to serve planned development within Diamond Bar.

On page 3.13-30, revise the text as follows.

- CHS-P-52 ~~Support and cooperate with County and State regulatory agency efforts to~~Require commercial and industrial generators to develop and implement a source reduction and recycling plan tailored to their individual waste streams.



DYETT & BHATIA

Urban and Regional Planners

1330 Broadway Ste. 604 Oakland, CA 94612
415 956 4300 | www.dyettandbhatia.com