

Heatherglen Planned Development, TTM 17604, CUP 15-006

Initial Study – Mitigated Negative Declaration

Appendix G – Heritage Tree Count and Survey



BIOLOGICAL & CULTURAL INVESTIGATIONS & MONITORING

**HERITAGE TREE COUNT AND SURVEY FOR THE HEATHER GLEN SITE,
CITY OF HIGHLAND, COUNTY OF SAN BERNARDINO, CALIFORNIA**

±60 Acre Property, ±60 Acres Surveyed

APNs 1210-211-18, -21, -23, 1210-281-01, -02, -03, and -04, Highland Area, Section 11,
Township 1 South, Range 3 West, USGS Redlands 7.5' Topographic Quadrangle Map

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Report Summary:

One-hundred fourteen (114) trees meeting the City of Highland "heritage tree" criteria were observed on the subject property, excluding large numbers of non-native eucalyptus trees found within two groves at the northwest corner of the site. The easternmost eucalyptus grove has fewer rows and appears less densely vegetated than the westernmost grove. Most observed eucalyptus trees in both groves are small, averaging approximately 20 to 30 feet in height with a single trunk. Some trees within each grove had been previously cut and were either dead or sprouting. Most trees (excluding larger more mature examples) appear to be in only moderate health, most likely due to lack of irrigation. Because a majority of trees found within both groves would not individually meet the City of Highland "heritage tree" criteria due to small circumference (i.e., less than 24" at breast height) and height, both groves were measured as a "stand of trees" (Municipal Code criteria 3) and statistics for individual trees were estimated by random sampling of approximately 40 to 50 trees within each grove.

Surveys conducted By: Guy Bruyey

Surveys conducted On: March 23 and 25, 2006

Report Date: April 7, 2006, updated January 2019

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MANAGEMENT SUMMARY

L&L Environmental, Inc. conducted a biological survey on Greenspot Partners' ±60 acre project in the City of Highland, San Bernardino County. The purpose of this study was to examine the subject property in order to quantify biological resources (City of Highland defined "heritage trees"). Additionally, L&L evaluated whether vegetation and/or habitat for special status species exists onsite and whether any jurisdictional drainages or wetlands are within project boundaries.

Previous surveys on the site include a focused nesting season burrowing owl (*Athene cunicularia*) and raptor nest survey in June 2005. No federal or state threatened or endangered wildlife or botanic species were observed during the June 2005 study. No burrowing owl (BUOW), recently occupied burrows, or BUOW sign (pellets, scat, feathers, tracks, etc.) were observed on the subject property or within the 150 meter buffer area. Although no BUOW or BUOW sign was observed during the present study, habitat to support this species may be present on the western approximately one-third of the subject property where California ground squirrel activity is present. An additional 30-day preconstruction survey is recommended for this species. Based on the results of the raptor nest survey, several potential nest sites (currently presumed inactive) are present within the eucalyptus groves at the northwestern portion of the site. Based on observations during the study, red-shouldered hawks may have utilized one or more of these nest sites in early 2005. Although potential raptor nests were observed, no observations indicating current use were noted during the present study. If habitat disturbance will occur during the nesting season a 30-day preconstruction survey for actively nesting raptors is recommended. Two USGS mapped blue-line drainages cross the site.

The present survey was performed in an effort to comply with the City of Highland "heritage tree" ordinance (Highland Municipal Code Chapter 8.36). This ordinance specifically requires that all "significant" trees present on the property be mapped and plotted with included information on tree height, tree diameter, and overall health. Specifically, the ordinance states the following: "A heritage tree shall mean any tree, shrub, or plant which meets at least one of the following criteria: 1) All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more, as measured four and one-half feet above ground level; or 2) Multi-trunk trees having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or 3) A stand of trees, the nature of which makes each dependent upon the others for survival; or 4) Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities."

One-hundred fourteen (114) trees meeting the City of Highland “heritage tree” criteria were observed on the subject property, excluding large numbers of non-native eucalyptus trees found within two groves at the northwest corner of the site. The easternmost grove has fewer rows and appears less densely vegetated than the westernmost grove. Most observed eucalyptus trees in both groves are small, averaging approximately 20 to 30 feet in height with a single trunk. Some trees within each grove had been previously cut and were either dead or sprouting. Most trees (excluding larger more mature examples) appear to be in only moderate health, most likely due to lack of irrigation. Because a majority of trees found within both groves would not individually meet the City of Highland “heritage tree” criteria due to small circumference (i.e., less than 24” at four and one-half feet above ground level) and height, both groves were measured as a “stand of trees” (Municipal Code Criteria 3) and statistics for individual trees were estimated by random sampling of approximately 40 to 50 trees within each grove.

Due to presence of USGS mapped blue-line drainages onsite, a jurisdictional delineation survey to locate and quantify state and federal jurisdictional areas is recommended. Impacts to drainages will require permits.

Scalebroom is present within alluvial fan sage scrub onsite. This plant may damage structures if not eradicated prior to development. A survey locating all scalebroom onsite prior to certified eradication is recommended.

A previous survey by L&L (July 2005) identified potential burrowing owl (BUOW) habitat and small rodent burrows suitable for use by owls. Due to the presence of potential burrow sites, a 4-day survey for BUOW during the breeding season (February 1 – August 31) is recommended in order to meet California Burrowing Owl Consortium and USFWS survey requirements. A preconstruction survey for BUOW (valid for 30 days) prior to site disturbance and vegetation clearing is also recommended.

1.0) INTRODUCTION

The following report was written by L&L Environmental, Inc. for Greenspot Partners. It describes the results of a biological survey, including heritage tree count survey that was conducted on a proposed development located on lands within the County of San Bernardino. The project site consists of APNs 1210-211-18, -21, -23, 1210-281-01, -02, -03, and -04, totaling ±60 acres.

Our assessment consisted of (1) a records search and literature review, conducted to determine what species of concern are in the project area and proximity to closest documented special status species and (2) field reconnaissance, intended to identify plants and animals on the property and presence/absence of habitat for species of concern (most significantly heritage trees).

The survey was performed in an effort to comply with the City of Highland “heritage tree” ordinance (Highland Municipal Code §16.06.080). This ordinance specifically requires that all “significant” trees present on the property be mapped and plotted with included information on tree height, tree diameter, and overall health. Specifically, the ordinance states the following: “A heritage tree shall mean any tree, shrub, or plant which meets at least one of the following criteria: 1) All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more, as measured four and one-half feet above ground level; or 2) Multi-trunk trees having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or 3) A stand of trees, the nature of which makes each dependent upon the others for survival; or 4) Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities.”

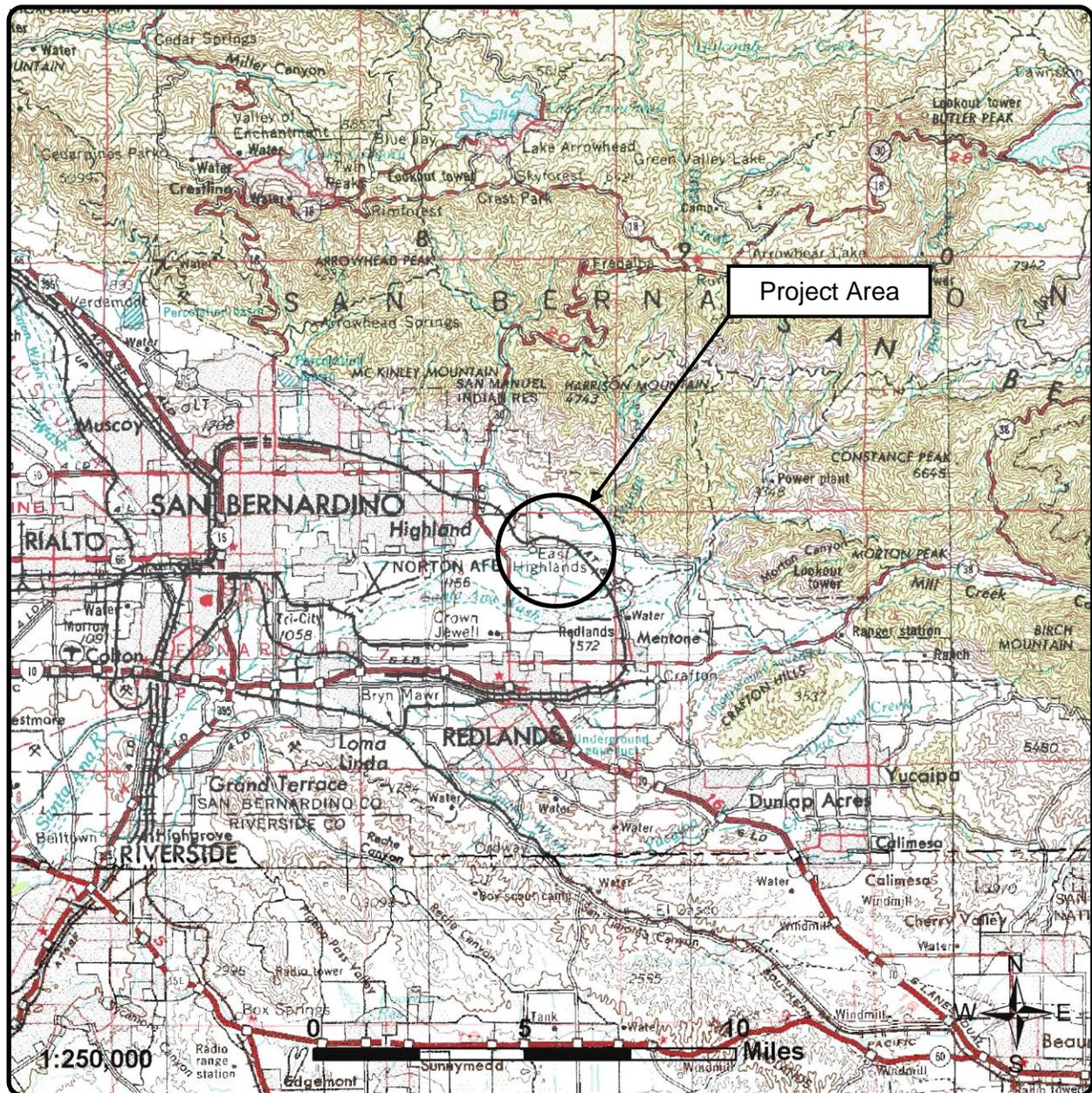
The tree survey was conducted and the report prepared in 2006. The report was revised in 2019, at the request of the City of Highland, to update the proposed development area and the number of trees that will be impacted. Surveys were not redone, but the current number of heritage trees present is not expected to vary substantially from the 2006 results.

1.1) Location

The subject property is generally located north of Interstate Highway 10 (I-10) (Figure 1). Specifically, the site is located east of Highway 30 and south of Greenspot Road in the City of

Highland (Figure 2). The project site is situated within Section 11, Township 1 south, Range 3 west of the USGS Redlands 7.5' series quadrangle map.

Portions of the southern boundary of the site are defined by the presence of a barbed wire fence. An additional north to south trending barbed wire fence (not on the site boundary) is present within the eastern portion of the site (just west of a drainage channel and unimproved road). The site is generally bounded as follows: to the west by disturbed open space and a mixture of low and high-density residential developments, Church Street, 5th Street, and Highway 210 beyond; to the east by mostly undisturbed open space with San Bernardino National Forest lands beyond; to the north by Greenspot Road and high-density residential developments, with Santa Ana Canyon Road, Baseline Road, and East Highland Reservoir beyond; and to the south by Abbey Way, a row of power lines, and the Santa Ana Wash basin, with the City of Redlands and I-10 beyond. The western approximately one-third of the site has been disturbed and is mostly converted for agricultural uses. It contains *Eucalyptus* groves, a jojoba plantation, and disturbed areas (Figure 3).



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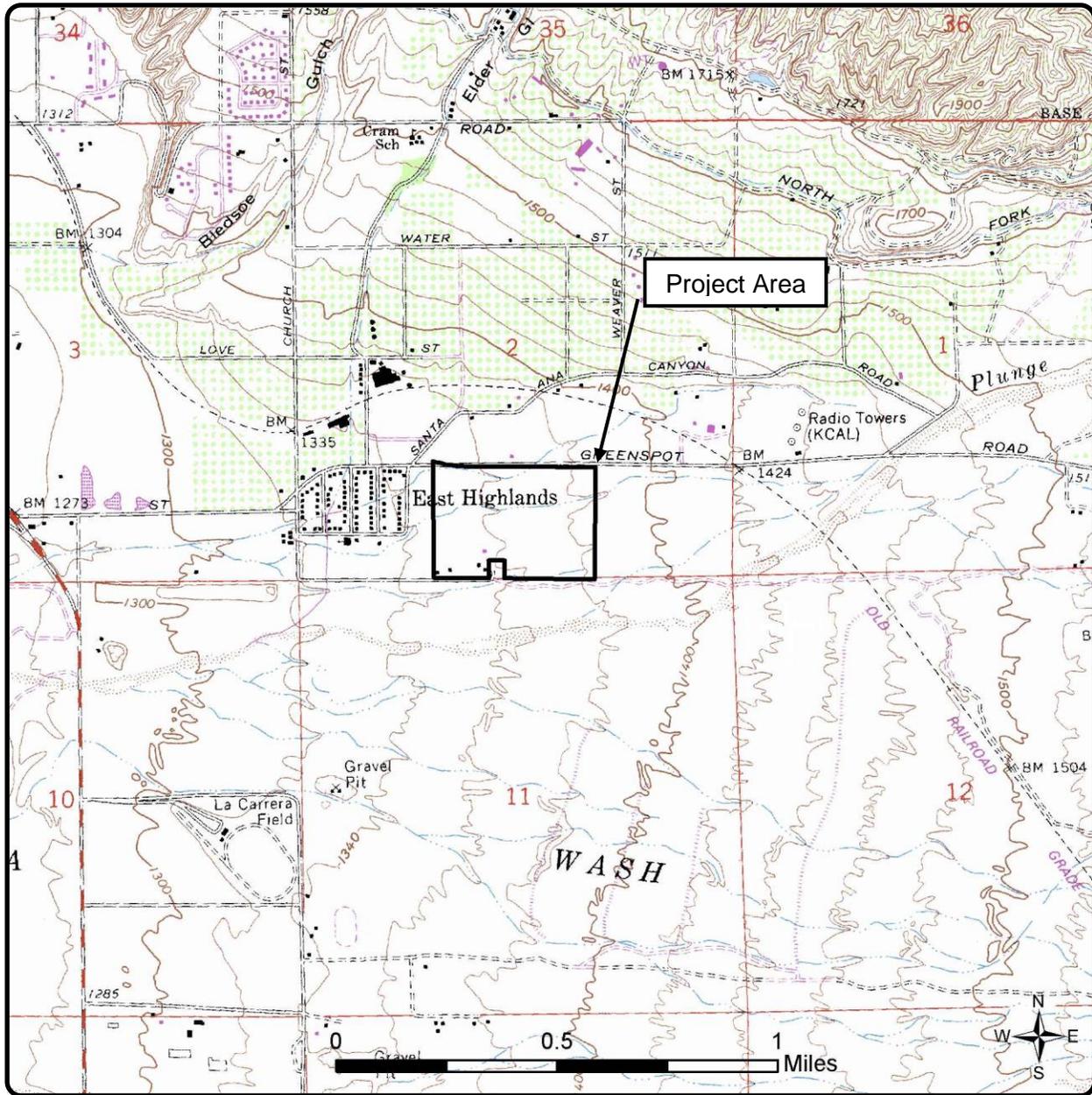
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Figure 1

Project Vicinity Map

Greenspot Partners, Inc.
City of Highland, California



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Figure 2
Project Location Map
(USGS Redlands [1988] quadrangle,
Section 2, Township 1 South, Range 3 West)

Greenspot Partners, Inc.
City of Highland, California



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Figure 3

Aerial Photograph
(Photo obtained from Google Earth, February 2018)

*Greenspot Partners, Inc.
City of Highland, California*

1.2) Vegetation and Setting

The western approximately one-third of the site has been disturbed and is mostly converted for agricultural uses. It contains *Eucalyptus* groves, a jojoba plantation, and disturbed areas. Several structures are present within the southwestern portion of the site in association with these disturbances.

Land use varies adjacent to the survey area and includes anthropogenic disturbances, such as low and high-density residential areas, commercial strip malls, gravel pit mines, paved and unimproved roads, power lines, and off-road vehicle (ORV) activity. Redlands Municipal Airport is approximately 1.75 miles south of the subject property.

Three (3) mapped blueline stream areas are present on the subject property, trending from the northeast to the southwest away from the foothills of the San Bernardino Mountains. All three (3) USGS mapped ephemeral blueline drainages that historically crossed the site have been cut off from their upstream sources during previous offsite flood control projects and road development and show no evidence of flow due to runoff of precipitation onsite. Wetland indicator tree species were not found in association with the mapped blueline stream areas onsite, with the exception of western sycamore (*Platanus racemosa*). Mapped blueline stream areas onsite can be characterized as being inhabited with common alluvial sage scrub perennial plants, including California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), California sagebrush (*Artemisia californica*), chaparral yucca (*Yucca whipplei*), yerba santa (*Eriodictyon* sp.), and various low-growing native annual plant species.

1.3) Soils and Topography

The soils on the project site were mapped by the Soil Conservation Service (1971) as Soboba gravelly loamy sand (SoC) and Soboba stony loamy sand (SpC). Soils observed on the site are sandy-loamy to gravelly with and (mostly) without cryptobiotic crusts. Clay soils were not observed on the site.

Topographically, the site is primarily flat and contains low-relief rolling hills, shallow canyons, and open disturbed lands with a combined maximum vertical relief of roughly 52 feet between the highest and lowest points on the property. Elevations on the site range from approximately 1,341 to 1,393 feet above mean sea level. Surrounding topographic features in the immediate project vicinity include mostly flat areas with low-relief rolling hills containing canyons and shallow drainages. Other areas south of the site (within the Santa Ana River Wash basin) and

areas east and north of the site (within San Bernardino National Forest lands) contain significantly more topographic relief.

2.0) REGULATORY ENVIRONMENT

2.1) Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS), under the auspices of the federal Endangered Species Act (FESA) of 1973 (as amended), manages and protects species listed as endangered or threatened. An endangered species is defined as a species “in danger of extinction throughout all or a significant portion of its range” while a threatened species is defined as “likely to become endangered in the foreseeable future.”

“Take” of listed species is prohibited under Section 9 (a)(1)(B) of the FESA. The term “take” is defined as follows in Section 3 (18) of the FESA: “harass, harm, pursue, hunt, shoot, wound, trap, kill, capture or collect or to engage in any such conduct.” Harm is further defined as significant habitat alteration that results in death or injury to listed species by significantly impairing behavior patterns such as breeding, feeding, or sheltering. The USFWS can issue a permit for “take” of listed species incidental to otherwise lawful activities. Procedures for obtaining a permit for incidental take are identified under Section 7 of FESA for federal properties or where federal actions are involved, and are identified under Section 10 of FESA for non-federal actions.

2.2) Jurisdictional Determination of Wetlands, “Waters of the U.S.”

Three agencies generally regulate activities within streams, wetlands, and riparian areas in California: (1) the Army Corps of Engineers (USACE) regulates activities under section 404 of the federal Clean Water Act; (2) the Regional Water Quality Control Board (RWQCB) regulates activities under section 401 of the federal Clean Water Act (CWA); and (3) the California Department of Fish and Wildlife (CDFW) regulates activities within wetlands under Fish and Game Code Sections 1600-1616.

2.2.1) United States Clean Water Act, Section 404

The USACE has jurisdiction over “Wetlands” and “Waters of the United States” under Section 404 of the Clean Water Act (CWA). Permitting is required for activities that will result in discharge of dredge or fill material into Waters of the United States or adjacent wetlands and associated habitat. By definition these include all waterways, streams, intermittent streams, and their tributaries that could be used for interstate commerce. The term “interstate commerce” has been broadly interpreted to include use by migratory waterfowl and out-of-state tourism. In

non-tidal waters jurisdictional limits extend to the ordinary high water mark (OHWM), which is defined as that line on the shore established by fluctuations of water and indicated by physical characteristics such as clear natural line impression on the bank, shelving, changes in the character of soil, and destruction of the surrounding area. The upstream limit of USACE jurisdiction is that point on the stream where the OHWM is no longer perceptible. Since flow patterns vary drastically from event to event alluvial fans do not always exhibit an OHWM or other evidences of repeated water flow. That portion of an alluvial fan that experiences sheet flow is not generally regulated as Waters of the United States, however an inter-braided streambed, evidenced by an OHWM, is within USACE jurisdiction. Vernal pools and other types of wetlands are also regulated by the USACE as Waters of the United States.

2.2.2) United States Clean Water Act, Section 401

The RWQCB has jurisdiction over similar “Wetlands” and “Waters of the United States” under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act under the California Water Code. Permitting is required for activities that will result in a discharge of soils, nutrients, chemicals, detrital materials, or other pollutants into Waters of the United States or adjacent wetlands that will affect water quality of those bodies and the area watershed.

2.2.3) California Fish and Game Code, Section 1600

The CDFW, through provisions of the Fish and Game Code (Sections 1600-1616), is empowered to issue agreements (“Streambed Alteration Agreement”) for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. Streams and rivers are defined by the presence of a channel bed, banks, and intermittent flow. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW.

Determining limits of a wetland is not typically done in obtaining CDFW Agreements because the intent of the 1600 program is to safeguard riparian associated wildlife habitat. Riparian habitat includes willows (*Salix* sp.), mulefat (*Baccharis salicifolia*), and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations wetlands associated with a stream or lake will fall within the limits of riparian habitat. Thus, the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

2.3) California Department of Fish and Wildlife

2.3.1) California Endangered Species Act

California Endangered Species Act (CESA) definitions of endangered and threatened species parallel those defined in the FESA. The CESA defines an endangered species as “. . . a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes including loss of habitat, change in habitat, over exploitation, predation, competition or disease.” Endangered species are in serious danger of becoming extinct and threatened species are likely to become endangered species in the foreseeable future (according to Sections 2062 and 2067, respectively, of the California Fish and Game Code). Candidate species are those under formal review by the CDFW for listing as endangered or threatened (Section 2067). Prior to being considered for protected status the CDFW designates a species as being of special concern. Species of special concern are those for which the CDFW has information indicating decline.

2.3.2) California Fish and Game Code, Section 1600

This section allows the CDFW to issue agreements (“Streambed Alteration Agreement”) for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. A detailed discussion of Section 1600 under the Fish and Game Code can be found in section 2.2.3 above.

2.3.3) California Natural Diversity Database

The California Natural Diversity Database (CNDDDB) is a database that ranks overall condition of sensitive species and vegetation communities on global (throughout its range) and state (within California) levels. Additionally, subspecies and varieties are assigned a ranking for global condition as well. Ranking is numerical ranging from 1 to 5, with 1 indicating very few remaining individuals or little remaining habitat and 5 indicating a demonstrably secure to ineradicable population condition. State ranks may also include a threat assessment ranging from 1 (very threatened) to 3 (no current threats known).

2.4) California Native Plant Society

The California Native Plant Society (CNPS) has cataloged California's rare and endangered plants into lists according to population distributions and viability. These lists are numbered and

indicate the following: (1A) presumed extinct in California; (1B) rare, threatened, or endangered throughout their range; (2) rare, threatened, or endangered in California, but more common in other states; (3) more information is needed to establish rarity; and (4) plants of limited distribution in California (i.e., naturally rare in the wild) but whose populations do not appear to be susceptible to threat.

2.5) California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires identification of environmental effects from discretionary projects. Significant effects are to be mitigated by avoidance, minimization, rectification, or compensation whenever possible.

Effects to all state and federal listed species are considered significant under CEQA. In addition to formally listed species CEQA Section 15380(d) considers effects to species that are demonstrably endangered or rare as important or significant. These definitions can include state designated species of special concern, federal candidate and proposed species, CNDDDB tracked species, and California Native Plant Society 1B and 2 plants.

Appendix G of the CEQA Guidelines specifically addresses biological resources and encompasses a broad range of resources to be considered.

2.6) Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Sections 3503, 3503.5, and 3800 of the Fish and Game Code prohibit the take, possession, or destruction of birds, their nests, or eggs. The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (1 February through 31 August). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g, killing or abandonment of eggs or young) or loss of habitat upon which the birds depend could be considered “take” and constitute a violation of the MBTA.

2.7) City of Highland Municipal Code

Section 16.64.040 of the municipal code deals with preservation of heritage trees and specifies required conditions and permits necessary for removal of heritage trees. Section 16.06.080 defines heritage trees:

“Heritage tree” shall mean any live tree, shrub, or plant which meets at least one of the following criteria:

1. All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more, as measured four and one-half feet above ground level; or
2. Multitrunk trees having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or
3. A stand of trees, the nature of which makes each dependent upon the others for survival; or
4. Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities.

3.0) METHODS AND PERSONNEL

3.1) Literature Review

Pertinent literature was reviewed to identify local occurrences and habitat requirements of special status species and communities occurring in the region. Literature reviewed included compendia provided by resource agencies (CDFG 2003a, 2003b; USFWS 1999, and CNDDDB (2004) reports for the USGS Redlands 7.5' topographic quadrangle.

Latin names of plants follow *The Jepson Manual* (Hickman 1993). Latin names of animals follow *A Field Guide to Western Reptiles and Amphibians* (Stebbins 1985) for reptiles and amphibians, *California Mammals* (Jameson and Peeters 1988) for mammals, American Ornithologists' Union (1983, 1989) and National Audubon Society, *The Sibley Guide to Birds* (2000) for birds, and *American Insects: A Handbook of the Insects of America North of Mexico* (Arnett 2000) for insects.

3.2) General Biological Survey Methods

L&L biologist Guy Bruyeya visited the project area on March 23 and March 25, 2006 to describe vegetation and habitat and evaluate probabilities that special status animals and plants might occur within the project site. The weather was 61° to 76° Fahrenheit and conditions ranged from partly cloudy to clear with little to no wind (at or less than 1 on the Beaufort scale).

Table 1. Survey times and weather conditions information.

Date	Time	° F	Cloud %	Visibility	Wind B	Biologist(s)
	Start-End	Start/End	Start/End	Start/End	Start/End	
03-23-06	0700-1200	61/76	0/0	10/10	0/0	Bruyeya
03-25-06	1100-1300	68/72	50/50	10/10	0/1	Bruyeya

A total of about seven (7) person-hours were spent on the site. All habitat types on the site were visited on foot. The site was surveyed by conducting a series of transects across the subject property where possible, stopping periodically for observations and notations. A general habitat map and field notes were completed at the time of the survey. All field surveys were conducted during daylight hours. Digital photographs were taken to record condition of the site during the present survey.

Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Abrams (1923, 1944, 1951, 1960), Abrams and Ferris (1960), Hickman (1993), Munz (1974), and Parker (1999). These procedures provide a general assessment of

habitat and vegetation on a site and act as a tool to determine probability of special status species occurring onsite. A species list is included in Appendix A (Table 4).

3.3) Tree Survey Methods

This survey was performed in an effort to comply with the City of Highland “heritage tree” ordinance (Highland Municipal Code §16.06.080). This ordinance specifically requires that all “significant” trees present on the property be mapped and plotted with information included on tree height, trunk diameter, and overall health. Specifically, the ordinance states the following: “A heritage tree shall mean any tree, shrub, or plant which meets at least one of the following criteria: 1) All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more, as measured four and one-half feet above ground level; or 2) Multi-trunk trees having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or 3) A stand of trees, the nature of which makes each dependent upon the others for survival; or 4) Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities.”

Eucalyptus trees observed within two groves at the northwestern portion of the site were plotted by GPS at each corner of the grove. Given the small size (on average) and large numbers of trees found within these two groves, trees were not individually measured. Instead, average circumference, height, and health were estimated by taking a random sampling of trees within these groves. Numbers of trees present were estimated by taking the average number of trees per row and counting rows.

Trees with observed circumference greater than 24 inches on the site were plotted and measured (excluding trees found within the *Eucalyptus* groves, see below) at approximately four and one-half feet above ground level, which is more commonly referred to as diameter at breast height (DBH). All pertinent information regarding tree location (by global positioning satellite or GPS coordinates), DBH, height, and health were documented during the field survey.

4.0) RESULTS

4.1) Literature Review Results

Certain plants and animals have been listed as threatened or endangered under state or federal Endangered Species Acts. Other species have not been formally listed but declining populations or habitat availability are reasons for concern in regard to their long-term viability. These species are included in lists compiled by resource management agencies or private conservation organizations. In this report the term “special status species” refers to all species included in one or more compendia or formal list of threatened or endangered species. The California Natural Diversity Database (CNDDDB) was examined to determine if sensitive species have been previously documented onsite.

4.2) Vegetation Series

Most of the subject property (estimated at 65 to 70%) can be characterized as relatively undisturbed alluvial fan sage scrub inhabited by a mixture of non-native and mostly native plants. Areas on the western approximately one-third of the site are more disturbed in association with past and ongoing human activities, such as cultivation of *Eucalyptus* and jojoba, and the presence of several structures. Other disturbances observed on the western portion of the site include introduction of invasive non-native plant species, previously cleared and/or recently disked areas, debris piling, and pedestrian and ORV activity. Based on the results of this study, most of the site probably supports a diverse group of native low-growing annuals and other herbs away from these disturbances. Vegetative cover ranges from approximately 0 to 99 percent, depending on location within the site.

4.2.1) Alluvial Fan Sage Scrub (Holland Element Code 32720)

Alluvial fan sage scrub (AFSS) contains mostly drought-deciduous shrubs with soft leaves, and occurs in association with washes and gently sloping alluvial fans. Areas containing AFSS are usually subject to periodic flooding and mature phases of this vegetation community can contain significant cover of larger perennials. Scalebroom (*Lepidospartum squamatum*) is typically an indicator plant species of this vegetation community, and is present (uncommonly) within alluvial scrub areas of the site in association with other large plants, including California buckwheat, California sagebrush, yerba santa, and chaparral yucca. Other larger shrubs less commonly observed within these areas include chamise (*Adenostoma fasciculatum*), spiny redberry (*Rhamnus crocea*), holly-leaved cherry (*Prunus illicifolia*), blue elderberry (*Sambucus*

mexicana), and sugar bush (*Rhus ovata*). This vegetation community is present throughout the subject property away from disturbances within the western portion of the site.

Other shrubs, such as white sage (*Salvia apiana*), brittlebush (*Encelia farinosa*), sweetbush (*Bebbia juncea*), coast cholla (*Opuntia parryi*), interior bush lupine (*Lupinus excubitus*), sand washed butterweed (*Senecio flaccidus*), Thurber's buckwheat (*Eriogonum thurberi*), jimsonweed (*Datura wrightii*), chia (*Salvia columbariae*), California croton (*Croton californicus*), and telegraph weed (*Heterotheca grandiflora*), are present. Small patches of tamarisk (*Tamarix* sp.) were observed on portions of the site within drainage areas.

Native plants commonly found within this community on the subject property include (but are not limited to) deerweed (*Lotus scoparius*), phacelia (*Phacelia* sp.), morning glory (*Calystegia macrostegia*), lanceleaf dudleya (*Dudleya lanceolata*), wild hyacinth (*Dichelostemma capitatum*), and horseweed (*Conyza canadensis*). Less disturbed areas (especially in areas containing a cryptobiotic surface crust or in areas away from dense non-native grass cover) were inhabited with dot-seed plantain (*Plantago erecta*), sun cups (*Cammissonia* sp.), purple clarkia (*Clarkia purpurea*), forget me not (*Cryptantha* sp.), popcorn flower (*Plagiobothrys* sp.), purple nightshade (*Solanum xanti*), yellow pincushion (*Chaenactis glabruiscula*), sapphire woolstar (*Eriastrum sapphirinum*), silver puffs (*Uropappus lindleyi*), and other low-growing herbs. Fiddleneck (*Amsinckia menziesii* var. *intermedia*) was observed sporadically throughout disturbed and undisturbed portions of the site.

4.2.3) Peninsular (Cismontane) Juniper Woodland and Scrub (Holland Element Code 72400)

This plant community is characterized by the presence of California juniper (*Juniperus californica*) within cismontane sage scrub areas. California juniper was found scattered throughout undisturbed portions of the site, mostly within relatively undisturbed AFSS vegetated areas.

Peninsular juniper woodland and scrub (PJW) is typically found above 2,500 feet AMSL. This community is most often associated with the eastern slopes of the peninsular ranges and is found in association with other desert edge plants, including pinyon pine (*Pinus monophylla* and/or *P. quadrifolia*), chamise, yucca (*Yucca* sp.), and ceanothus (*Ceanothus* sp.) However, PJW has been documented to occur in other low-lying areas of southwestern San Bernardino County and western Riverside County.

On the subject property, PJW occurs in low-density patches and is found in association with areas containing shrubs within AFSS areas, such as California buckwheat, California

sagebrush, yerba santa, and other plants associated with AFSS. Many herbaceous annuals are also present.

4.2.4) Non-Native *Eucalyptus* Woodland (Holland Element Code 11300 or 11000)

Eucalyptus trees, native to Australia, are commonly found in southern California and have been widely utilized as shade trees in the area since the 1850's. Two separate *Eucalyptus* groves are present within the northwestern corner of the subject property. A diverse shrub understory is not present at this location. Mostly weedy low-growing annuals and grasses were observed in association with these groves. During the previous assessment in June 2005, the trees were being watered by drip irrigation and appeared healthy overall. During the present study (March 2006), the trees did not appear to be irrigated and were in varying degrees of declining health.

4.2.5) Disturbed / Ruderal Habitat (Holland Element Code 11300)

Disturbed habitat includes areas that contain mostly non-native plant species including ornamentals and ruderal exotics. Disturbed areas within the western portion of the site that are not currently inhabited by *Eucalyptus*, jojoba, or other ornamental plants are now largely ruderal. Mostly non-native weedy species have invaded these areas, including short-pod mustard (*Hirschfeldia incana*), red-stemmed filaree (*Erodium cicutarium*), long-beaked storksbill (*Erodium botrys*), tumble pigweed (*Amaranthus albus*), prickly lettuce (*Lactuca serriola*), and Russian thistle (*Salsola tragus*). Very dense non-native grasses, including red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*Bromus diandrus*), cheatgrass (*Bromus tectorum*), fescue (*Vulpia* sp.), and oats (*Avena* sp.), were observed in disturbed and undisturbed areas, choking out low-growing plant species.

Other plant species less commonly observed within disturbed areas of the subject property include calabazilla (*Cucurbita foetidissima*), tocalote (*Centaurea melitensis*), annual bur weed (*Ambrosia acanthicarpa*), puncture vine (*Tribulus terrestris*), vinegar weed (*Trichostemma lanceolatum*), and cheeseweed (*Malva parviflora*).

4.2.6) Ornamental (Holland Element Code None or 11000)

Non-native ornamental landscaping is present at the southwestern portion of the site in association with several occupied residences along Abbey Way. Trees such as gum tree, pine (*Pinus* sp.), Peruvian pepper tree (*Schinus molle*), and olive (*Olea europea*) were observed. A single Fremont's cottonwood (*Populus fremontii*) is also present. A few deciduous tree species are present and were not identified due to season. A single Peruvian pepper tree is also

present within the southeastern portion of the site and is surrounded by native peninsular juniper woodland.

4.2.7) Extensive Agriculture (Holland Element Code 18300)

Several rows of cultivated jojoba (*Simmondsia chinensis*) plants are present within the southwestern portion of the site, south of the *Eucalyptus* groves.

4.3) Tree Survey

Excluding large numbers of non-native *Eucalyptus* trees found within two groves at the northwest corner of the site, 114 trees meeting the City of Highland “heritage tree” criteria were observed on the subject property (Figure 4 and Appendix A). Native trees observed on the eastern approximately two-thirds of the site primarily consist of California juniper (*J. californica*), with lesser numbers of western sycamore (*P. racemosa*), holly-leaved cherry (*P. illicifolia*), sugar bush (*R. ovata*), and blue elderberry (*S. mexicana*). A single large tobacco tree (*N. glauca*), a non-native species, was also included in the tree count. Non-native trees observed in fewer numbers on the western approximately one-third of the site included pine, olive, and Peruvian pepper tree. Several other ornamental trees are present along Abbey Way in association with residential landscaping within the southwestern portion of the site. Due to trespassing concerns and presence of an aggressive dog, some ornamental trees were not individually measured at this location. Only trees observed immediately adjacent to Abbey Way are included in Appendix A.

4.3.1) *Eucalyptus* Groves

As discussed previously, two *Eucalyptus* groves are present within the northwestern corner of the site (Figure 4). The easternmost grove has fewer rows and appears less densely vegetated than the westernmost grove. Most observed *Eucalyptus* trees in both groves are small, averaging approximately 20 to 30 feet in height with a single trunk. Some trees within each grove had been previously cut and were either dead or sprouting. Most trees (excluding larger, more mature examples) appear to be in only moderate health (most likely due to lack of irrigation). Because a majority of trees found within both groves would not individually meet the City of Highland “heritage tree” criteria due to small circumference (i.e., less than 24” at breast height of surveyor) and height, both groves were measured as a “stand of trees” (Municipal Code criteria 3) and statistics for individual trees were estimated by random sampling of approximately 40 to 50 trees within each grove. Table 2 includes information on the average

circumference, height, overall health, and estimated number of trees observed within both groves. GPS coordinates for the corners of each grove are included in Table 3.

Table 2. *Eucalyptus* grove tree information.

Grove	Avg. Circum.*	Avg. Height	Avg. Health	Estimated No. Of Trees
Eastern	10-12"	20-30 Feet	Low/Moderate	1,100
Western	13-16"	30-35 Feet	Low/Moderate	2,200

* Measurement taken at breast height.

Table 3. GPS Coordinates* of the groves 34° 06.xxx' N, 117° 09.xxx' or 10.xxx' W

Grove	NW Corner	NE Corner	SE Corner	SW Corner
	N / W	N / W	N / W	N / W
Eastern	.575' / 10.010'	.566' / 09.980'	.509' / 09.978'	.516' / 10.032'
Western	.579' / 10.098'	.581' / 10.039'	.505' / 10.053'	.493' / 10.096'

* Coordinates taken from Google Earth.

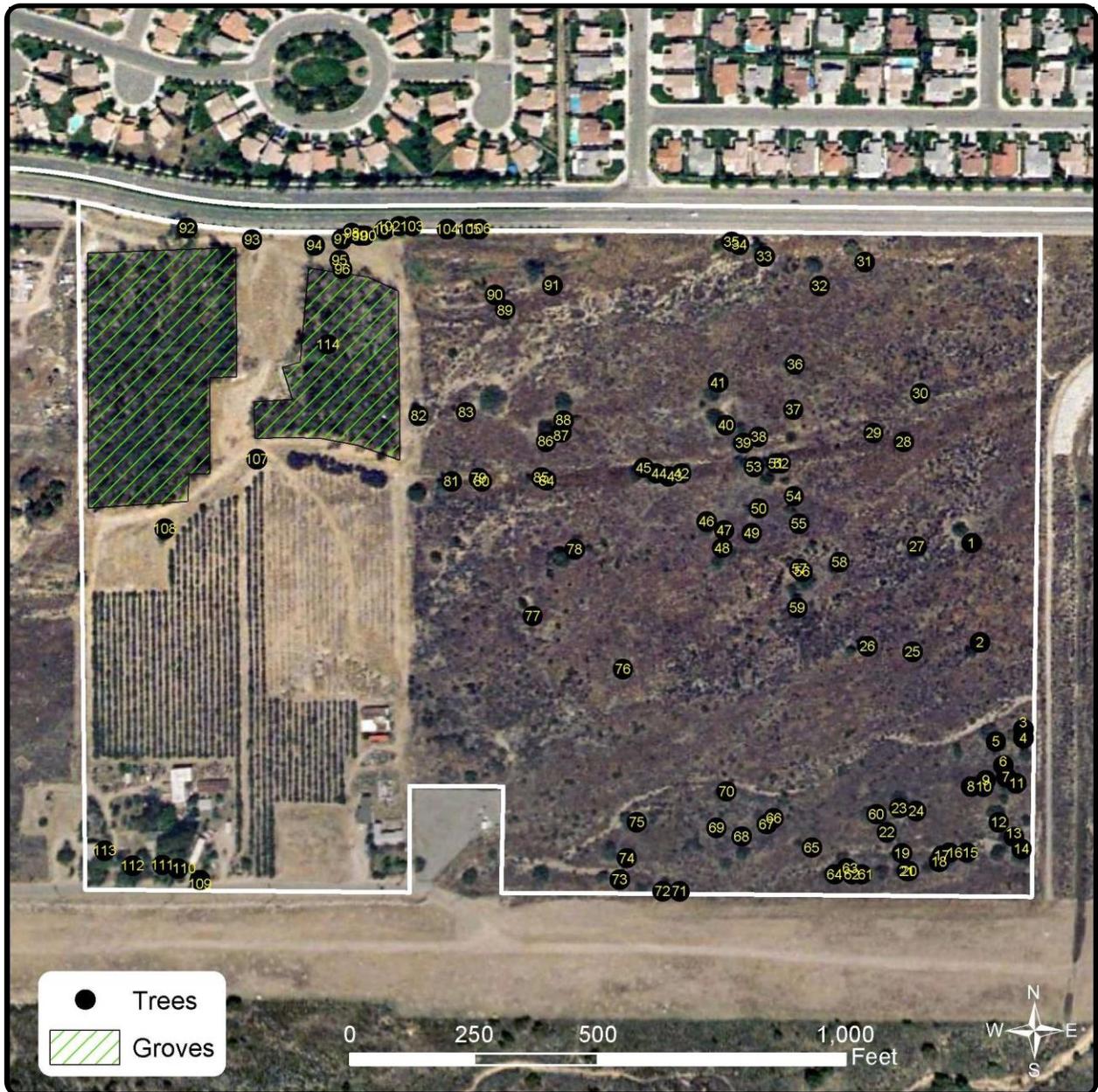
East Grove

Based on the City of Highland criteria, it is estimated that approximately 90 to 95% of the *Eucalyptus* trees found within this grove would not qualify individually as “heritage trees” based on tree circumference at breast height, which averaged only 10 to 12 inches. A few larger *Eucalyptus* trees are present within this grove, some attaining heights of approximately 50 to 60 feet. Additionally, a single mature Fremont’s cottonwood (see Appendix A, tree number 114) is present within the west-central portion of this grove.

The eastern portion of this grove (2 or 3 rows on the outer edge) consists of smaller and/or re-sprouting trees with heights averaging approximately 6 to 12 feet.

West Grove

Although on average trees are larger in this grove, it is estimated that approximately 80 to 90% of trees would not individually meet the definition for “heritage trees” based on tree circumference at breast height, which averaged only 13 to 16 inches. However, several mature *Eucalyptus* trees are present within this grove, some attaining heights of 50 to 60 feet or more.



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GSPi-05-646
January 2019

Figure 4
Tree Locations
(Aerial obtained from Google Earth, February 2018)

Greenspot Partners, Inc.
City of Highland, California

5.0) IMPACTS AND RECOMMENDATIONS

The purpose of the present survey was to identify and characterize potential biological resources and determine presence/absence of “heritage trees” defined by the City of Highland to be preserved and protected. The information in this section should serve as a planning tool for making informed decisions about future development of the project site. Effects and recommendations identified are based on the literature review, L&L’s biological knowledge of species and habitats in the site vicinity, and the biological field survey.

At the request of the project proponent, this survey was performed in an effort to comply with the City of Highland’s “heritage tree” ordinance (Highland Municipal Code §16.06.080). This ordinance specifically requires that all “significant” trees present on the property be mapped and plotted including information on tree height, tree diameter, and overall health. Specifically, the ordinance states the following: “A heritage tree shall mean any tree, shrub, or plant which meets at least one of the following criteria: 1) All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more, as measured four and one-half feet above ground level; or 2) Multi-trunk trees having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or 3) A stand of trees, the nature of which makes each dependent upon the others for survival; or 4) Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities.”

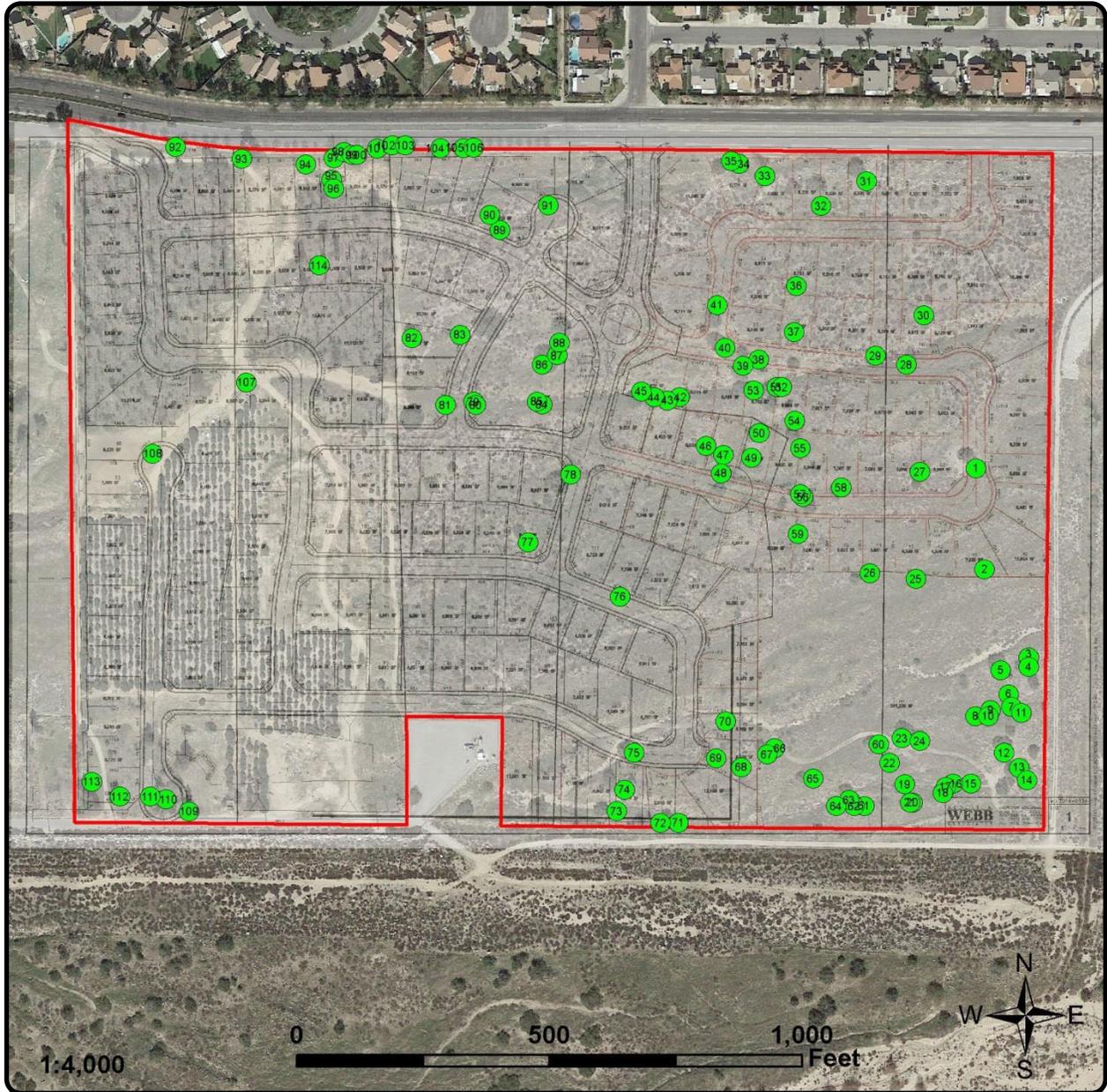
One-hundred fourteen (114) trees meeting the City of Highland “heritage tree” criteria were observed on the subject property, excluding large numbers of non-native *Eucalyptus* trees found within two groves within the northwest corner of the site. The easternmost *Eucalyptus* grove has fewer rows and appears less densely vegetated than the westernmost grove. Most observed *Eucalyptus* trees in both groves are small, averaging approximately 20 to 30 feet in height with a single trunk. Some trees within each grove had been previously cut and were either dead or sprouting. Most trees (excluding larger more mature examples) appear to be in only moderate health (most likely due to lack of irrigation). Because a majority of trees found within both groves would not individually meet the City of Highland “heritage tree” criteria due to small circumference (i.e., less than 24” at breast height of surveyor) and height, both groves were measured as a “stand of trees” (Municipal Code criteria 3) and statistics for individual trees were estimated by random sampling of approximately 40 to 50 trees within each grove.

The most recent development plans submitted to L&L indicate the project would avoid approximately 30 of the 114 heritage trees (trees 3-24, 60-67) and the remaining 84 trees would be impacted (Figure 5). The avoided trees are located in the southeast corner of the property within the area proposed for permanent conservation, but it should be noted that this may change depending on other mitigation requirements.

Due to presence of USGS mapped blue-line drainages onsite, a jurisdictional delineation survey to locate and quantify state and federal jurisdictional areas is recommended. Impacts to drainages will require permits.

Scalebroom is present within alluvial fan sage scrub onsite. This plant may damage structures if not eradicated prior to development. A survey locating all scalebroom onsite prior to certified eradication is recommended.

A previous survey by L&L (July 2005) identified potential burrowing owl (BUOW) habitat and small rodent burrows suitable for use by owls. Due to the presence of potential burrow sites, a 4-day survey for BUOW during the breeding season (February 15 – July 15) is recommended in order to meet CDFW survey requirements. A preconstruction survey for BUOW (valid for 30 days) prior to site disturbance and vegetation clearing is also recommended.



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GSPI-05-646
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Figure 5
Impacts to Trees
(Aerial obtained from Google Earth, February 2018
Development plan from Albert A. Webb Associates, July 2016)

Greenspot Partners, Inc.
City of Highland, California

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APPENDIX A

Table 4. Tree species information for the Heather Glen project site. This list represents trees observed on the site during a survey conducted in March 2006. All measurements are approximate. Height (H) is measured in feet. Circumference (C) is measured in inches and was estimated at breast height of surveyor (approximately four and one-half feet above ground level). Trees with multiple trunks (M) at the base of the plant are noted. Health is based on a scale of good health (G), moderate health (M), and low health (L). GPS coordinates were generally taken on the north side of the tree. This list does not include individual trees found within *Eucalyptus* groves within the northwestern portion of the site.

ID #	Name	H'	C''	Mult.	Health	GPS
1	<i>Juniperus californica</i>	15	>30	Y	G	34° 06.480 N 117°09.747'W
2	<i>Schinus molle</i>	20	>24		G	.447' N .744' W
3	<i>Prunus illicifolia</i>	10	>30	Y	G	.418' N .727' W
4	<i>Juniperus californica</i>	13	>30	Y	G	.415' N .727' W
5	<i>Juniperus californica</i>	13	>30	Y	G	.414' N .738' W
6	<i>Prunus illicifolia</i>	13	>30	Y	G	.406' N .735' W
7	<i>Juniperus californica</i>	15	>30	Y	G	.402' N .734' W
8	<i>Juniperus californica</i>	12	>30	Y	G	.399' N .748' W
9	<i>Juniperus californica</i>	12	>30	Y	G	.401' N .742' W
10	<i>Juniperus californica</i>	11	>30	Y	G	.399' N .743' W
11	<i>Juniperus californica</i>	12	>30	Y	G	.400' N .730' W
12	<i>Juniperus californica</i>	15	>30	Y	G	.387' N .737' W
13	<i>Juniperus californica</i>	18	>30	Y	G	.382' N .731' W
14	<i>Juniperus californica</i>	20	>30	Y	G	.378' N .728' W
15	<i>Juniperus californica</i>	15	>30	Y	G	.377' N .750' W
16	<i>Juniperus californica</i>	12	>30	Y	G	.377' N .757' W
17	<i>Juniperus californica</i>	18	>30	Y	G	.376' N .760' W
18	<i>Juniperus californica</i>	15	>30	Y	G	.374' N .761' W
19	<i>Juniperus californica</i>	18	>30	Y	G	.377' N .776' W
20	<i>Juniperus californica</i>	12	>30	Y	G	.371' N .773' W
21	<i>Juniperus californica</i>	14	>30	Y	G	.371' N .774' W
22	<i>Juniperus californica</i>	15	>30	Y	G	.384' N .782' W
23	<i>Juniperus californica</i>	18	>30	Y	G	.392' N .777' W
24	<i>Juniperus californica</i>	15	>30	Y	G	.391' N .770' W
25	<i>Juniperus californica</i>	15	>30	Y	G	.444' N .771' W
26	<i>Juniperus californica</i>	20	>30	Y	G	.446' N .789' W
27	<i>Rhus ovata</i>	8	>30	Y	M	.479' N .769' W
28	<i>Sambucus mexicana</i>	10	>30	Y	G	.514' N .774' W
29	<i>Platanus racemosa</i>	25	>30	Y	G	.517' N .786' W
30	<i>Juniperus californica</i>	10	>30	Y	G	.530' N .767' W
31	<i>Prunus illicifolia</i>	15	>30	Y	G	.574' N .789' W
32	<i>Juniperus californica</i>	22	>30	Y	G	.566' N .807' W
33	<i>Platanus racemosa</i>	30	>30	Y	G	.576' N .829' W
34	<i>Platanus racemosa</i>	22	>30	Y	G	.580' N .839' W

ID #	Name	H'	C''	Mult.	Health	GPS
35	<i>Juniperus californica</i>	12	>30	Y	G	34° 06.581' N 117°09.842' W
36	<i>Sambucus mexicana</i>	20	>30	Y	G	.540' N .817' W
37	<i>Juniperus californica</i>	10	>30	Y	G	.525' N .818' W
38	<i>Juniperus californica</i>	15	>30	Y	G	.516' N .832' W
39	<i>Juniperus californica</i>	12	>30	Y	G	.514' N .838' W
40	<i>Juniperus californica</i>	8	>30	Y	G	.520' N .845' W
41	<i>Juniperus californica</i>	10	>30	Y	G	.534' N .848' W
42	<i>Juniperus californica</i>	12	>30	Y	G	.504' N .863' W
43	<i>Juniperus californica</i>	15	>30	Y	G	.503' N .868' W
44	<i>Juniperus californica</i>	18	>30	Y	G	.504' N .873' W
45	<i>Juniperus californica</i>	14	>30	Y	G	.506' N .878' W
46	<i>Juniperus californica</i>	18	>30	Y	G	.488' N .853' W
47	<i>Juniperus californica</i>	10	>30	Y	G	.485' N .846' W
48	<i>Juniperus californica</i>	15	>30	Y	G	.479' N .847' W
49	<i>Juniperus californica</i>	12	>30	Y	G	.484' N .835' W
50	<i>Juniperus californica</i>	10	>30	Y	G	.492' N .832' W
51	<i>Juniperus californica</i>	20	>30	Y	G	.507' N .825' W
52	<i>Juniperus californica</i>	12	>30	Y	G	.507' N .823' W
53	<i>Juniperus californica</i>	10	>30	Y	G	.506' N .834' W
54	<i>Juniperus californica</i>	12	>30	Y	G	.496' N .818' W
55	<i>Juniperus californica</i>	10	>30	Y	G	.487' N .816' W
56	<i>Juniperus californica</i>	20	>30	Y	G	.471' N .815' W
57	<i>Juniperus californica</i>	20	>30	Y	G	.472' N .816' W
58	<i>Juniperus californica</i>	15	>30	Y	G	.474' N .800' W
59	<i>Juniperus californica</i>	20	>30	Y	G	.459' N .817' W
60	<i>Juniperus californica</i>	15	>30	Y	G	.390' N .786' W
61	<i>Juniperus californica</i>	6	>30	Y	M	.370' N .792' W
62	<i>Juniperus californica</i>	10	>30	Y	G	.370' N .796' W
63	<i>Juniperus californica</i>	15	>30	Y	G	.372' N .798' W
64	<i>Juniperus californica</i>	12	>30	Y	G	.370' N .803' W
65	<i>Juniperus californica</i>	10	>30	Y	G	.379' N .812' W
66	<i>Juniperus californica</i>	15	>30	Y	G	.389' N .827' W
67	<i>Juniperus californica</i>	15	>30	Y	G	.387' N .830' W
68	<i>Juniperus californica</i>	12	>30	Y	G	.383' N .840' W
69	<i>Juniperus californica</i>	14	>30	Y	G	.386' N .850' W
70	<i>Juniperus californica</i>	14	>30	Y	G	.398' N .846' W
71	<i>Juniperus californica</i>	22	>30	Y	G	.365' N .865' W
72	<i>Juniperus californica</i>	20	>30	Y	G	.365' N .872' W
73	<i>Juniperus californica</i>	15	>30	Y	G	.369' N .889' W
74	<i>Juniperus californica</i>	12	>30	Y	G	.376' N .886' W
75	<i>Juniperus californica</i>	20	>30	Y	G	.388' N .882' W
76	<i>Juniperus californica</i>	12	>30	Y	G	.439' N .887' W
77	<i>Juniperus californica</i>	10	>30	Y	G	.457' N .923' W
78	<i>Rhus ovata</i>	20	>30	Y	G	.479' N .906' W
79	<i>Nicotiana glauca</i>	15	>30	Y	G	.503' N .944' W
80	<i>Platanus racemosa</i> *	25	>30	Y	G	.502' N .943' W
81	<i>Juniperus californica</i>	20	>30	Y	G	.502' N .955' W

ID #	Name	H'	C''	Mult.	Health	GPS
82	<i>Juniperus californica</i>	15	>30	Y	G	34° 06.524' N 117°09.968' W
83	<i>Juniperus californica</i>	20	>30	Y	G	.525' N .949' W
84	<i>Platanus racemosa</i>	20	>30	Y	G	.502' N .917' W
85	<i>Platanus racemosa</i>	20	>30	Y	G	.503' N .919' W
86	<i>Juniperus californica</i>	18	>30	Y	G	.515' N .917' W
87	<i>Platanus racemosa</i>	18	>30	Y	G	.518' N .911' W
88	<i>Juniperus californica</i>	20	>30	Y	G	.522' N .910' W
89	<i>Platanus racemosa</i>	15	>30	Y	G	.559' N .933' W
90	<i>Platanus racemosa</i> *	25	>30	Y	L	.564' N .937' W
91	<i>Platanus racemosa</i>	40	>30	Y	G	.567' N .914' W
92	<i>Platanus racemosa</i>	50	>30	Y	G	34° 06.587' N 117°10.060' W
93	<i>Eucalyptus sp.</i>	25	>30	Y	G	.583' N .034' W
94	<i>Platanus racemosa</i>	30	>30	Y	G	.581' N .009' W
95	<i>Platanus racemosa</i>	40	>24		G	34° 06.576' N 117°09.999' W
96	<i>Platanus racemosa</i>	25	>24		G	.573' N .998' W
97	<i>Platanus racemosa</i>	25	>24		G	.583' N .998' W
98	<i>Pinus fremontii</i>	25	>24		G	.585' N .994' W
99	<i>Tamarix sp.</i>	15	>30	Y	G	.584' N .991' W
100	<i>Tamarix sp.</i>	15	>30	Y	G	.584' N .989' W
101	<i>Platanus racemosa</i>	35	>30	Y	G	.586' N .981' W
102	<i>Platanus racemosa</i>	20	>30	Y	G	.587' N .975' W
103	<i>Tamarix sp.</i>	15	>30	Y	G	.587' N .970' W
104	<i>Tamarix sp.</i>	15	>30	Y	G	.586' N .956' W
105	<i>Platanus racemosa</i>	15	>30	Y	G	.586' N .947' W
106	<i>Tamarix sp.</i>	12	>30	Y	G	.586' N .943' W
107	<i>Platanus racemosa</i>	25	>30	Y	G	34° 06.510' N 117°10.033' W
108	<i>Platanus racemosa</i>	25	>30	Y	G	.487' N .070' W
109	<i>Pinus sp.</i>	35	>24		G	.370' N .057' W
110	<i>Olea europea</i>	20	>30	Y	G	.374' N .066' W
111	Unidentified	30	>24		G	.375' N .072' W
112	<i>Populus fremontii</i>	40	>24		G	.375' N .084' W
113	<i>Schinus molle</i>	40	>30	Y	G	.380' N .095' W
114	<i>Populus fremontii</i> *	40	>24		G	.548' N .004' W

***Notes**

Note	#	Description
1	80	Two <i>P. racemosa</i> trees are growing at this location
2	90	Large portions of <i>P. racemosa</i> dead
3	114	<i>P. fremontii</i> growing within east <i>Eucalyptus</i> grove (west-central portion)

APPENDIX B

Site Photographs



Looking west from the center of the northern boundary (8740).



Looking south between the east and west *Eucalyptus* groves (8743).



Looking east/southeast from the northwestern corner of the site (8749).



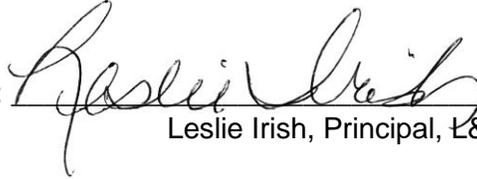
Juniper trees within the eastern portion of the site (8718).

Certification

Certification: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: April 7, 2006

SIGNED: _____



Leslie Irish, Principal, L&L Environmental, Inc.