December 23, 2019

Maria Lee, P.E.
Stormwater Engineering Division
Los Angeles County Public Works
900 South Fremont Avenue
Alhambra, California 91803-1331

VIA EMAIL
MarLee@dpw.lacounty.gov

Subject: Status Report for the Oak Woodland Habitat Revegetation/Mitigation Program for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project, Los Angeles County, California

Dear Ms. Lee:

This status report provides a summary of November/December 2019 site conditions for the Los Angeles County Public Works' (Public Works') 2014 *Oak Woodland Habitat Revegetation/Mitigation Program for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project* (OWHRMP). The OWHRMP describes the creation of 5.5 acres of oak woodland habitat and 2.5 acres of sage scrub habitat as compensation for impacts associated with the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project. The mitigation site locations are shown in Exhibits 1, 2, and 3. Photographs of the site are provided in Attachment A.

OAK ACORN COLLECTION AND PLANTING

Psomas' Restoration Ecologist collected approximately 2 pounds of seed (acorns) of Engelmann oak (*Quercus engelmannii*) in the local Santa Anita Wash – Rio Hondo subwatershed in October 2019. The acorns were collected in public rights-of-way (i.e., streets and gutters) beneath large, 'heritage' specimens of Engelmann oak. Engelmann oak has a California Rare Plant Rank (CRPR) of 4.2, 'Plants of limited distribution – a watch list.' Prior to installation on the mitigation site, the acorns were stored (refrigerated) in accordance with the guidelines of University of California Agriculture and Natural Resources (UCANR).

The Restoration Ecologist planted between five and ten acorns at each of the oak planting locations that did not currently support a surviving oak in December 2019. The oak acorn plantings in 2019 (Year Five) were performed in accordance with the terms of the OWHRMP which states that "…*Oak acorn planting will be performed each fall in Years One to Five*…". The multiple years of acorn plantings specified in the OWHRMP are intended to provide a robust contingency of acorn seedlings to improve measured oak survival performance during the maintenance period. At least one of the acorns that were planted (at each location) in December 2019 is expected to germinate. The acorns are expected to establish on rainfall amounts only—no irrigation will be applied to the acorn planting sites.

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It is important to note that the overall oak survival currently exceeds 100 percent on the mitigation site due to the planting of numerous supplemental oak plants outside the initially designated 399 oak planting locations.

MITIGATION MAINTENANCE AND MONITORING

The Restoration Contractor, Nakae & Associates, Inc. (Nakae), promptly treats or removes non-native plant species when they are observed during regular maintenance activities. To the extent practicable, weeds are removed prior to seed production/dispersal to avoid re-infestation of the site. All herbicide use on the mitigation site was suspended in April 2019 per Public Works' direction. Nakae also performs regular maintenance of the concrete drainages and inlets on the Lower Sediment Placement Site (SPS), the exclusionary fencing on the deck of the Lower SPS, and the wildlife 'drinker' tanks that were placed at the northeast corner of the site. The most recent cleanout of sediment and debris in the Lower SPS drainages and inlets occurred in November 2019 (just prior to the onset of seasonal rains).

The Restoration Ecologist periodically places flagging tape on some of the native 'volunteer' plants (i.e., naturally occurring native plants that were not purposely installed via planting or seeding) such as mule fat (*Baccharis salicifolia* ssp. *salicifolia*) and laurel sumac (*Malosma laurina*) that arise on the mitigation site. Nakae removes the flagged plants in order to avoid excessive coverage of these native shrub species.

Based on data from Public Works' website, the area received a total of 5.67 inches of precipitation between October 1 and December 23, 2019 (current water year). This rainfall total was recorded at the Arcadia Fire Station which is located 0.5 mile from the Lower SPS at a similar elevation. The normal (annual) seasonal average of precipitation at Public Works' Arcadia gauge location is 21.34 inches for the period of October 1 to September 30; therefore, the recorded precipitation thru December 2019 was approximately 27 percent of the average annual precipitation amount. Psomas' Restoration Ecologist performed a site inspection on the Lower SPS during a robust rain event on January 17, 2019. During that inspection, Psomas observed *continuous* storm flow within the dual drainages, from the inflow point (along the east edge of the mitigation site) to the outlet tower in the center of the Lower SPS. Such continuous flows demonstrate that hydrologic benefits for native vegetation establishment (including the planted oaks) are distributed across the full deck area of the Lower SPS, as intended per Public Works' spiraling drainage design.

The mitigation site's maintenance period just concluded its fifth year at the end of 2019 (the total maintenance period is expected to last between seven and ten years based on site performance). Irrigation was discontinued on the oak woodland mitigation site in October 2018. Irrigation has not been applied to the sage scrub planting areas (SPS slopes) since June 2015. It is anticipated that no additional irrigation of the oak trees will be required for their long-term establishment unless an extended period of acute drought occurs on the mitigation site.

The Restoration Ecologist coordinates with Nakae on the identification of native/non-native plant species and methods of weed removal. The Restoration Ecologist also notes all wildlife species observed on the site and ensures that maintenance activities do not adversely impact sensitive biological resources.

MITIGATION PERFORMANCE

The mitigation site supports an excellent diversity of plant and animal species, and the vegetation structure and cover continue to develop. During the fourth annual monitoring survey that was performed in the spring of 2017, it was determined that the mitigation site exceeded several of the seven-year to ten-

year vegetative performance criteria. As of December 2019, a total of 147 native plant species have been observed on the site, including trees, shrubs, sub-shrubs, vines, succulents, herbs, grasses, ferns, spike-moss, and emergent plant species. A total of 106 native vertebrate wildlife species (87 native bird species) have been observed on the site, in addition to numerous native invertebrate species (e.g., butterflies, beetles, bees, dragonflies) since project initiation in September 2013. A total of 14 different species of native birds have been documented to utilize the mitigation site for nesting purposes since project initiation. The planted oaks exhibit excellent growth and survival, and there is a diverse mosaic of associated understory vegetation. Many of the oak saplings now exceed 10 to 12 feet in height. Various habitat enhancements that were incorporated into the mitigation site's design (e.g., natural snags, coarse woody debris, brush piles, boulder assemblages) provide valuable cover for wildlife species and habitat niches for the establishment of a variety of plant species (e.g., ferns).

Several 'camera traps' (motion-activated video cameras) were installed on and adjacent to the mitigation site to provide 24-hour wildlife observation data that enhance the Restoration Ecologist's observations. Wildlife species—including coyote (*Canis latrans*), bobcat (*Lynx rufus*), southern mule deer (*Odocoileus hemionus*), mountain lion (*Puma concolor*), common gray fox (*Urocyon cinereoargenteus*), and black bear (*Ursus americanus*)—have been observed via camera traps.

The California Department of Fish and Wildlife (CDFW) has authorized Public Works to discontinue the requirement for surveys of the reference site for the duration of the mitigation program. Qualitative and quantitative monitoring of the mitigation site will continue through Years 7 to 10 until the mitigation program has been signed off by the CDFW and the City of Arcadia.

Please call Richard Lewis at (626) 351-2000 with any questions regarding this report.

Sincerely,

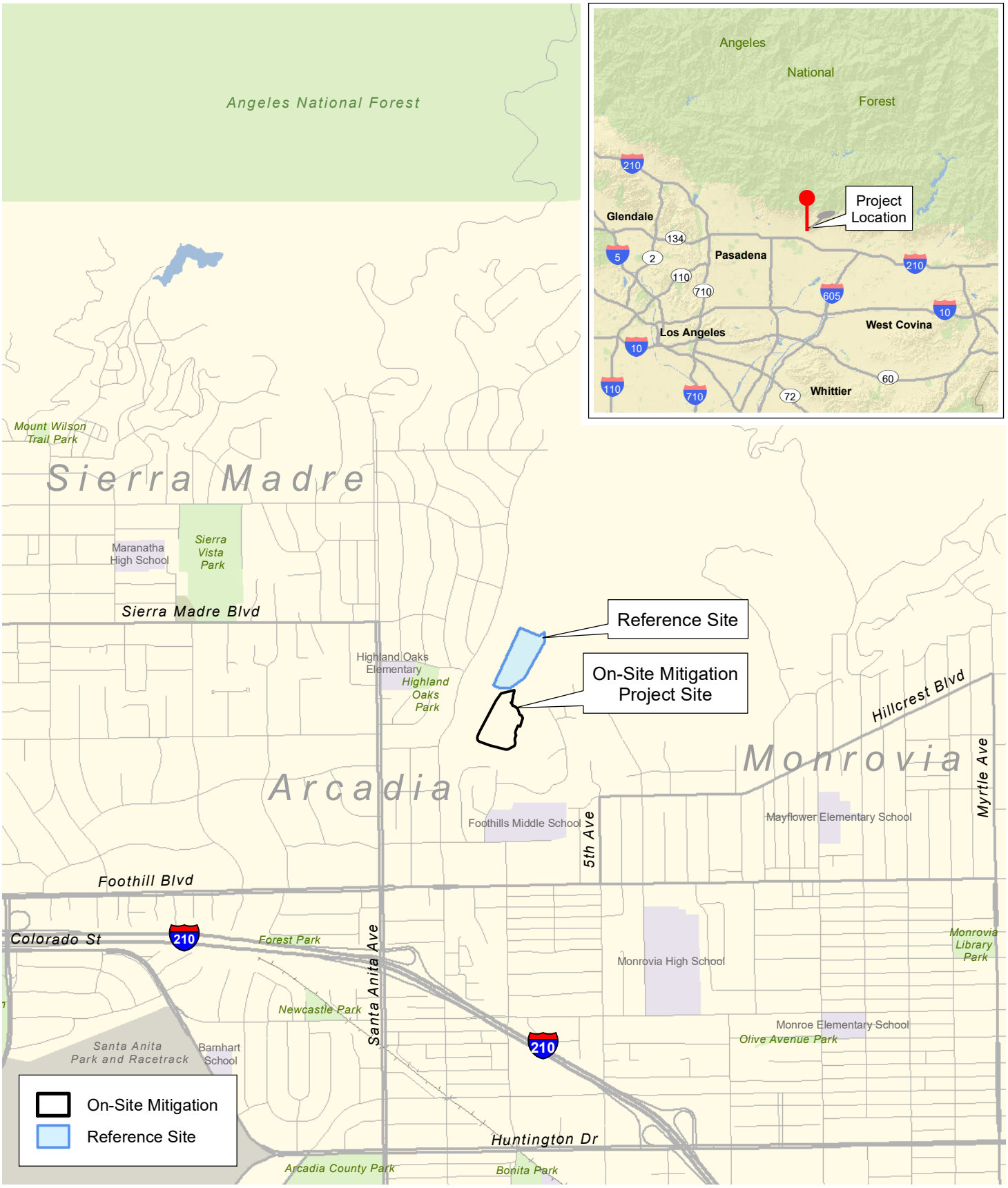
PSOMAS

Ann M. Johnston
Vice President, Resource Management

Richard B. Lewis, III, ENV SP
Senior Project Manager

Enclosures: Exhibit 1 – Project Vicinity
Exhibit 2 – Sediment Placement Site Locations
Exhibit 3 – Mitigation Site Location (Lower Sediment Placement Site)
Attachment A – Site Photographs

cc: Marc Blain, Psomas



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Project Vicinity

Exhibit 1

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;
Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project

N W E S

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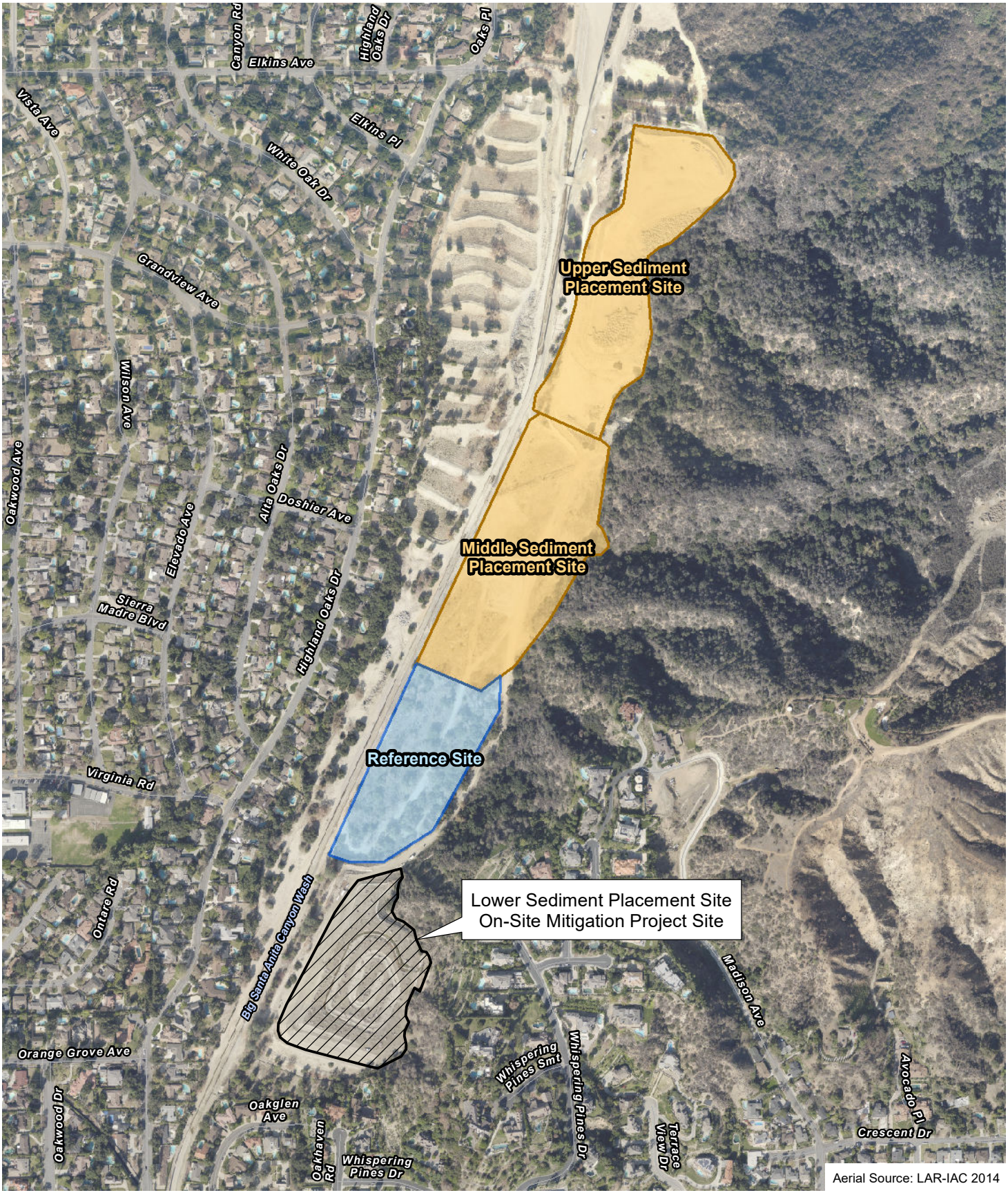

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Sediment Placement Site Locations

Exhibit 2

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;
Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project

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Feet

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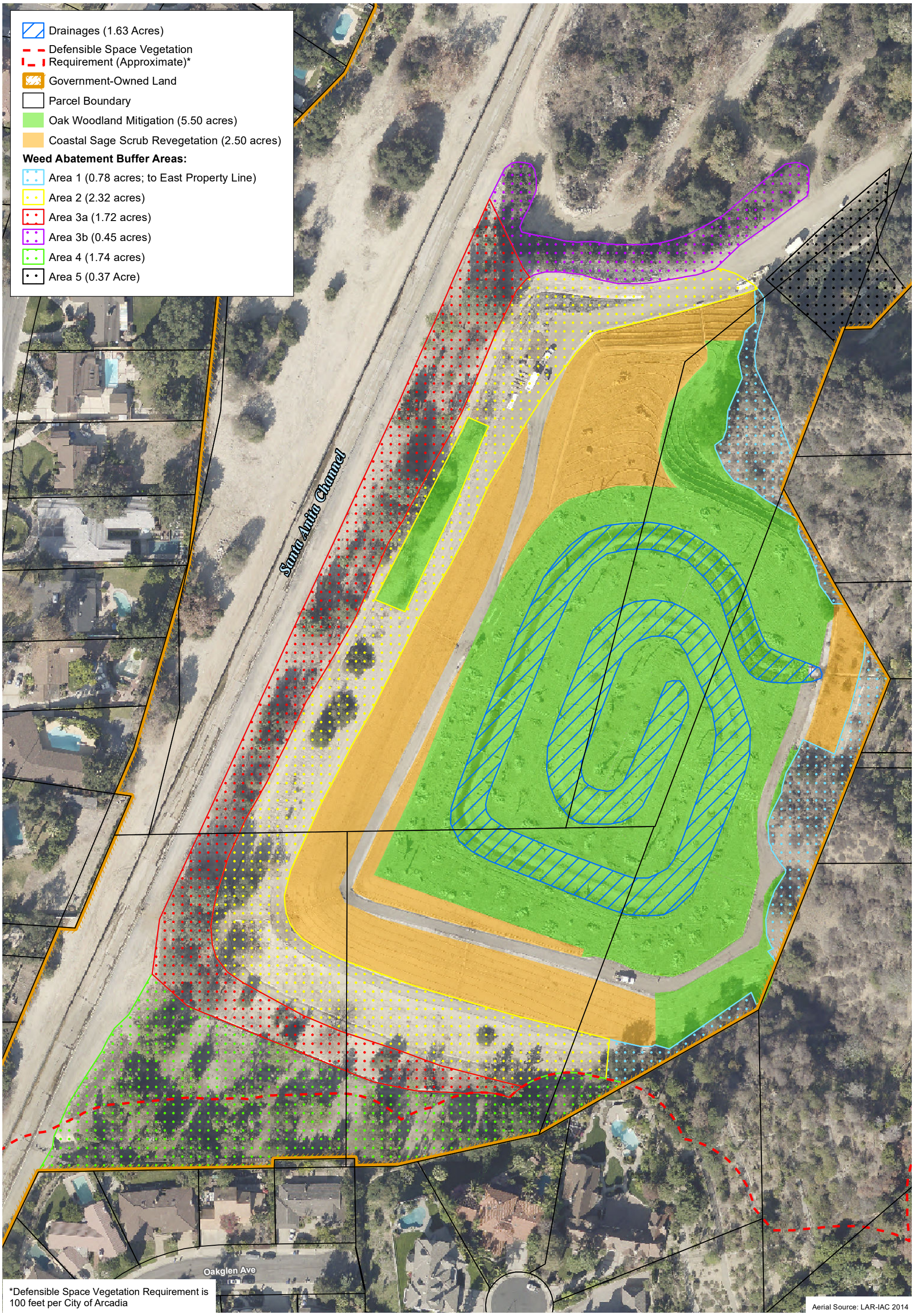

Mitigation Site Location (Lower Sediment Placement Site)

Exhibit 3

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;
Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project

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ATTACHMENT A

SITE PHOTOGRAPHS

November 2019. Healthy planted coast live oak saplings on the deck of the Lower Sediment Placement Site. The planted/seeded vegetative understory includes spiniferous species (e.g., Vasey's prickly pear; chaparral yucca) on portions of the mitigation site.

December 2019. Psomas' Restoration Ecologist is installing supplemental acorns of Engelmann oak. Psomas collected the acorns within the local Santa Anita Wash – Rio Hondo subwatershed in October 2019.

November 2019. There is well-established coastal sage scrub vegetation on the slopes (foreground), and a healthy planted coast live oak is visible behind the exclosure fence.

November 2019. A very late bloom was observed on this puckered hedge-nettle plant — a native perennial herb that was installed on the site in 2014.

November 2019. A mule deer has been captured via one of several 'camera traps' that were placed at various locations on the Lower SPS. The exclosure fence continues to deter unwanted entry by deer to the oak woodland mitigation site at this stage of the maintenance period.

November 2019. There are ripening fruits on this planted California rose. This native shrub is among several plant species that were introduced to the site on a supplemental basis (i.e., not a part of the initial plant installations) to improve biological diversity.

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Site Photographs

Attachment A

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