

May 29, 2003

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SUBJECT: Jurisdictional Delineation of the Canyon Hills Project Site in the City of Los Angeles, Los Angeles County, California.

Dear Mr. Joseph:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG) jurisdiction for the above-referenced property. The Canyon Hills project site ("project site") in the City of Los Angeles, Los Angeles County [Exhibit 1], comprises approximately 887 acres and is depicted on the U.S. Geological Survey (USGS) topographic map Sunland, California [dated 1966 and photorevised in 1988] and Burbank, California [dated 1966 and photorevised in 1972] [Exhibit 2]. On January 23, 26, February 6 and 13, October 29, and December 18 and 27, 2002, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the project site to determine the limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act and (2) CDFG jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the California Fish and Game Code. Enclosed is a 500-scale map [Exhibit 3A] that depicts the areas of Corps and CDFG jurisdiction. Exhibit 3b is the delineation with vegetation superimposed. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4.

Corps jurisdiction at the project site totals approximately 6.46 acres of which 400 square feet (0.009 acre) consist of jurisdictional wetlands. The proposed project would impact approximately 2.06 acres of Corps jurisdiction, none of which is jurisdictional wetlands.

CDFG jurisdiction at the site totals approximately 9.12 acres of which approximately 6.49 acres consist of vegetated riparian habitat. The proposed project would impact approximately 2.45 acres of CDFG jurisdiction, of which 0.74 acre is vegetated riparian habitat.

I. METHODOLOGY

Prior to beginning the field delineation, a 200-scale color aerial photograph, a 200-scale topographic base map of the property, and the previously cited USGS topographic map were examined to determine the locations of potential areas of Corps/CDFG jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Suspected wetland habitats on the project site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual¹ (Wetland Manual). While in the field the jurisdictional area was recorded onto a 200-scale color aerial photograph using visible landmarks. Other data were recorded onto wetland data sheets.

The Soil Conservation Service (SCS)² has mapped the following soil types as occurring in the general vicinity of the project site:

Vista Amargosa Association, 30 to 50 Percent Slopes, Eroded

Soils of the Vista-Amargosa Association consist of approximately 45 percent Vista soils and 40 percent Amargosa soils. The Vista series consist of moderately deep well-drained soils that formed in material that was weathered in place from granodiorite and related granitic rock. The upper twenty inches consist of grayish-brown (10YR 5/2) course sandy loam and brown (10YR 5/3) course sandy loam. The Amargosa series consist of excessively drained soils that formed in material that was weathered from granitic rock. The upper twenty inches consist of brown (10YR 5/3) and yellowish-brown (10YR 5/4) course sandy loam and yellowish-brown (10YR 5/4) gravelly sandy loam. Vista-Amargosa soils are used for range, wildlife and watershed purposes.

Hanford Association, 2 to 5 Percent Slopes

The Hanford series consist of very deep, well-drained soils that form in alluvium derived predominantly from granitic material. The upper 32 inches consist of pale brown (10YR 6/3) sandy loam. In the Los Angeles Basin, Hanford soils are used almost exclusively for residential and industrial purposes.

¹ Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

² SCS is now known as the National Resource Conservation Service or NRCS.

Gaviota-Millsholm Association, 30 to 50 Percent Slopes

Soils of the Gaviota-Millsholm Association consist of approximately 50 percent Gaviota soils and 40 percent Millsholm soils. The Gaviota series consist of shallow, somewhat excessively drained soils that formed in material that was weathered in place from hard sandstone. The upper fifteen inches consist of brown (10YR 5/3) sandy loam. The Millsholm series consist of shallow, well-drained soils that formed in material that was weathered in place from hard sandstone or shale. The upper fifteen inches consist of brown (10YR 5/3) loam. Gaviota-Millsholm soils are used for wildlife and watershed purposes.

None of these soil units are identified as hydric in the SCS's publication, Hydric Soils of the United States. While no official list of hydric soils has been compiled for this portion of Los Angeles County, other local lists include Millsholm and Hanford soils found in drainage ways as hydric.

II. JURISDICTION

A. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

- (1) *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
- (2) *All interstate waters including interstate wetlands;*
- (3) *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:*
 - (i) *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
 - (ii) *From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or*
 - (iii) *Which are used or could be used for industrial purpose by industries in interstate commerce...*

- (4) *All impoundments of waters otherwise defined as waters of the United States under the definition;*
- (5) *Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;*
- (6) *The territorial seas;*
- (7) *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

- (8) *Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.*

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM), which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published a manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the 1987 Wetland Delineation Manual generally requires that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual provides great detail in methodology and allows for varying special conditions, a wetland should normally meet each of the following three criteria:

- more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the National List of Plant Species that Occur in Wetlands³);
- soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year⁴.

B. California Department of Fish and Game

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish, wildlife or stream-dependent vegetation.

CDFG defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation."

C. Agency Concurrence

On January 28, 2003, a representative of the Corps visited the project site to verify the jurisdictional delineation. Following completion of the verification visit, the Corps provided concurrence that the jurisdictional delineation was correct and approved. The acreage totals provided in this report reflect the Corps-approved jurisdictional delineation.

On March 3, 2003, representatives of CDFG visited the project site to verify the jurisdictional delineation. Following completion of the verification visit, CDFG provided concurrence that the jurisdictional delineation was correct and approved. The acreage totals provided in this report reflect the CDFG-approved jurisdictional delineation.

³ Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands. U.S. Fish and Wildlife Service Biological Report 88(26.10).

⁴ For most of low-lying southern California, five percent of the growing season is equivalent to 18 days.

III. RESULTS

A. Corps Jurisdiction

The project site is located within the Los Angeles River watershed, an intrastate waterway that leads to the Pacific Ocean. The Corps retains jurisdiction of this watershed because its final destination (i.e. the Pacific Ocean) is a navigable water.

Corps jurisdiction associated with the project site totals approximately 6.46 acres of waters of the United States, of which 400 square feet (0.009 acre) consist of wetlands. The boundaries of the waters of the United States are depicted on the enclosed map [Exhibit 3].

Drainage 1

Corps jurisdiction associated with Drainage 1 and its tributaries totals approximately 420 square feet (0.009 acre) and is limited to the OHWM of the channel. Drainage 1 is located along the southern edge of the project site and totals approximately 420 feet in length. The OHWM is one foot in width, and the channel bottom consists of a rock and cobbles. This incised drainage exhibits destruction of terrestrial vegetation. Drainage 1 traverses areas dominated by laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 1.

Drainage 2 (La Tuna Canyon)

Corps jurisdiction associated with Drainage 2 and its tributaries totals approximately 123,970 square feet (2.84 acres) and is limited to the OHWM of the channel. Drainage 2 is located along the southern edge of the project site and totals approximately 11,700 feet in length. The OHWM ranges from one to 26 feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation and contained flowing water at the time of the delineation field-work. Drainage 2 supports coast live oak (*Quercus agrifolia*, UPL), arroyo willow (*Salix lasiolepis*, FACW), mule fat (*Baccharis salicifolia*, FACW), and white alder (*Alnus rhombifolia*, FACW). A small "strip" wetland totaling 400 square feet (0.009 acre) was found adjacent to the OHWM west of Tributary 2.8. This wetland was dominated by non-native umbrella sedge (*Cyperus involucratus*, FACW) [Exhibit 4, Photographs 1 and 2].

Drainage 3

Corps jurisdiction associated with Drainage 3 and its tributaries totals approximately 10,730 square feet (0.25 acre) and is limited to the OHWM of the channel. Drainage 3 is located north of Interstate 210 towards the middle of the project site and totals approximately 4,120 feet in length. The OHWM varies from one to five feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 3 traverses areas dominated by upland chaparral species including laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 3.

Drainage 4

Corps jurisdiction associated with Drainage 4 and its tributaries totals approximately 86,720 square feet (1.99 acres) and is limited to the OHWM of the channel. Drainage 4 is located north of Interstate 210 towards the middle of the project and totals approximately 24,880 feet in length. The OHWM varies from one to ten feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation. The main drainage and tributaries 4.5 and 4.9 contained flowing water at the time of the delineation field-work [Exhibit 4, Photographs 3, 4, 5, and 6]. Drainage 4 supports coast live oak (*Quercus agrifolia*, UPL), arroyo willow (*Salix lasiolepis*, FACW), Mexican elderberry (*Sambucus mexicana*, FAC), and western sycamore (*Platanus racemosa*, FACW).

Beginning approximately 200 feet north of the Southern California Edison transmission line right-of-way, the drainage begins to exhibit areas where groundwater is discharging in localized areas. Beginning at the confluence with Tributary 4.5, Drainage 4 exhibit surface water flow, which continued to the culvert that extends beneath Interstate 210 [Exhibit 4, Photograph 7]. The banks of the drainage support a mosaic of upland shrubs with patches of basket rush (*Juncus texilis*, FAC) and Santa Barbara sedge (*Carex senta*, FACW).

Drainage 5

Corps jurisdiction associated with Drainage 5 and its tributaries totals approximately 10,300 square feet (0.24 acre) and is limited to the OHWM of the channel. Drainage 5 is located north of Interstate 210 towards the western edge of the project site and totals approximately 6,680 feet in length. The OHWM varies from one to five feet in width, and the channel bottom consists of a sandy, rocky to bedrock bottom. This incised drainage exhibits destruction of terrestrial

vegetation and parts of the main drainage and Tributary 5.6 exhibited standing water at the time of delineation field-work. Drainage 5 traverses areas dominated by upland shrubs including laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), and coast live oak (*Quercus agrifolia*) [Exhibit 4, Photographs 8, 9, 10 and 11]. No Corps wetlands are associated with Drainage 5.

Drainage 6

Corps jurisdiction associated with Drainage 6 and its tributaries totals approximately 800 square feet (0.02 acre) and is limited to the OHWM of the channel. Drainage 6 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 400 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sand, cobble and rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 6 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 6.

Drainage 7

Corps jurisdiction associated with Drainage 7 and its tributaries totals approximately 2,240 square feet (0.05 acre) and is limited to the OHWM of the channel. Drainage 7 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 1,270 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 7 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 7.

Drainage 8

Corps jurisdiction associated with Drainage 8 and its tributaries totals approximately 1,120 square feet (0.02 acre) and is limited to the OHWM of the channel. Drainage 8 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 560 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 8 traverses areas dominated by upland shrubs including

chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 8.

Drainage 9

Corps jurisdiction associated with Drainage 9 and its tributaries totals approximately 560 square feet (0.01 acre) and is limited to the OHWM of the channel. Drainage 9 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 280 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 9 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 9.

Drainage 10

Corps jurisdiction associated with Drainage 10 and its tributaries totals approximately 480 square feet (0.01 acre) and is limited to the OHWM of the channel. Drainage 10 is located north of the Interstate 210 towards the eastern edge of the project site and totals approximately 240 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 10 traverses areas dominated by upland shrubs including laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 10.

Drainage 11

Corps jurisdiction associated with Drainage 11 and its tributaries totals approximately 440 square feet (0.01 acre) and is limited to the OHWM of the channel. Drainage 11 is located north of the Interstate 210 towards the eastern edge of the project site and totals approximately 220 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 11 traverses areas dominated by upland shrubs including laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 11.

Drainage 12

Corps jurisdiction associated with Drainage 12 and its tributaries totals approximately 680 square feet (0.016 acre) and is limited to the OHWM of the channel. Drainage 12 is located north of the Interstate 210 towards the middle of the project site and totals approximately 420 feet in length. The OHWM varies from one to two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 12 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 12.

Drainage 13

Corps jurisdiction associated with Drainage 13 and its tributaries totals approximately 600 square feet (0.01 acre) and is limited to the OHWM of the channel. Drainage 13 is located north of Interstate 210 towards the most eastern edge of the project site and totals approximately 100 feet in length. The OHWM is six feet in width, and the channel bottom consists of a rocky to bedrock bottom. This incised drainage exhibits destruction of terrestrial vegetation and has standing water. Drainage 13 traverses areas dominated by coast live oak (*Quercus agrifolia*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 13.

Drainage 14

Corps jurisdiction associated with Drainage 14 and its tributaries totals approximately 29,130 square feet (0.67 acre) and is limited to the OHWM of the channel. Drainage 14 is located south of Interstate 210 towards the western edge of the project site and totals approximately 6,340 feet in length. The OHWM varies from one to eighteen feet in width, and the channel bottom consists of a sandy, rocky bottom [Exhibit 4, Photographs 12 and 13]. This incised drainage exhibits destruction of terrestrial vegetation and has flowing water in parts of the drainage. Drainage 14 supports mule fat (*Baccharis salicifolia*), coast live oak (*Quercus agrifolia*), western sycamore (*Plantanus racemosa*), and arroyo willow (*Salix lasiolepis*). The southern mixed riparian community supported by Tributary 14.5 has an understory consisting of non-native eupatory (*Ageratina adenophora*) and non-native Mexican fan palm (*Washingtonia robusta*). No Corps wetlands are associated with Drainage 14.

Drainage 15

Corps jurisdiction associated with Drainage 15 and its tributaries totals approximately 600 square feet (0.01 acre) and is limited to the OHWM of the channel. Drainage 15 is located south of Interstate 210 towards the western edge of the project site and totals approximately 400 feet in length. The OHWM varies from one to two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 15 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 15.

Drainage 16

Corps jurisdiction associated with Drainage 16 and its tributaries totals approximately 1,840 square feet (0.04 acre) and is limited to the OHWM of the channel. Drainage 16 is located south of Interstate 210 towards the western edge of the project site and totals approximately 1,120 feet in length. The OHWM varies from one to two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 16 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 16.

Drainage 17

Corps jurisdiction associated with Drainage 17 and its tributaries totals approximately 280 square feet (0.006 acre) and is limited to the OHWM of the channel. Drainage 17 is located south of Interstate 210 towards the western edge of the project site and totals approximately 140 feet in length. The OHWM is two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 17 traverses areas dominated by upland shrubs including chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 17.

Drainage 18

Corps jurisdiction associated with Drainage 18 and its tributaries totals approximately 1,100 square feet (0.025 acre) and is limited to the OHWM of the channel. Drainage 18 is located north of Interstate 210 towards the western edge of the project site and totals approximately 740 feet in length. The OHWM varies from one to two feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation [Exhibit 4, Photograph 14]. Drainage 18 traverses areas dominated by coast live oak (*Quercus agrifolia*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), lemonadeberry (*Rhus integrifolia*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*) [Exhibit 4, Photograph 15]. No Corps wetlands are associated with Drainage 18.

Drainage 19

Corps jurisdiction associated with Drainage 19 and its tributaries totals approximately 3,970 square feet (0.09 acre) and is limited to the OHWM of the channel. Drainage 19 is located north of Interstate 210 towards the western edge of the project site and totals approximately 1,620 feet in length. The OHWM varies from two to three feet in width, and the channel bottom consists of a sandy bottom. This incised drainage exhibits destruction of terrestrial vegetation. Drainage 19 traverses areas dominated by mule fat (*Baccharis salicifolia*), California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), lemonadeberry (*Rhus integrifolia*), and skunkbrush (*Rhus trilobata*) [Exhibit 4, Photograph 16]. No Corps wetlands are associated with Drainage 19.

Drainage 20

Corps jurisdiction associated with Drainage 20 and its tributaries totals approximately 360 square feet (0.008 acre) and is limited to the OHWM of the channel. Drainage 20 is located north of Interstate 210 Freeway towards the western edge of the project site and totals approximately 220 feet in length. The OHWM varies from one to two feet in width, and the channel bottom consists of a sandy bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 20 traverses areas dominated by upland shrubs including California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*). No Corps wetlands are associated with Drainage 20.

Drainage 21

Corps jurisdiction associated with Drainage 21 and its tributaries totals approximately, 500 square feet (0.01 acre) and is limited to the OHWM of the channel. Drainage 21 is located north of Interstate 210 towards the western edge of the project site and totals approximately 200 feet in length. The OHWM varies from two to three feet in width, and the channel bottom consists of a sandy bottom. This incised drainage exhibits destruction of terrestrial vegetation, shelving, and the presence of litter and debris. Drainage 21 traverses areas dominated by upland shrubs including laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*). No Corps wetlands are associated with Drainage 21.

Drainage 22

Corps jurisdiction associated with Drainage 22 and its tributaries totals approximately, 2,400 square feet (0.05 acre) and is limited to the OHWM of the channel. Drainage 22 is located north of Interstate 210 towards the western edge of the project site and totals approximately 920 feet in length. The OHWM varies from one to three feet in width, and the channel bottom consists of a sandy, rocky bottom. This incised drainage exhibits destruction of terrestrial vegetation [Exhibit 4, Photograph 17]. Drainage 22 traverses areas dominated by upland shrubs such as laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*). No Corps wetlands are associated with Drainage 22.

Drainage 23

Corps jurisdiction associated with Drainage 23 and its tributaries totals approximately, 2,480 square feet (0.06 acre) and is limited to the OHWM of the channel. Drainage 23 is located north of Interstate 210 towards the western edge of the project site and totals approximately 1,120 feet in length. The OHWM varies from one to three feet in width, and the channel bottom consists of a sandy bottom. This incised drainage exhibits destruction of terrestrial vegetation. Drainage 23 traverses areas dominated by upland shrubs such as laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*). A four-foot stand pipe is located at the end of the drainage [Exhibit 4, Photograph 18]. No Corps wetlands are associated with Drainage 23.

B. CDFG Jurisdiction

CDFG jurisdiction associated with the Canyon Hills project site totals approximately 9.12 acres, of which 6.49 acres consist of riparian habitat.

Drainage 1

CDFG jurisdiction associated with Drainage 1 totals approximately 420 square feet (0.009 acre), none of which consists of riparian habitat. Drainage 1 traverses areas dominated by laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 2 (La Tuna Canyon)

CDFG jurisdiction associated with Drainage 2 and its tributaries totals approximately 173,567 square feet (3.98 acres), of which 162,742 square feet (3.73 acres) consist of riparian habitat. Drainage 2 is located along the southern edge of the project site and totals approximately 11,700 feet in length. Drainage 2 supports coast live oak (*Quercus agrifolia*), arroyo willow (*Salix lasiolepis*), and white alder (*Alnus rhombifolia*) [Exhibit 4, Photographs 1 and 2]. A small “strip” wetland totaling 400 square feet (.009 acre) was found just west of Tributary 2.8. This wetland was dominated by non-native umbrella sedge (*Cyperus involucratus*).

Drainage 3

CDFG jurisdiction associated with Drainage 3 and its tributaries totals approximately 10,730 square feet (0.25 acre), none of which consists of riparian habitat. Drainage 3 is located north of Interstate 210 towards the middle of the project site and totals approximately 4,120 feet in length. Drainage 3 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 4

CDFG jurisdiction associated with Drainage 4 and its tributaries totals approximately 109,550 square feet (2.51 acres), of which 52,260 square feet (1.20 acres) consists of riparian habitat. Drainage 4 is located north of Interstate 210 towards the middle of the project site and totals approximately 24,880 feet in length. Flowing water is present with the main drainage and

Tributaries 4.5 and 4.9. Drainage 4 supports coast live oak (*Quercus agrifolia*), arroyo willow (*Salix lasiolepis*), Mexican elderberry (*Sambucus mexicana*), and western sycamore (*Platanus racemosa*) [Exhibit 4, Photographs 3, 4, 5, 6 and 7].

Beginning approximately 200 feet north of the Southern California Edison transmission line right-of-way, the drainage begins to exhibit areas where groundwater is discharging in localized areas. Beginning at the confluence with Tributary 4.5, Drainage 4 exhibit surface water flow, which continued to the culvert that extends beneath Interstate 210. The banks of the drainage support a mosaic of upland shrubs with patches of basket rush (*Juncus textilis*) and Santa Barbara sedge (*Carex senta*).

Drainage 5

CDFG jurisdiction associated with Drainage 5 and its tributaries totals approximately 15,010 square feet (0.34 acre), of which 3,320 square feet (0.08 acre) constitute riparian habitat. Drainage 5 is located north of Interstate 210 towards the western edge of the project site and totals approximately 6,680 feet in length. Ponding of water occurs within the main drainage and Tributary 5.6. Drainage 5 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), and coast live oak (*Quercus agrifolia*) [Exhibit 4, Photographs 8, 9, 10, and 11].

Drainage 6

CDFG jurisdiction associated with Drainage 6 and its tributaries totals approximately 800 square feet (.02 acre), none of which consists of riparian habitat. Drainage 6 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 400 feet in length. Drainage 6 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 7

CDFG jurisdiction associated with Drainage 7 and its tributaries totals approximately 2,240 square feet (0.05 acre), none of which consists of riparian habitat. Drainage 7 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 1,270 feet in length. Drainage 7 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 8

CDFG jurisdiction associated with Drainage 8 and its tributaries totals approximately 1,120 square feet (0.02 acre), none of which consists of riparian habitat. Drainage 8 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 560 feet in length. Drainage 8 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 9

CDFG jurisdiction associated with Drainage 9 and its tributaries totals approximately 560 square feet (0.01 acre), none of which consists of riparian habitat. Drainage 9 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 280 feet in length. Drainage 9 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 10

CDFG jurisdiction associated with Drainage 10 and its tributaries totals approximately 480 square feet (0.01 acre), none of which consists of riparian habitat. Drainage 10 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 240 feet in length. Drainage 10 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 11

CDFG jurisdiction associated with Drainage 11 and its tributaries totals approximately 440 square feet (0.01 acre), none of which consists of riparian habitat. Drainage 11 is located north of Interstate 210 towards the eastern edge of the project site and totals approximately 220 feet in length. Drainage 11 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 12

CDFG jurisdiction associated with Drainage 12 and its tributaries totals approximately 680 square feet (0.016 acre), none of which consists of riparian habitat. Drainage 12 is located north of Interstate 210 towards the middle of the project site and totals approximately 420 feet in length. Drainage 12 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 13

CDFG jurisdiction associated with Drainage 13 and its tributaries totals approximately 3,200 square feet (0.07 acre), all of which consists of riparian habitat. Drainage 13 is located north of Interstate 210 towards the most eastern edge of the project site and totals approximately 100 feet in length. Drainage 13 traverses areas dominated by coast live oak (*Quercus agrifolia*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*) and has standing water present within the drainage at the time of delineation.

Drainage 14

CDFG jurisdiction associated with Drainage 14 and its tributaries totals approximately 61,550 square feet (1.41 acres), of which 56,380 square feet (1.29 acres) consist of riparian habitat. Drainage 14 is located south of Interstate 210 towards the western edge of the project site and totals approximately 6,340 feet in length. Flowing water was present in parts of Drainage 14 and Tributary 14.5. Drainage 14 supports mule fat (*Baccharis salicifolia*), coast live oak (*Quercus agrifolia*), western sycamore (*Plantanus racemosa*), and arroyo willow (*Salix lasiolepis*) [Exhibit 4, Photographs 12 and 13].

Drainage 15

CDFG jurisdiction associated with Drainage 15 and its tributaries totals approximately 600 square feet (0.01 acre), none of which consists of riparian habitat. Drainage 15 is located south of Interstate 210 towards the western edge of the project and totals approximately 400 feet in length. Drainage 15 traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 16

CDFG jurisdiction associated with Drainage 16 and its tributaries totals approximately 2,420 square feet (0.06 acre), of which 1,200 square feet (0.03 acre) consists of riparian habitat. Drainage 16 is located south of Interstate 210 towards the western edge of the project site and totals approximately 1,120 feet in length. Drainage 16 supports mule fat (*Baccharis salicifolia*) and traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 17

CDFG jurisdiction associated with Drainage 17 and its tributaries totals approximately 580 square feet (0.01 acre), all of which consists of riparian habitat. Drainage 17 is located south of Interstate 210 towards the western edge of the project site and totals approximately 140 feet in length. Drainage 17 supports mule fat (*Baccharis salicifolia*) and traverses areas dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 18

CDFG jurisdiction associated with Drainage 18 and its tributaries totals approximately 2,000 square feet (0.05 acre), of which 840 square feet (0.02 acre) consists of riparian habitat. Drainage 18 is located north of Interstate 210 towards the western edge of the project site and totals approximately 740 feet in length. Drainage 18 traverses areas dominated by coast live oak (*Quercus agrifolia*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*) [Exhibit 4, Photographs 14 and 15].

Drainage 19

CDFG jurisdiction associated with Drainage 19 and its tributaries totals approximately 5,580 square feet (0.13 acre), of which 2,400 square feet (0.06 acre) consists of riparian habitat. Drainage 19 is located north of Interstate 210 towards the western edge of the project site and totals approximately 1,620 feet in length. Drainage 19 supports mule fat (*Baccharis salicifolia*) and traverses areas dominated by California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), lemonadeberry (*Rhus integrifolia*), and skunkbrush (*Rhus trilobata*) [Exhibit 4, Photograph 16].

Drainage 20

CDFG jurisdiction associated with Drainage 20 and its tributaries totals approximately 360 square feet (0.008 acre), none of which consists of riparian habitat. Drainage 20 is located north of Interstate 210 towards the western edge of the project site and totals approximately 220 feet in length. Drainage 20 traverses areas dominated by California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Drainage 21

CDFG jurisdiction associated with Drainage 21 and its tributaries totals approximately, 500 square feet (0.01 acre), none of which consists of riparian habitat. Drainage 21 is located north of the 210 towards the western edge of the project site and totals approximately 200 feet in length. Drainage 21 traverses areas dominated by laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*).

Drainage 22

CDFG jurisdiction associated with Drainage 22 and its tributaries totals approximately, 2,400 square feet (0.05 acre), none of which consists of riparian habitat. Drainage 22 is located north of Interstate 210 towards the western edge of the project site and totals approximately 920 feet in length. Drainage 22 traverses areas dominated by laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*) [Exhibit 4, Photograph 17].

Drainage 23

CDFG jurisdiction associated with Drainage 23 and its tributaries totals approximately 2,720 square feet (0.06 acre), none of which consists of riparian habitat. Drainage 23 is located north of Interstate 210 towards the western edge of the project site and totals approximately 1,120 feet in length. Drainage 23 traverses areas dominated by laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*) [Exhibit 4, Photograph 18].

IV. DISCUSSION

A. Impact Analysis

1. Corps Jurisdiction

Out of approximately 6.46 acres of Corps jurisdiction at the project site, development of the proposed project would impact approximately 2.06 acres, none of which is jurisdictional wetlands. Approximately 32,450 linear feet of ephemeral, intermittent or perennial drainages would be impacted by the proposed project.

**TABLE 1
 CORPS JURISDICTION AND IMPACTS**

Drainage	Corps Jurisdictional Area (Square Feet)			Impacts to Corps Jurisdiction (Square Feet)		
	Wetlands	Drainages	Total	Wetlands	Drainages	Total
Drainage 1	0	420	420	0	420	420
Drainage 2	400	123,570	123,970	0	10,655	10,655
Drainage 3	0	10,730	10,730	0	10,380	10,380
Drainage 4	0	86,720	86,720	0	61,565	61,565
Drainage 5	0	10,300	10,300	0	1,610	1,610
Drainage 6	0	800	800	0	800	800
Drainage 7	0	2,240	2,240	0	1,000	1,000
Drainage 8	0	1,200	1,200	0	1,200	1,200
Drainage 9	0	640	640	0	640	640
Drainage 10	0	480	480	0	480	480
Drainage 11	0	440	440	0	440	440
Drainage 12	0	680	680	0	680	680
Drainage 13	0	600	600	0	0	0
Drainage 14	0	29,130	29,130	0	0	0
Drainage 15	0	600	600	0	0	0
Drainage 16	0	1,840	1,840	0	0	0
Drainage 17	0	280	280	0	0	0
Drainage 18	0	1,100	1,100	0	0	0
Drainage 19	0	3,970	3,970	0	0	0
Drainage 20	0	360	360	0	0	0
Drainage 21	0	500	500	0	0	0
Drainage 22	0	2,400	2,400	0	0	0
Drainage 23	0	2,480	2,480	0	0	0
TOTA	400	281,320	281,320	0	89,870	89,870

2. CDFG Jurisdiction

Out of approximately 9.12 acres of CDFG jurisdiction at the project site, development of the proposed project would impact approximately 2.45 acres of CDFG jurisdiction, of which 0.74 acre consists of vegetated riparian habitat. Impacts to riparian habitat include temporary impacts to 0.13 acre of southern mixed riparian habitat during installation/construction of the bridge crossings over La Tuna Canyon Wash. Permanent impacts would occur to 0.02 acre of southern coast live oak riparian forest associated with Tributary 2.11, 0.02 acre of southern coast live oak riparian forest on Tributary 2.9, 0.02 acre of southern willow scrub on Tributary 2.9, 0.12 acre of southern mixed riparian forest associated with the lower reaches of Tributary 4.9 and 0.43 acre of southern mixed riparian forest associated with Tributary 4.1.

**TABLE 2
 CDFG JURISDICTION AND IMPACTS**

Drainage	CDFG Jurisdictional Area (Square Feet)			Impacts to CDFG Jurisdiction (Square Feet)		
	Wetland or Riparian Habitat	Drainages	Total	Wetland or Riparian Habitat	Drainages	Total
Drainage 1	0	420	420	0	420	420
Drainage 2	162,742	10,825	173,567	8,100	8,165	16,265
Drainage 3	0	10,730	10,730	0	9,990	9,990
Drainage 4	55,260	57,290	109,550	24,100	49,360	73,460
Drainage 5	3,320	11,690	15,010	0	1,570	1,570
Drainage 6	0	800	800	0	800	800
Drainage 7	0	2,240	2,240	0	960	960
Drainage 8	0	1,200	1,200	0	1,160	1,160
Drainage 9	0	640	640	0	640	640
Drainage 10	0	480	480	0	480	480
Drainage 11	0	440	440	0	440	440
Drainage 12	0	680	680	0	680	680
Drainage 13	3,200	0	3,200	0	0	0
Drainage 14	56,380	5,170	61,550	0	0	0
Drainage 15	0	600	600	0	0	0
Drainage 16	1,200	1,220	2,420	0	0	0
Drainage 17	580	0	580	0	0	0
Drainage 18	840	1,160	2,000	0	0	0
Drainage 19	2,400	3,180	5,580	0	0	0
Drainage 20	0	360	360	0	0	0
Drainage 21	0	500	500	0	0	0
Drainage 22	0	2,400	2,400	0	0	0
Drainage 23	0	2,720	2,720	0	0	0
TOTAL	282,922	114,585	397,507	32,200	74,625	106,825

B. Impacts Associated with Duke Property Access Alternative

Provision of access to Development Area A through the Duke Property would require filling of portions of one unvegetated ephemeral streambed that accounts for approximately 0.04 acre of Corps and CDFG jurisdiction. Selection of this alternative access would eliminate impacts to Drainages 6, 7, and 8 associated with proposed project totaling 0.07 acre of unvegetated streambed subject to Corps and CDFG jurisdiction. The proposed mitigation set forth below would be sufficient to compensate for impacts associated with the Duke Property access alternative, given the overall reduction in impacts that would be associated with this alternative.

C. Potential Mitigation

Impacts to Corps jurisdiction total 2.06 acre, of which 0.33 acre consists of intermittent drainage course associated with the lower portions of Tributaries 4.1, 4.9, and 4.21 and 1.73 acres consist of ephemeral drainage channel.

Impacts to CDFG jurisdiction total 2.45 acres, including 1.71 acres of unvegetated streambed and 0.74 acre of riparian habitat. Impacts to riparian habitat include temporary impacts to 0.13 acre of southern mixed riparian habitat during installation/construction of the bridge crossings over La Tuna Canyon Wash. Permanent impacts would occur to 0.02 acre of southern coast live oak riparian forest associated with Tributary 2.11, 0.02 acre of southern coast live oak riparian forest on Tributary 2.9, 0.02 acre of southern willow scrub on Tributary 2.9, 0.12 acre of southern mixed riparian forest associated with the lower reaches of Tributary 4.9 and 0.43 acre of southern mixed riparian forest associated with Tributary 4.1.

Mitigation to compensate for these impacts will consist of two components including onsite creation/restoration within the onsite water quality basin to be constructed in the lower reach of Drainage 4 totaling approximately 2.5 acres and preservation and enhancement of La Tuna Canyon Wash with enhancement of approximately 2.5 acres that exhibit moderate to high levels of infestation by sticky eupatory (*Ageratina adenophora*) and African umbrella sedge (both are recognized as invasive exotic species).

1. Onsite Creation/Restoration

Construction of the project includes creation of a water quality basin in the lower reach of Drainage 4. Creation of this feature will require grading of the canyon bottom and sides, resulting in a basin that covers approximately 2.5 acres. The basin will be planted with a mosaic of wetland/riparian habitats that will provide both biogeochemical (water quality) and habitat functions. The proposed habitats would include southern coast live oak riparian forest at the

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Christopher A. Joseph & Associates
May 29, 2003
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upper elevations, southern mixed riparian in the middle elevations and wet meadow or emergent marsh in the wettest (lowest) areas.

2. Enhancement of La Tuna Canyon Wash

The onsite reach of La Tuna Canyon Wash exhibits moderate to heavy infestations by sticky eupatory along with locally dense patches of African umbrella sedge. Sticky eupatory is sprawling understory shrub recognized as an invasive exotic species by the California Exotic Pest Plant Council (CalEPPC) and the California Native Plant Society (CNPS), and is also listed by the U.S. Department of Agriculture as a “Noxious Weed”. The proposed enhancement program would include eradication of sticky eupatory and African umbrella sedge from the onsite reach through a five-year program. The five-year program would also include replanting with native understory species in areas where the dense understory formed by sticky eupatory has been removed.

Implementation of the proposed mitigation would result in a compensation ratio of approximately 2.4:1 for impacts to Corps jurisdiction and approximately 2.0:1 for impacts to CDFG jurisdiction.

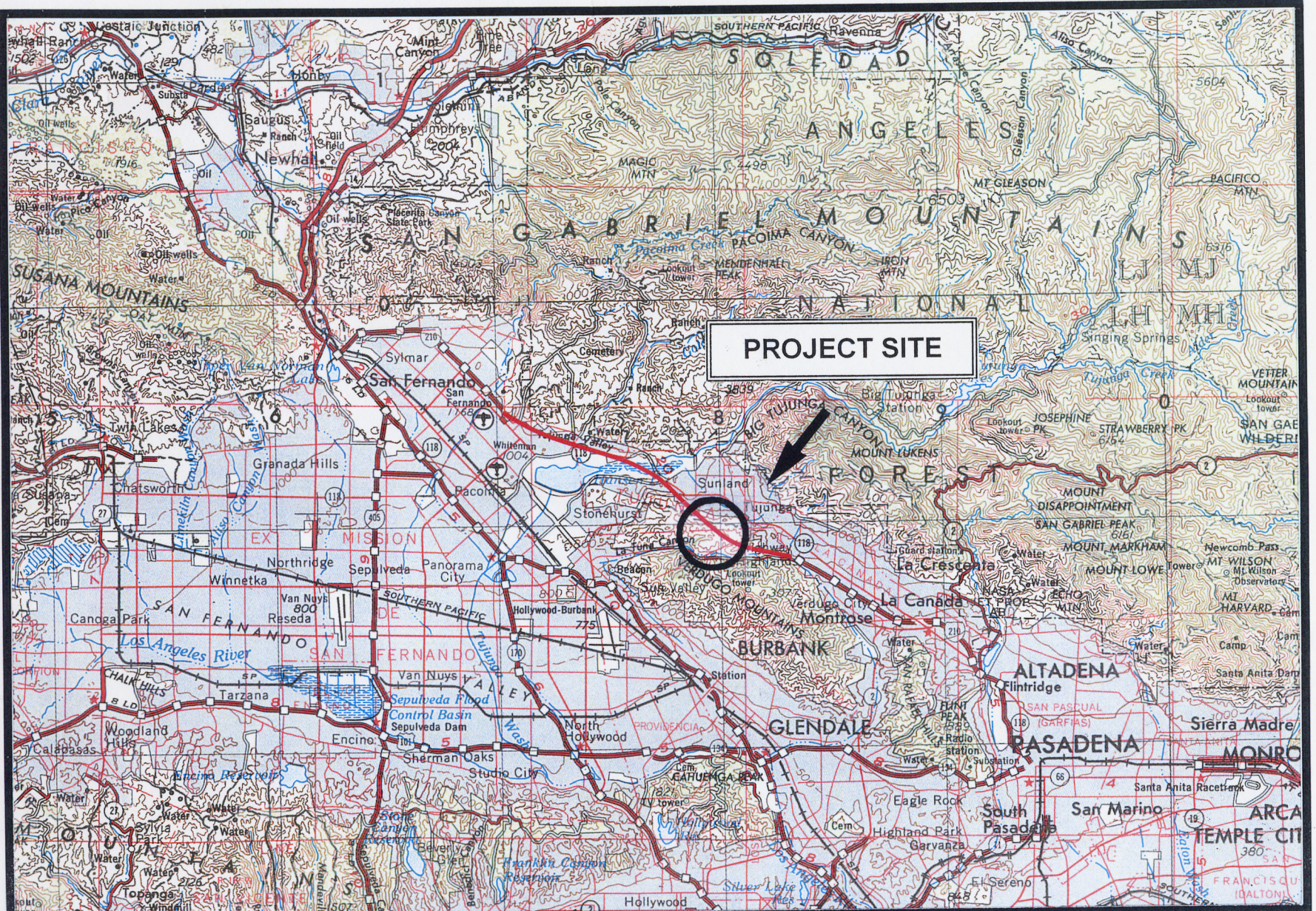
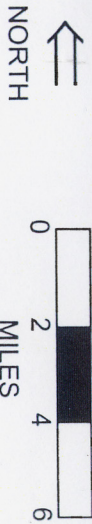
Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Tony Bomkamp
Senior Regulatory Specialist

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Adapted from USGS Los Angeles Quadrangle

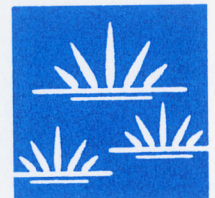


CANYON HILLS

Regional Map

GLENN LUKOS ASSOCIATES

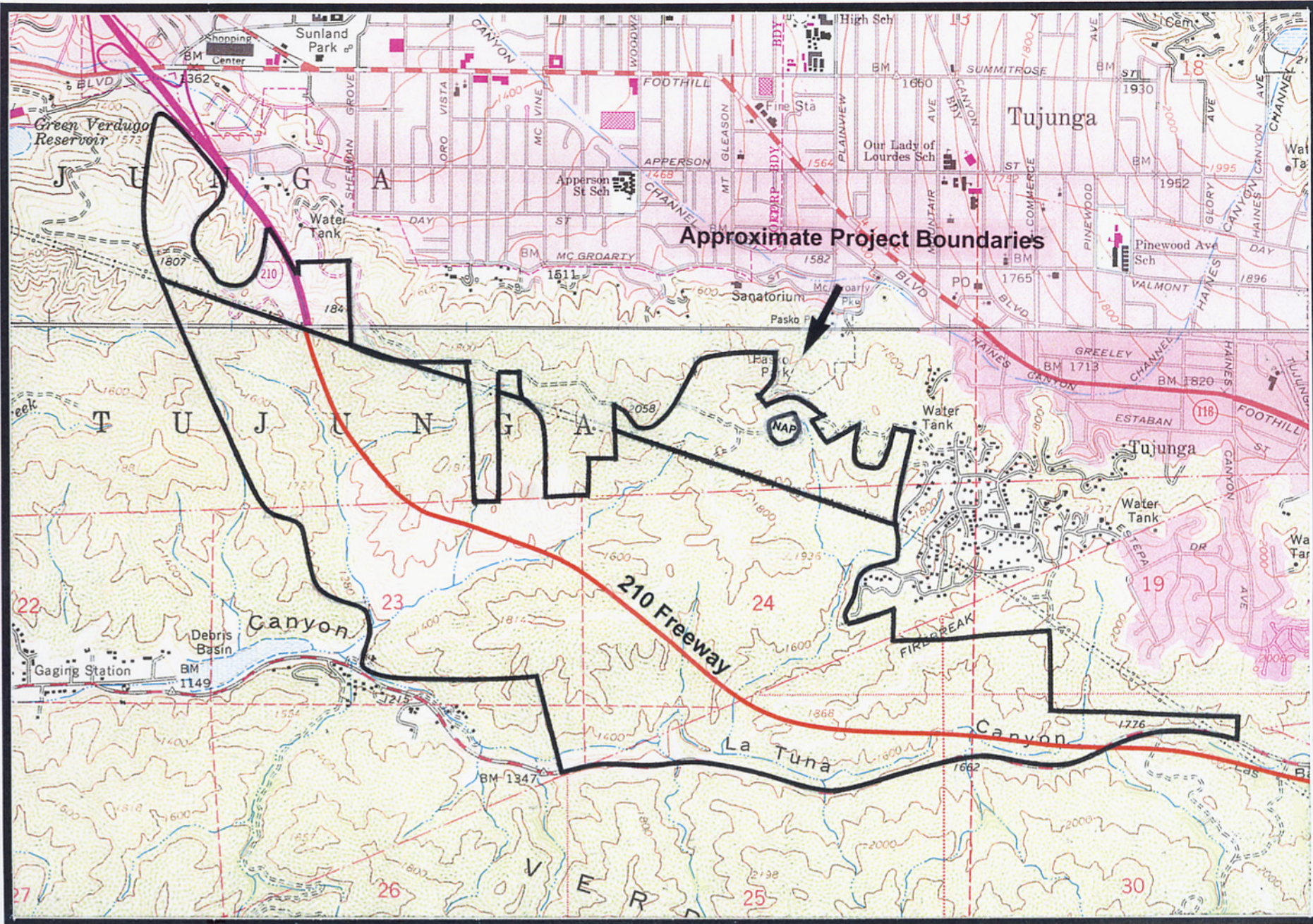
EXHIBIT 1



Adapted from USGS Burbank and Sunland Quadrangles

North ↑

0
1000
2000
3000
FEET



CANYON HILLS

Vicinity Map

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EXHIBIT 2

