

Investigation of Jurisdictional Wetlands and Waters of the U.S.

**Bouquet Canyon
Los Angeles County, California**

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The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional determination for the above-referenced project.

PCR Services Corporation

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INVESTIGATION OF JURISDICTIONAL WETLANDS AND WATERS OF THE U.S. ON THE BOUQUET CANYON PROJECT SITE

1.0 INTRODUCTION

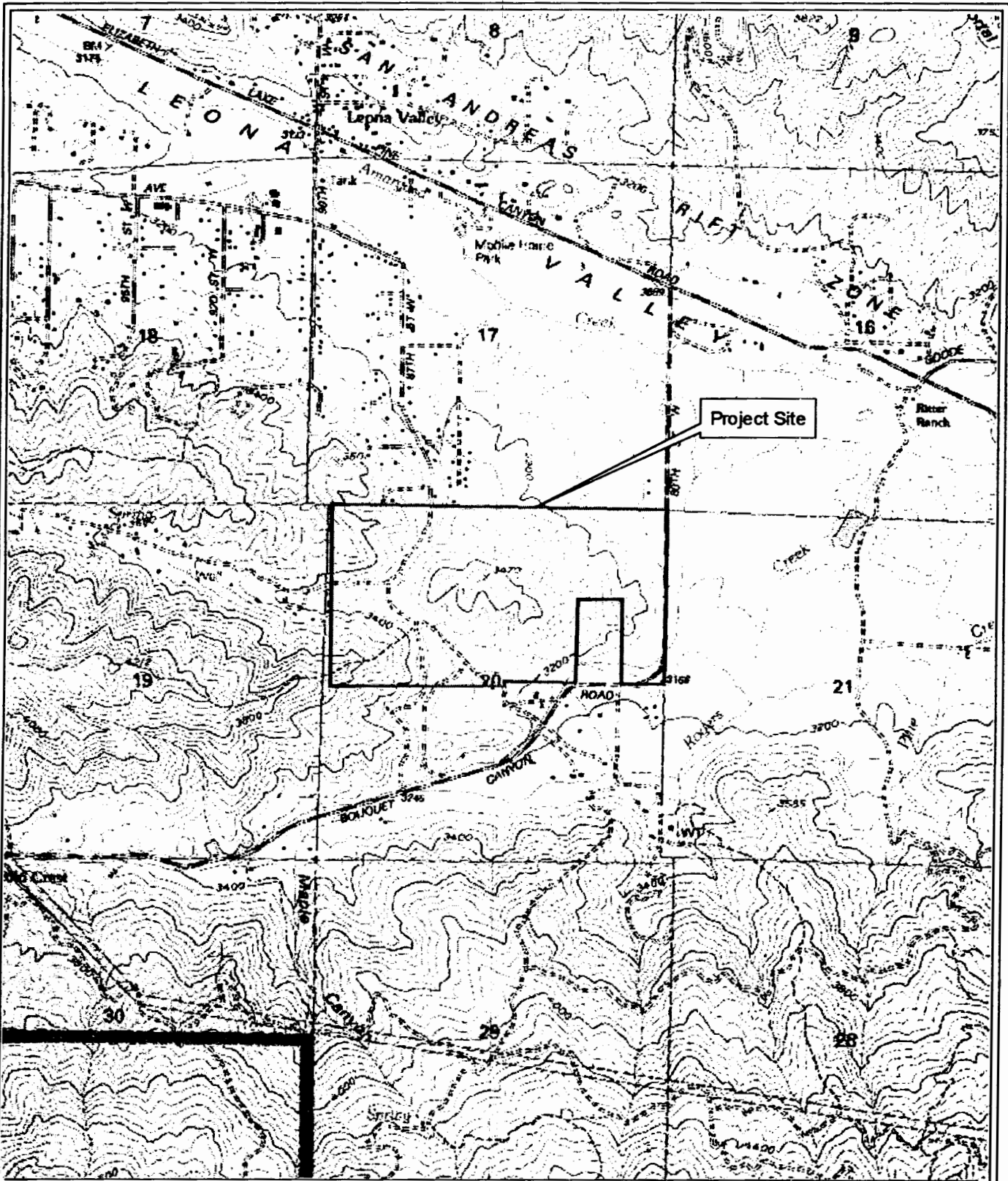
This report presents the findings of an investigation conducted by PCR Services Corporation (PCR) to determine the extent of jurisdictional wetlands, "waters of the U.S.," and "waters of the State" for the approximately 292.6-acre Bouquet Canyon project site located within Leona Valley, an unincorporated area of Los Angeles County ("the study area"). The study area is located in northwestern Los Angeles County, within the vicinity of the western corporate boundary of the City of Palmdale. The study area is generally located west of Interstate 14 (I-14) in the City of Palmdale and south of Elizabeth Lake Road (unincorporated Los Angeles County, as shown in

Figure 1, *Regional Map*, on page 2. On a local level, the study area is located north of Bouquet Canyon Road, west of 80th Street West, and south of Elizabeth Lake Road. The study area is located within the northern portion of Section 20, T. 6 N., R. 13 W., of the U.S. Geological Survey (USGS) 7.5-minute Sleepy Valley, California topographic quadrangle map, as shown in Figure 2, *Vicinity Map*, on page 3. The study area is located at the base and to the north of the Sierra Pelonas within and adjacent to the Angeles National Forest. Topography within the study area consists of gently sloping foothills interspersed with gently sloping canyons. Elevations within the study area boundaries range from approximately 3,120 feet above mean sea level (MSL) in the east to approximately 3,680 above MSL in the southwest.

An assessment of jurisdictional wetlands and waters was conducted by PCR Senior Biologists Richard Haywood and Linda Robb on July 10, 11, and 12, 2006. The assessment was conducted on the approximately 292.6-acre study area to determine whether or not on-site drainages are subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE), the Regional Water Quality Control Board (RWQCB), and/or the California Department of Fish and Game (CDFG), and to determine the extent of any jurisdiction on the study area.

2.0 EXISTING CONDITIONS

The Bouquet Canyon study area is located within Los Angeles County, west of I-14, and north of Interstate 5 (I-5). Regional access to the study area is provided via I-14 located approximately eight miles to the east of the study area. Existing local access to the study area is via 80th Street West, which borders the eastern property boundary of the study area.



Source: USGS Topographic Series (Sleepy Valley, CA);
 PCR Services Corporation, 2006.

Figure 2
 Bouquet Canyon
 Vicinity Map

The 292.6-acre property is undeveloped with the exception of several dirt roads. The majority of the study area consists of native vegetation communities, including mule fat scrub, buckwheat-deerweed scrub, chamise chaparral, mixed chaparral, and big sagebrush scrub. Additional areas located within the study area were characterized as disturbed, disturbed riparian scrub, non-native grassland, and ruderal (Figure 3, *Plant Communities*, on page 5).

The study area supports two unnamed drainages, referred to in this report as Drainage A and Drainage B. There are two tributaries associated with Drainage A, and one tributary to Drainage B. Drainage A, the tributaries to Drainage A, and the tributary to Drainage B exhibit ephemeral hydrology. Drainage B exhibits intermittent hydrology. The drainage systems are comprised of natural, unlined channels with earthen banks and sandy streambeds. The streambeds are vegetated throughout the majority of their on-site extents with some areas of bare ground. Both drainages are identified on the USGS 7.5-minute quadrangle map (Sleepy Valley) as "blue-line streams" and are tributary to Amargosa Creek. Both drainages have been impacted to varying degrees by human activity. Disturbances include the installation of culverted road crossings, including small dirt access roads for local residences and the paved 80th Street West. Other disturbances include adjacent earthwork and agricultural activities, off-road vehicle use, the likely creation of a tributary to Drainage A, the placement of earthen berms across Drainage A, apparently to divert water to this tributary, and the likely creation of a tributary to Drainage B.

Surface water flows through both drainage systems from southwest to northeast. The hydrology of these drainage systems is likely augmented from residences and agricultural areas in the vicinity. The drainage system is part of the South Lahontan hydrological region, Antelope hydrological unit, Lancaster hydrological area, and Lancaster hydrologic sub-area.

3.0 SUMMARY OF REGULATIONS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The ACOE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA), the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the RWQCB regulates activities under Section 401 of the CWA and the Porter-Cologne Act.

The ACOE regulates "discharge of dredged or fill material" into "waters of the U.S.," which includes tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable "waters of the U.S.," the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 C.F.R. 328.3(a)), pursuant to provisions of Section 404 of the CWA. The ACOE generally takes jurisdiction within rivers and streams to the "ordinary high water mark" (OHWM) determined by erosion, the deposition of vegetation or



- Project Boundary
 Plant Communities
 MFS Mule Fat Scrub
 BDS Buckwheat-Deerweed Scrub
 CCH Chamise Chaparral
 DIS Disturbed
 DRS Disturbed Riparian Scrub
 MCH Mixed Chaparral
 NNG Non-native Grassland
 RUD Ruderal
 BSS Big Sagebrush Scrub

Figure 3
 Bouquet Canyon
 Plant Communities

500 0 500 Feet
 Source: USGS DOQQ, 1984; PCR Services Corporation, 2008.



debris, and changes in vegetation. The ACOE defines jurisdictional wetlands as areas that contain hydrophytic vegetation, hydric soils, and wetland hydrology, in accordance with the procedures established in the ACOE Wetland Delineation Manual (Environmental Laboratory 1987). However, the United States Supreme Court ruling in the Solid Waste Agency of Northern Cook County vs. United States Army Corps of Engineers, No. 99-1178 (January 9, 2001) (“the SWANCC case”), held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. As a result of this decision, some previously regulated depressional areas such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools which are not hydrologically connected to other intrastate or interstate “waters of the U.S.,” are no longer regulated by the ACOE. However, these areas may still be regulated by CDFG under Fish and Game Code Section 1600 or by the RWQCB under the Porter-Cologne Act. Legislation has been introduced to the State Assembly to revise the Fish and Game Code to specifically regulate isolated waters affected by the SWANCC case.

In accordance with Section 1600 *et seq.*, of the California Fish and Game Code (Streambed Alteration), the CDFG regulates activities that “will substantially divert, obstruct, or substantially change the natural flow or bed, channel or bank, of any river, stream, or lake designated by the Department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.” The CDFG takes jurisdiction to the top of bank of the stream, or the limit of the adjacent riparian vegetation, referred to in this report as “streambed and associated riparian habitats.”

The RWQCB regulates “discharging waste, or proposing to discharge waste, within any region that could affect the “water of the State” (Water Code § 13260 (a)), pursuant to provisions of the Porter-Cologne Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the State” (Water Code § 13050 (e)). Before the ACOE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification from the RWQCB. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) under the Porter-Cologne Act.

A detailed discussion of the CWA Section 404 definitions and permit processing is included in Section 7.0 of this report.

4.0 METHODS

Prior to visiting the study area, potential and/or historic drainages and aquatic features were located based on a review of the following: a detailed topographic map (USGS quadrangle Sleepy Valley, California) (USGS 1958, photorevised in 1974), aerial photographs, and the soil

survey maps (NRCS 2006a). Drainage features were mapped during field observations to obtain characteristic parameters and detailed descriptions using a combination of standard measurement tools and Global Positioning System (GPS) equipment. The precise location of transects, upstream and downstream extents of each feature, and sample points were collected in the field using a GPS hand-held unit. The Trimble GeoXT system is an advanced geographic data collection tool that integrates satellite differential and wide area augmentation system capabilities to provide submeter (50 cm RMS) positional accuracy on a real-time basis. Following data collection, the digital information was uploaded and incorporated within PCR's project-specific GIS database to calculate jurisdictional acreages.

Following the initial data collection, the entire property was evaluated and all areas that were identified as being potentially subject to the jurisdiction of the ACOE, RWQCB, and/or the CDFG were field verified and mapped. The potential for "waters of the U.S." and "waters of the State" were investigated based on the absence or presence of an OHWM, or if not clearly visible, as determined by erosion, the deposition of vegetation or debris, and changes in vegetation. If any of these criteria were met, a series of transects were run to determine the extent of jurisdictional non-wetland "waters of the U.S." Identified non-wetland "waters of the U.S." were traversed within or along the channel, and the OHWM was measured. Where channels diverged to form low, intermediate areas between the channels, the entire area between the outermost edge of each channel was considered within the OHWM. Where the intermediate area was equal to or above the height of the uppermost bank of either channel, the OHWM was recorded individually for each channel. The CDFG jurisdiction was defined to the bank of the stream/channels or to the limit of the adjacent riparian vegetation.

ACOE jurisdictional wetlands were delineated using a routine determination according to the methods outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) based on hydrologic and edaphic features of the Site, and on the vegetation composition of each area being investigated. In areas where jurisdictional wetlands were suspected, data on vegetation, hydrology, and soils was collected along transects, as described below.

Vegetation

Aerial cover of vegetation was estimated along each transect by estimating coverage in two randomly placed circular plots. Tree cover was estimated using 30-foot radius circular plots; sapling, shrub, and forb cover was estimated using 10-foot radius plots. Plant species in each strata were ranked according to their dominance. Species that contributed to a cumulative total of 50 percent of the total dominant coverage plus any species that comprised at least 20 percent of the total dominant coverage were recorded on the wetland data sheets. The wetland indicator status was assigned to each species using the *National List of Plant Species that Occur in Wetlands: California (Region 0)* (Reed 1988), as shown in Table 1, *Summary of Wetland*

Indicator Status, on page 9. If greater than 50 percent of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation was considered to have been met. Each category of wetland indicator status is defined in Table 1.

Hydrology

The presence of wetland hydrology was evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil pits. In addition, indicators of wetland or riverine hydrology were recorded, including water marks, drift lines, rack, debris, and sediment deposits. The lateral extent of the hydrology indicators was used as a guide for locating soil pits for evaluation of hydric soils. In portions of the stream where the flow was divided between multiple channels with intermediate sand bars, the entire area between the outermost edge of each channel was considered within the OHWM and the wetland hydrology indicator was considered met for the entire area, assuming surface water was present.

Soils

If the criteria for wetland vegetation and hydrology were met, then an excavation of the soils was conducted to determine if the soils were hydric. Soil pits were dug to a depth of 18 inches. In areas of recent deposition of sand or other overburden material, the soil pit was dug to a depth of 18 inches below the depth of the overburden material. At each soil pit the soil texture and color were compared with standard plates within a Munsell soil color chart (1994), then recorded. Any indicators of hydric soils, such as redoximorphic features, buried organic matter, organic streaking, reduced soil conditions, gleyed or low-chroma soils, or sulfidic odor were also recorded.

5.0 RESULTS

PCR biologists used the methods described above to determine the presence or absence of ACOE/RWQCB and/or CDFG jurisdictions within the study area. Jurisdictional features on site include two main drainages, identified as Drainage A and Drainage B, as well as associated tributaries. Drainage A and its two associated tributaries exhibit ephemeral hydrology and total approximately 2,790 linear feet of streambed within the study area. Drainage A and its tributaries include 0.16 acre of ACOE/RWQCB jurisdictional "waters of the U.S.,"/"waters of the State," none of which includes an ACOE/RWQCB jurisdictional wetland. Drainage A and its tributaries also include approximately 0.67 acre of CDFG jurisdictional streambed and associated riparian habitat. Drainage B exhibits intermittent hydrology and its tributary exhibits ephemeral hydrology. Drainage B and its tributary total approximately 1,590 linear feet of streambed



- Project Boundary
- Photograph Location
- Non-jurisdictional Drainage
- Wetlands
- ACOE Jurisdiction
- CDFG Jurisdiction



400 0 400 Feet

Source: USGS DOQQ, 1994; PCR Services Corporation, 2008.

Figure 4
 Bouquet Canyon
 Jurisdictional Features and Site Photograph Locations

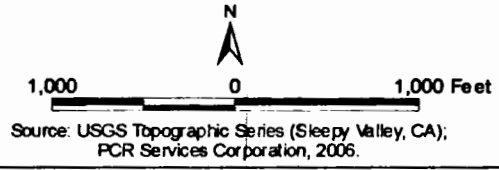
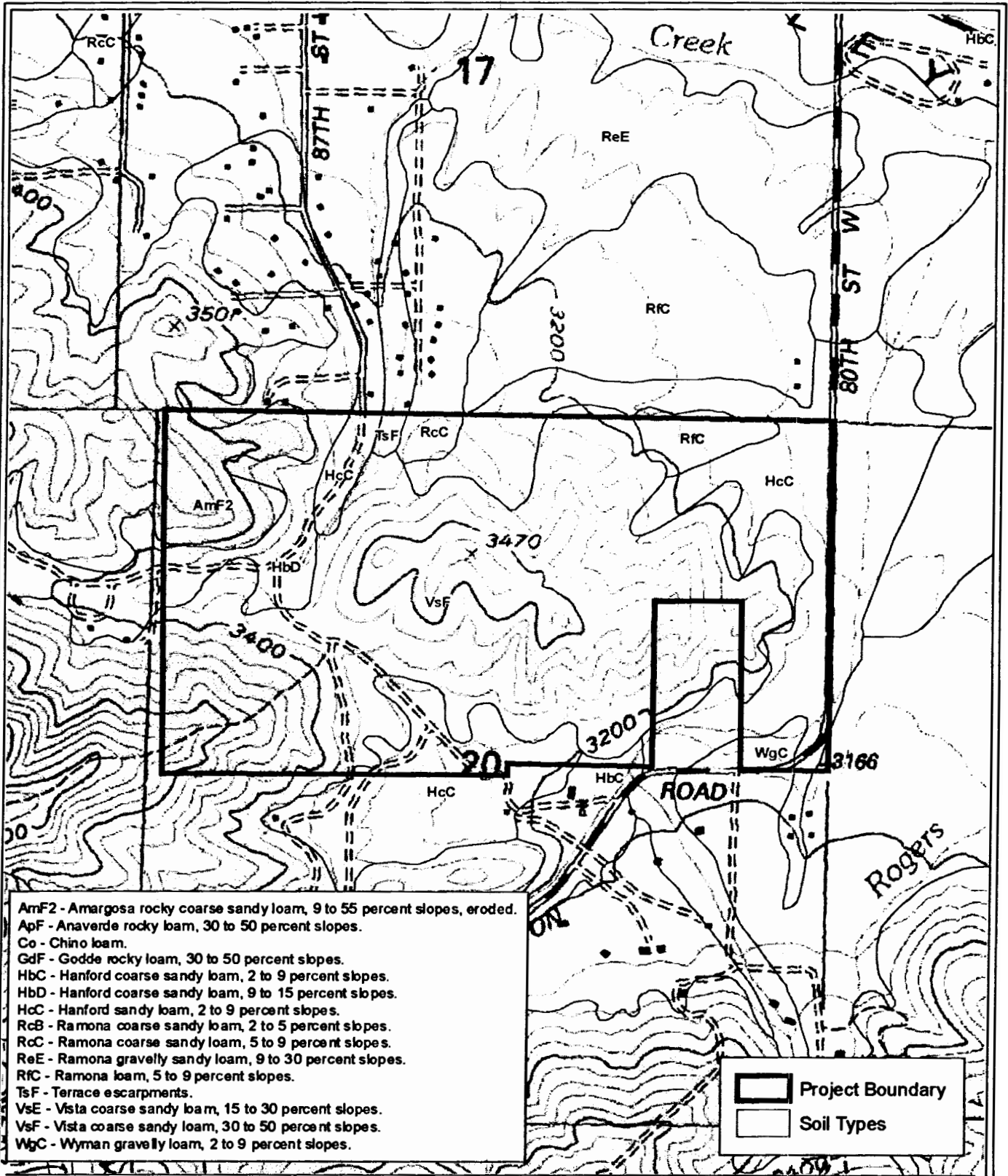


Figure 5
 Bouquet Canyon
 Soils Map

Information pertaining to soil series descriptions was obtained from the *Report and General Soil Map*, Los Angeles County, prepared by the USDA, Soil Conservation Service (USDA 1969) and the NRCS (NRCS 2006a). None of these soils are included on the *Hydric Soils List of California* (USDA 1995) according to Nancy at the NRCS- Lancaster Service Center (NRCS 2006b).

- The Amargosa soil series consists of excessively drained soils that have moderately rapid subsoil permeability, rapid runoff, and a high erosion hazard. These soils have a coarse sandy loam surface layer about 13 inches thick. Below the surface layer is a slightly acid gravelly sandy loam layer, containing about 20 percent by volume gravel, resting on granite at about 14 to 20 inches. Available water holding capacity is one to one and one-half inches for 14 to 20 inches of soil depth. The soil series is typically found in steep mountains. The specific soil type found on site is **Amargosa rocky coarse sandy loam, 9 to 55 percent slopes, eroded (AmF2)**.
- The Anaverde soil series consists of well-drained soils that have moderate subsoil permeability, rapid runoff, and a high erosion hazard. These soils have a loam surface layer about 22 inches thick. Below the surface layer is a light clay loam and gravelly light clay loam underlain by schist at a depth of about 55 inches. Available water holding capacity is five and one-half to nine inches for 36 to 55 inches of soil depth. This soil series is typically found in steep mountains. The specific soil type found on-site is **Anaverde rocky loam, 30 to 50 percent slopes (ApF)**.
- The Chino soil series consists of somewhat poorly drained soils that have moderately slow subsoil permeability, slow runoff, and a slight erosion hazard. These soils have a loam, silt loam, or clay loam surface layer about 16 inches thick. Below the surface layer is a silty clay loam and clay loam substratum. Available water holding capacity is 10 to 12 inches for 60 inches of soil depth. This soil series is typically found on nearly level valley floors. The specific soil type found on-site is **Chino loam (Co)**.
- The Godde soil series consists of well drained soils that have moderate subsoil permeability, rapid runoff, and a high erosion hazard. These soils have a loam surface layer underlain by hard schist at about 16 inches. Available water holding capacity is two to three inches for 14 to 20 inches of soil depth. The soil series is typically found on steep mountains. The specific soil type found on-site is **Godde rocky loam, 30 to 50 percent slopes (GdF)**.
- The Hanford soil series consists of well-drained soils that have a moderately rapid subsoil permeability, slow runoff, and slight erosion hazard. These soils have a coarse sandy loam surface layer about eight inches thick. Below the surface layer is a coarse sandy loam and gravelly loamy coarse sand substrate. Available water holding capacity is five to seven and one-half inches for 60 inches of soil depth. This soil series is typically found on gently sloping alluvial fans. The specific soil types found

on-site are **Hanford coarse sandy loam, 2 to 9 percent slopes (HbC)**, **Hanford coarse sandy loam, 9 to 15 percent slopes (HbD)**, and **Hanford sandy loam, 2 to 9 percent slopes (HcC)**.

- The Ramona soil series consists of well-drained soils that have a slow subsoil permeability, slow runoff, and slight erosion hazard. These soils have heavy loam, loam, or sandy loam surface layers about 18 inches thick. Below the surface layer is a dense clay loam or clay about 30 inches thick. Available water holding capacity is eight to 10 inches for 60 inches of soil depth. This soil series is typically found on gently sloping terraces. The specific soil types found on-site are **Ramona coarse sandy loam, 2 to 5 percent slopes (RcB)**, **Ramona coarse sandy loam, 5 to 9 percent slopes (RcC)**, **Ramona gravelly sandy loam, 9 to 30 percent slopes (ReE)**, and **Ramona loam, 5 to 9 percent slopes (RfC)**.
- **Terrace escarpments (TsF)** consist of steep, relatively smooth descending slopes at the ends of terraces. The natural drainage, subsoil permeability, available water holding capacity are variable. Surface runoff is rapid and the erosion hazard is severe. Typically the soil material varies considerably in characteristics within short distances.
- The Vista soil series consists of well-drained soils that have a moderately rapid subsoil permeability, rapid runoff, and high erosion hazard. These soils have a coarse sandy loam surface layer about 16 inches thick. Below the surface layer is a sandy loam about 12 inches thick that contains two or three percent more clay than the surface layer. Available water holding capacity is two and one-half to three and one-half inches for 28 to 38 inches of soil depth. This soil series is typically found on steep mountains. The specific soil types found on-site are **Vista coarse sandy loam, 15 to 30 percent slopes (VsE)** and **Vista coarse sandy loam, 30 to 50 percent slopes (VsF)**.
- The Wyman soil series consists of well-drained soils that have moderately slow subsoil permeability and slow to medium runoff. These soils have a silt loam or light clay loam surface layer of about 14 inches thick. Below the surface layer is a clay loam or silty clay loam about 27 inches thick. Wyman soils are on old stream terraces and old alluvial fans; slopes are 0 to 15 percent. The specific soil type found on-site is **Wyman gravelly loam, 2 to 9 percent slopes (WgC)**.

5.3 Field Investigation

Results from the field investigation identified two jurisdictional drainages, Drainage A and Drainage B, two tributaries to Drainage A (referred to as Tributaries A1 and A2 in this report), and one tributary to Drainage B (referred to as Tributary B1 in this report). Drainages A

and B are listed as USGS "blue-line streams." The two main drainage features as well as their associated tributaries are explained in detail below. The wetland indicator status (Table 1, *Summary of Wetland Indicator Status*) of each species observed, or anticipated, within the OHWM is provided for easy reference. Table 2, *Summary of Jurisdictional Features*, on page 15, provides a summary of the jurisdictional extent for each aquatic resource within the study area.

Drainage A

Drainage A originates in the foothills of the Sierra Pelona, just east of the Angeles National Forest boundary and flows onto the study area from the west. Drainage A traverses the northwestern portion of the study area 2,014 linear feet before flowing off of study area near the northern boundary. Earthen berms are constructed across Drainage A just south of where Drainage A flows off-site. These berms divert water from Drainage A, redirecting it via sheet flow to Tributary A1.

Drainage A is characterized by ephemeral hydrology and supports a mule fat scrub and disturbed riparian scrub plant community. Dominant vegetation observed within and along the slopes of Drainage A includes California buckwheat (*Eriogonum fasciculatum*, UPL), western ragweed (*Ambrosia psilostachya*, FAC), jimson weed (*Datura wrightii*, UPL), annual bur-sage (*Ambrosia acanthicarpa*, UPL), Russian thistle (*Salsola tragus*, FACU+), Great Basin sagebrush (*Artemisia tridentata*, UPL), mule fat (*Baccharis salicifolia*, FACW), Mexican elderberry (*Sambucus mexicana*, FAC), and red willow (*Salix laevigata*, FACW+). (Figure 6, *Site Photographs, Photographs 1 through 2*), on page 16).

In total, Drainage A was found to have an ACOE jurisdictional width that ranged from two to 12 feet, and a CDFG jurisdictional width that ranged from 5 and 23 feet. Drainage A contains approximately 0.15 acre of ACOE/RWQCB jurisdictional "waters of the U.S.,"/"waters of the State", none of which consist of ACOE/RWQCB jurisdictional wetlands. Drainage A also includes approximately 0.44 acre of CDFG jurisdictional streambed and associated riparian habitats.

Tributary A1

Tributary A1 exhibits ephemeral hydrology. Tributary A1 originates in the northwestern portion of the study area and travels north for 656 linear feet before exiting the northern boundary of the study area across a dirt road. Tributary A1 receives non-channelized sheet flow from Drainage A due to the presence of several earthen berms across Drainage A near the headwaters of Tributary A1. Dominant species within Tributary A1 include red willow and mule fat. Dominant species observed along the banks of this tributary include Great Basin sagebrush, Mexican elderberry, black mustard (*Brassica nigra*, UPL), yerba santa (*Eriodictyon crassifolium*,

Table 2

Summary of Jurisdictional Features

Feature	Length (feet)	Average Width (feet)		Area (acres)			Nature	
		ACOE/ RWQC		ACOE/ RWQCB ^a				
		B	CDFG		CDFG ^b			
Drainage A	2014	2-12	5-23	0.15	0.44	(0.26)	ephemeral	
Tributary A1	656	1-2	2-38	0.01	0.22	(0.02)	ephemeral	
Tributary A2	120	1	4	< 0.01	0.01	(<0.01)	ephemeral	
Total Drainage A System	2790			0.16	0.67	(0.28)		
Drainage B	1135	2-10	20-80	0.11	(0.01)	0.80	(0.32)	intermittent
Tributary B1	455	4	15	0.04	0.15	(0.02)	ephemeral	
Total Drainage B System	1590			0.15	(0.01)	0.95	(0.34)	
Total^c	4380			0.31	(0.01)	1.62	(0.62)	

^a Acreage in parenthesis represents the portion of ACOE/RWQCB jurisdiction that meets the three-parameter definition of a wetland.

^b Acreage in parenthesis represents the portion of CDFG jurisdiction that is unvegetated.

^c Jurisdictional acreages often overlap and are therefore not additive (e.g., ACOE acreages are often included in the total RWQCB and CDFG jurisdictional acreages).

Source: PCR Services Corporation, 2004.

UPL), jimson weed, brome (*Bromus* spp., UPL), and horseweed (*Conyza canadensis*, FAC). (Figure 6, *Site Photographs, Photographs 1 through 4, Photograph 3*, on page 16).

In total, Tributary A1 was found to have an ACOE jurisdictional width that ranged from one to two feet, and a CDFG jurisdictional width that ranged from 2 to 38 feet. Tributary A1 contains approximately 0.01 acre of ACOE/RWQCB jurisdictional "waters of the U.S."/"waters of the State", none of which consist of ACOE/RWQCB jurisdictional wetlands. Tributary A1 also includes approximately 0.22 acre of CDFG jurisdictional streambed and associated riparian habitat.

Tributary A2

Tributary A2 exhibits ephemeral hydrology. Tributary A2 originates in the western portion of the study area and travels northeast for 120 linear feet before its confluence with Drainage A. Dominant species within and along the slopes of Tributary A2 include California buckwheat, Great Basin sagebrush, jimson weed, yerba santa, Mexican elderberry, and brome. Figure 6, *Site Photographs, Photographs 1 through 4, Photograph 4*, on page 16).

In total, Tributary A2 was found to have an ACOE jurisdictional width that averaged one foot, and a CDFG jurisdictional width that averaged four feet. Tributary A2 contains less than 0.01 acre of ACOE/RWQCB jurisdictional "waters of the U.S."/"waters of the State", none of

which consist of ACOE/RWQCB jurisdictional wetlands. Tributary A2 also includes approximately 0.01 acre of CDFG jurisdictional streambed and associated riparian habitat.

Drainage B

Drainage B also originates in the foothills of the Sierra Pelona, just east of the Angeles National Forest boundary and enters the study area from the south. Drainage B traverses the southeastern portion of the study area in a southwest to northeast direction for 290 linear feet before exiting the study area to the east. Drainage B re-enters the study area from the west, travels for 845 linear feet in generally a west to east direction, and exits the eastern boundary under 80th Street West (paved road) through a 4-foot-wide CMP (corrugated metal pipe) culvert. Drainage B exhibits intermittent hydrology and supports disturbed riparian scrub and ruderal plant communities. Dominant species within the drainage include red willow and stinging nettle (*Urtica dioica*, FACW). Additional species within the drainage include water speedwell (*Veronica anagallis-aquatica*, OBL), monkeyflower (*Mimulus guttatus*, OBL), cocklebur, Fremont cottonwood (*Populus fremontii*, FACW), and woolly mullein (*Verbascum thapsus*, NI). Species observed along the banks of Drainage B include Great Basin sagebrush, black mustard, and calabazilla (*Cucurbita foetidissima*, UPL). Flowing water was present within the downstream portion of Drainage B after the confluence of Drainage B and Tributary B1 (Figure 7, *Site Photographs, Photographs 5, 6, 7 and 8*, on page 18).

In total, Drainage B was found to have an ACOE jurisdictional width that ranged from two to 10 feet, and a CDFG jurisdictional width that ranged from 20 to 80 feet. Drainage B contains approximately 0.11 acre of ACOE/RWQCB jurisdictional "waters of the U.S.,"/"waters of the State", including approximately 0.01 acre of ACOE/RWQCB jurisdictional wetland. Drainage B also includes approximately 0.80 acre of CDFG jurisdictional streambed and associated riparian habitats. As a result of the dominance of hydrophytic vegetation and presence of wetland hydrology and hydric soil indicators, a small portion of Drainage B in its easternmost reach was determined to support jurisdictional wetlands. Hydrology indicators present include inundation, saturation in the upper 12 inches, and drainage patterns in the wetland. Appendix A, *Wetland Data Forms*, contains the wetland data forms used during the routine determination (Data Form AR1-1).

Tributary B1

Tributary B1 originates off-site to the west of the southeastern corner of the study area. It appears that this tributary has been man-made to divert water from south of the study area to Drainage B. Tributary B1 travels for 455 linear feet in a southwest to northeast direction before its confluence with Drainage B. Tributary B1 exhibits ephemeral hydrology. Dominant species within and along the banks of this tributary include red willow, stinging nettle, woolly mullein, and black mustard. (Figure 6, *Site Photographs, Photograph 8*, on page 16).



**Figure 6
Bouquet Canyon
Site Photographs**

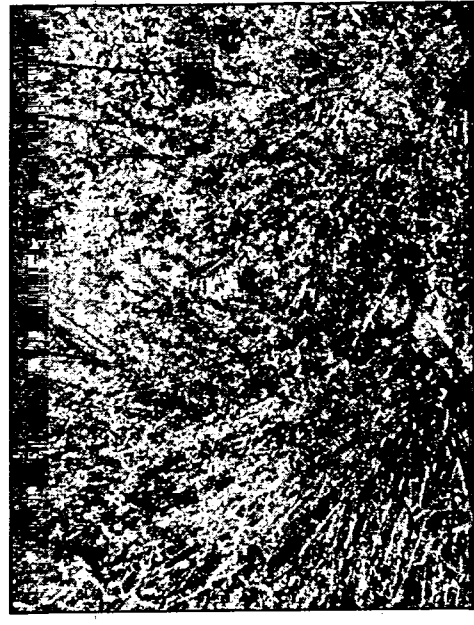
Source: PCR Services Corporation, 2006.



Photograph 1: View of Drainage A looking upstream (southwest). Mule fat, red willow, black mustard, California buckwheat, brome, and Great Basin sagebrush can be observed along the stream channel (see Figure 4 for photo location).



Photograph 2: View (looking northeast) of southernmost berm across Drainage A. Water flow is directed to the right (northeast) into Tributary A1. Western ragweed can be observed where water is re-directed from Drainage A.



Photograph 3: View of Tributary A1 looking downstream (north). Mule fat and red willow can be observed within and adjacent to the stream channel (see Figure 4 for photo location).



Photograph 4: View of Tributary A2 looking upstream (southwest) at confluence of Tributary A2 and Drainage A. Black mustard, mule fat, California buckwheat, and Great Basin sagebrush can be observed along the stream channel (see Figure 4 for photo location).



Photograph 5: View of 4-foot wide CMP culvert where water from Drainage B flows off-site. Red willow, stinging nettle, and water speedwell can be observed within the drainage. Water is present within the drainage at this location (see Figure 4 for photo location).



Photograph 6: View (looking northwest) of downstream portion of Drainage B. Red willow is the dominant vegetation within this drainage (see Figure 4 for photo location).



Photograph 7: View (looking southeast) of Drainage B just upstream from confluence of Drainage B and Tributary B1. Red willow, mullein, and stinging nettle can be observed along the stream channel (see Figure 4 for photo location).



Photograph 8: View (looking northeast) of Tributary B1 just upstream from the confluence of Tributary B1 and Drainage B. Dominant vegetation within and adjacent to this tributary includes red willow, mullein, and stinging nettle (see Figure 4 for photo location).



Figure 7 Bouquet Canyon Site Photographs

Source: PCR Services Corporation, 2006.

In total, Tributary B1 was found to have an ACOE jurisdictional width that averaged four feet, and a CDFG jurisdictional width that averaged 15 feet. Tributary B1 contains approximately 0.04 acre of ACOE/RWQCB jurisdictional "waters of the U.S.," "waters of the State", none of which consist of ACOE/RWQCB jurisdictional wetlands. Drainage B also includes approximately 0.15 acre of CDFG jurisdictional streambed and associated riparian habitat.

6.0 SUMMARY AND CONCLUSIONS

The study area contains two main jurisdictional drainages, Drainages A and B, and three associated tributaries. Drainage A and its tributaries total approximately 2,790 linear feet of streambed and include approximately 0.16 acre of ACOE/RWQCB jurisdictional "waters of the U.S.," "waters of the State," none of which consist of ACOE/RWQCB jurisdictional wetlands and approximately 0.67 acres of CDFG jurisdictional streambed and associated riparian habitat. Drainage B and its tributary total approximately 1,590 linear feet of streambed and include approximately 0.15 acre of ACOE/RWQCB jurisdictional "waters of the U.S.," "waters of the State," including approximately 0.01 acre of ACOE/RWQCB jurisdictional wetlands and approximately 0.95 acre of CDFG jurisdictional streambed and associated riparian habitat.

The total jurisdiction within the entire study area includes approximately 0.31 acre of ACOE/RWQCB jurisdictional "waters of the U.S.," "waters of the State," and approximately 0.01 acre of jurisdictional wetlands. Approximately 1.62 acres of CDFG jurisdictional streambed and associated riparian habitats occurs throughout the entire study area. The various jurisdictional acreages often overlap; i.e., ACOE acreage is typically included in CDFG acreages; they are not additive.

Most of the drainages and associated tributaries on-site were dry at the time of field investigation, exist in gently sloping topography, consist of well-drained soils, and support several upland species. Taken together, these characteristics indicate that most of the drainage within the study area conveys water only immediately following storms. Due to the lack of dominance of hydrophytic plant species and the absence of hydric soils throughout most of the drainages and their tributaries, these areas within the study area did not qualify as jurisdictional wetlands. However, one area within the eastern portion of Drainage B met the vegetation, hydrology, and soil requirements to qualify as jurisdictional wetlands.

The following section (7.0) provides a detailed discussion of the current state and federal regulations that govern the various aquatic resources on the study area.

7.0 REGULATIONS

Jurisdictional features on the study area are subject to the permitting requirements of the ACOE/RWQCB and the CDFG and require authorization prior to any impacts. The following discussion provides information on the processing of permits with each regulatory agency. Similar information is required for each permit application, and the applications can be processed concurrently. This discussion concentrates on the ACOE's CWA Section 404 permit because the processing time of an Individual Permit (IP) or Nationwide Permit (NWP) generally drives the other permits.

Section 404

Section 404 of the CWA regulates the discharge of dredged material or placement of fill material within "waters of the U.S." and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (Individual Permits) or for general categories of projects (General Permits). "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." Over the years, the ACOE has adopted several revisions to their regulations in order to more clearly define "waters of the U.S." The most recent revision occurred in January 2001 as a result of the SWANCC case ruling. The U.S. Supreme Court held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. Prior to the SWANCC ruling, "waters of the U.S." included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable "waters of the U.S." However, as a result of the court ruling, some of the previously regulated depressional areas which are not hydrologically connected to other intra- or inter-state "waters of the U.S." are no longer regulated by the ACOE.

Once the limits of ACOE jurisdiction are determined and an application is submitted to the ACOE, the ACOE determines whether or not the activity meets the terms and conditions of one of the NWPs. If a project qualifies under one of the NWPs, a letter may be issued verifying compliance with the NWP program. Verification of compliance may be conditioned with specific terms regarding construction protocol, use of best management practices, avoidance of endangered species habitat, and mitigation requirements to ensure that the project will have minimal incremental or cumulative impacts to aquatic resources. If a project meets the general terms and conditions of a NWP, but will result in greater than minimal impacts, the District Engineer may take discretionary authority and require the project to be processed as an IP. The review process for a NWP is generally less extensive than for an IP and can often be completed within 30 days.

Projects that cannot be permitted under a NWP must undergo a more extensive review under the IP process, which typically takes 120 days. The ACOE decides whether to issue an IP based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity. According to ACOE regulations, permits should not be issued for activities that will create "significant" degradation of the "waters of the U.S." or have "significantly adverse effects on wetland values." However, the CWA provides no clear definition of "significant."

The evaluation process for an IP is based on guidelines established under Section 404(b)(1) of the CWA and on the "public interest review" procedures. The public interest review involves a broad, qualitative evaluation of a project's benefits and detriments. ACOE regulations have identified 21 factors that are relevant to permit review. These factors are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership, and the general needs and welfare of the people. The public interest review is facilitated by the issuance of a 15- to 30-day Public Notice period when comments are solicited from the public and resource agencies, such as the U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency, and the CDFG regarding the proposed project. A public hearing may be held for highly controversial projects.

The Section 404(b)(1) guidelines are often considered the driving force in the ACOE permit process. The 404(b)(1) guidelines prohibit discharges of dredged or fill material if there is a less environmentally damaging practicable alternative. Practicability is determined based on technological, economic, social, and logistic considerations. If a proposed project has greater than significant impacts, attempts must be made to avoid and minimize impacts. Impacts that cannot be avoided must be mitigated to a level where the net impacts to "waters of the U.S." are not significant. In some cases, projects that result in significant impacts may be permitted if they provide a substantial benefit to the public, such as projects affecting national security or considerable production of energy, and appropriate off-site compensatory mitigation is implemented.

The ACOE must ensure that permitted projects comply with all other applicable federal resource protection laws such as the Endangered Species Act, the National Historic Preservation Act, and the Coastal Zone Management Act. In addition, certification that the proposed activity will comply with all applicable effluent limitations and water quality standards of Section 401 of the CWA is needed prior to issuance of a Section 404 permit. The need for a Section 404 permit constitutes a federal action under the National Environmental Policy Act (NEPA). Therefore, during the review of a proposed project an Environmental Assessment is prepared according to NEPA guidelines. If the impacts of the proposed activity are determined to be significant

according to NEPA, an Environmental Impact Statement must be prepared and reviewed according to all NEPA requirements.

If a proposed project complies with all the NEPA requirements, the 404(b)(1) guidelines, is determined not to be contrary to the public interest, and does not violate any federal resource protection laws, the ACOE will issue an IP authorizing the proposed discharge of dredged or fill material into "waters of the U.S." or wetlands. If a proposed project violates any of the above, then the ACOE must deny the Section 404 permit.

Section 401

Section 401 of the CWA requires that any applicant for a federal permit for activities that involve a discharge to "waters of the U.S." shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal CWA.

Therefore, before the ACOE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete California Environmental Quality Act (CEQA) document (e.g., Initial Study/Negative Declaration or Environmental Impact Report). Processing of a Water Quality Certification generally takes 60 days, but the ACOE may grant the RWQCB time extensions of up to one year. A 21-day public comment period is included in the processing of the Water Quality Certification. The RWQCB may add conditions to their certification to remove or mitigate potential impacts to water quality standards. Such conditions must ultimately be included in the federal Section 404 permit. The state water quality regulations contain an "aggrieved party provision" that allows any person or group who objects to the issuance of a Water Quality Certification to petition the State Water Resources Control Board to reconsider the RWQCB decision within 30 days of issuance.

Under separate authorities granted by state law (i.e., the Porter-Cologne Act), a RWQCB may choose to regulate discharges of waste (dredge or fill materials) by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDR), a type of state discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Porter-Cologne Act than under the CWA.

1602 Agreement

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially

divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, it must first notify the CDFG of the proposed project.¹ In the course of this notification process, the CDFG will review the proposed project as it affects streambed habitats within the project area. The CDFG may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate the potentially significant adverse impacts within the CDFG jurisdictional limits.

Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted to the CDFG and, if necessary, an investigation of the study area by the CDFG, the CDFG will determine if the proposed project will substantially impact fish or wildlife resources.

If the CDFG determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. A completed CEQA document must be submitted to the CDFG before issuance of a Streambed Alteration Agreement. Within 60 days of receipt of a complete notification package, the CDFG will propose measures necessary to protect the fish and/or wildlife that the proposed project could affect. These measures may be the same as any that have been included as part of the project and/or measures proposed by the CDFG. The applicant has 30 days after receiving the CDFG's proposed measures to notify it in writing whether they accept them, unless this time period is extended by mutual agreement. If the measures are acceptable, the Streambed Alteration Agreement will be issued. If the measures are not acceptable, the applicant may request a meeting with the CDFG within 14 days from the date the CDFG receives the response or by some other mutually agreed upon date for the purpose of developing measures that are acceptable to both the applicant and the CDFG. If an agreement is not reached with the CDFG on acceptable protection measures, an arbitration panel will be established to resolve any disagreements. If a panel is requested, it must be established within 14 days of the meeting with the CDFG. The arbitration panel will be composed of a representative from the CDFG, the applicant, and a mutually agreed upon third person who will act as the panel chair. The panel must complete the arbitration within 14 days from the date the panel is established unless a time extension is mutually agreed upon. The CDFG, the applicant, or any party affected by a panel

¹ *Senate Bill No. 418, approved by the Governor October 8, 2003, includes revisions to the Streambed Alteration Agreement process.*

decision may appeal the decision to the court to confirm, correct, or vacate the decision in accordance with Section 1285 *et seq.*, of the Code of Civil Procedure.

Once the applicant and the CDFG accept or agree on measures necessary to protect fish and/or wildlife resources, the CDFG will incorporate these measures into a draft Lake or Streambed Alteration Agreement for review and signature.

Section 7 Endangered Species Consultation

This process is required only if the proposed project would affect a federally-listed threatened or endangered species and if federal authorization is required. The process begins when the federal agency (the ACOE) completes a Biological Assessment and formally requests to initiate consultation. The ACOE, in cooperation with the applicant, coordinates with the USFWS and/or the National Marine Fisheries Service (NMFS) regarding avoidance and minimization of impacts to endangered species and habitat. After these avenues have been exhausted, the USFWS and/or NMFS will recommend mitigation, which will allow a "take" of individual animals or plants along with occupied habitat. The USFWS and/or NMFS will then issue a Biological Opinion, which is required before the ACOE can make a permit decision. By the regulations, the USFWS has 90 days from the initiation of consultation in which to complete the biological assessment and 45 days to write the BO. However, the ACOE and the USFWS can agree to a 60-day extension without approval from the applicant. If there are substantial impacts to endangered species, the USFWS and/or NMFS can issue an opinion that the proposed project would jeopardize the continued existence of the species, which would result in a permit denial from the ACOE. If there are no substantial impacts, the USFWS and/or NMFS will issue a "no jeopardy" decision with specific terms and conditions to allow the project to move forward.

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