Appendix D9
San Bernardino Kangaroo Rat Survey Report (PBS&J 2009)

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San Bernardino Kangaroo Rat Presence/Absence Trapping Surveys Springs Trails Project Site

Submitted to:

Montecito Equities
3080 Bristol Street, Suite 630
Costa Mesa, CA 92626

Contact: David DeMoranville

Submitted by:

650 E. Hospitality Lane, Suite 450
San Bernardino, CA 92408

Contact: Marnie McKernan,

July 22, 2009

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Chapter 1 Introduction and Summary of Findings

PBS&J has prepared this report for Montecito Equities to document the presence or absence of the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*) (SBKR) within the proposed secondary access road alignments for the proposed Spring Trails Project.

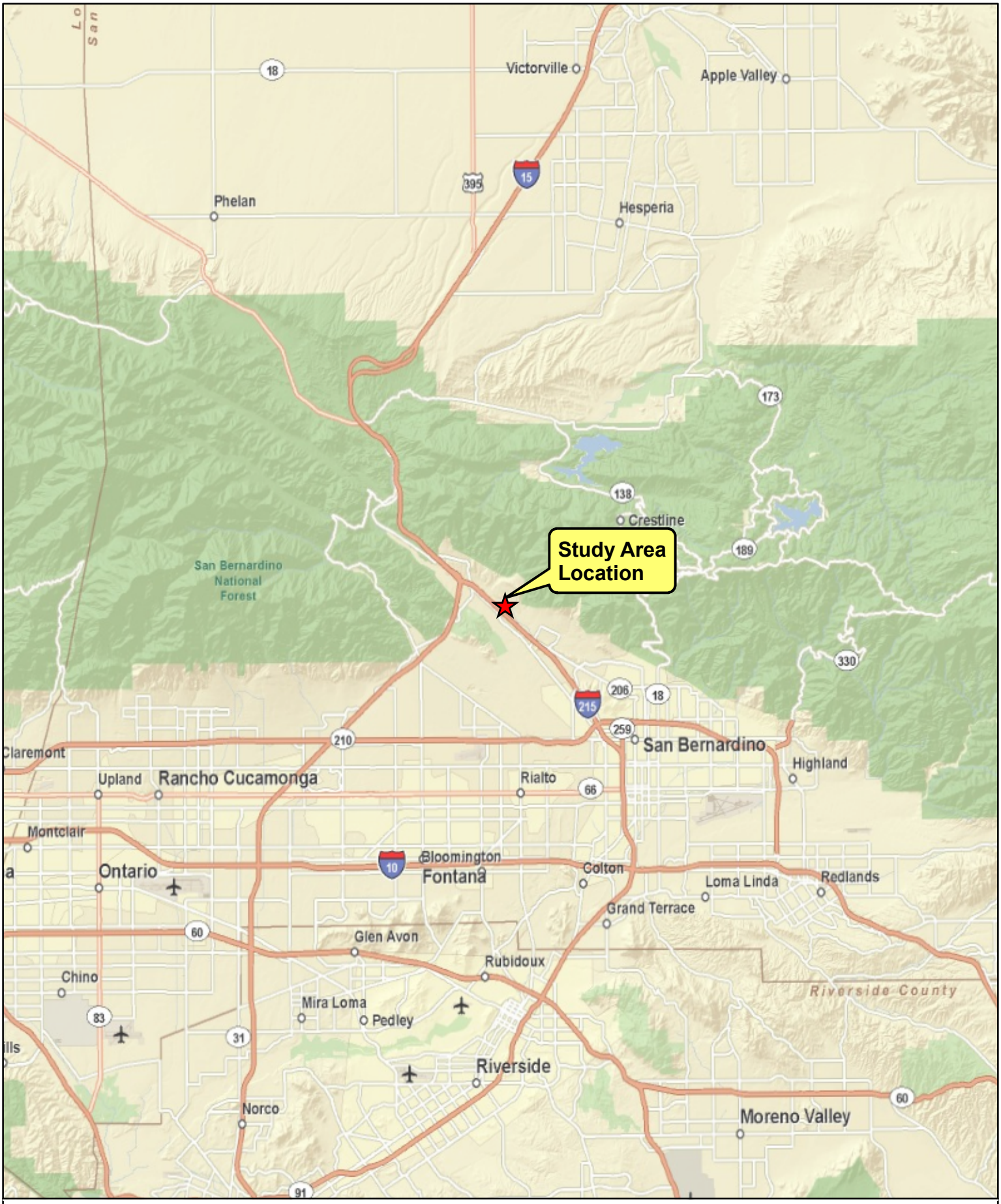
The study area herein referred to as project site or site is located northeast of Interstate 215 (I-215), south of State Route 138 (SR-138) and southeast of the I-15/I-215 interchange in southwestern San Bernardino County (Exhibit 1). The site is located in Sections 26 and 35, Township 2 North, Range 5 West on portions of the Devore and San Bernardino North U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Exhibit 2). The two secondary access roads under consideration originate at the frontage road adjacent to the I-215 freeway and travel northeasterly to the project site (Exhibit 3).

Marnie McKernan, a U.S. Fish and Wildlife Service (USFWS) permitted biologist for SBKR (TE839211-2), conducted protocol-level live trapping for five consecutive nights during the week of July 12, 2009, to determine the presence/absence of SBKR, their relative abundance, and breeding status within the project site.

No SBKR were captured during the current survey effort. However, SBKR were captured within the habitat adjacent to the proposed access roads during a survey in 2004. Therefore, it is assumed that portions of the Riversidean alluvial fan sage scrub (RAFSS) habitat of the Cable Creek floodplain where the proposed access roads are located support populations of SBKR.

The southern portions of the two access roads are located within designated SBKR Critical Habitat (USFWS). Impacts to SBKR and SBKR Critical Habitat are potentially significant under the California Environmental Quality Act (CEQA). The project will require a permit from the U.S. Army Corps of Engineers (USACE) for modification of the Cable Creek channel. Consequently, the USACE will consult with the USFWS regarding impacts and mitigation measures for SBKR and its habitat. Impacts to SBKR individuals and Critical Habitat may be reduced to below the level of significance with mitigation coordinated through the USFWS.

Impacts to state sensitive species, such as San Diego pocket mouse are not typically considered significant under CEQA due to their abundance on a local and regional level. However, impacts to the Los Angeles pocket mouse may be considered significant since their range and preferred habitat is narrow and it is not known to be locally or regionally abundant. With appropriate mitigation, these impacts can be reduced to below a level of significance.



PBS&J

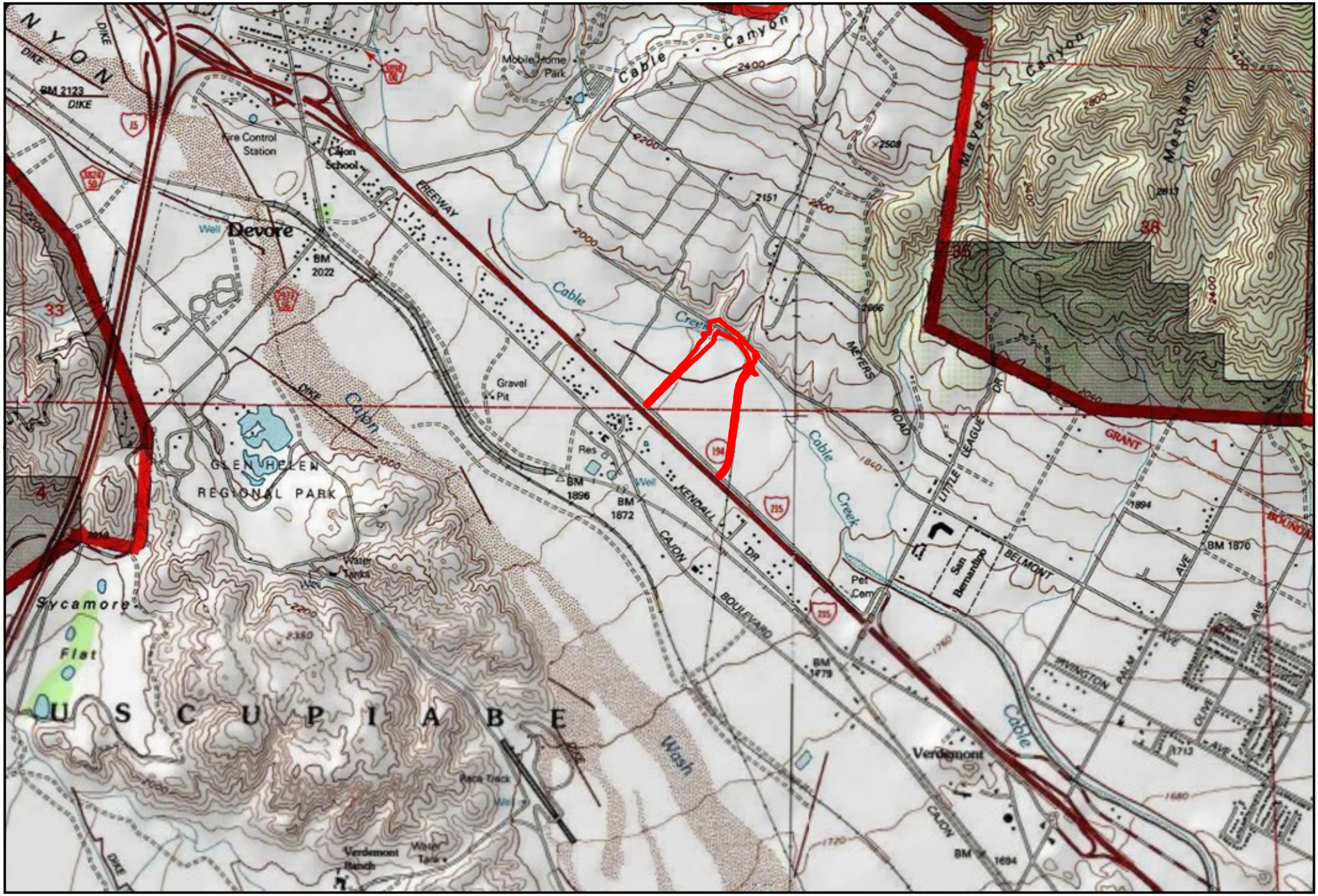
0 2.5 5 Miles

1 in = 5 miles

Source: PBS&J, ESRI Streetmap | 07/22/2009

SPRING TRAILS ACCESS ROAD
FOCUSED SBKR SURVEY

Exhibit 1: Regional Vicinity Map



SPRING TRAILS ACCESS ROADS
FOCUSED SBKR SURVEY

PBS&J

Source: PBS&J, ESRI Streetmap, MSHCP
07/08/2009

EXHIBIT 2: LOCAL TOPOGRAPHIC MAP

SPRING TRAILS ACCESS ROADS
FOCUSED SBKR SURVEY

PBS&J

Source: PBS&J, ESRI Streetmap, MSHCP
07/08/2009

EXHIBIT 3: LOCAL VICINITY MAP

Chapter 2 Methods

A literature review and records check was conducted for sensitive resources within the vicinity of the proposed project. In addition to the literature review, a general field assessment of the project area was conducted. The field survey provided information on the existing conditions of the site and the potential for sensitive resources to be present. Following the assessment, focused trapping surveys for SBKR were conducted where suitable habitat occurs within and adjacent to the proposed secondary access road alignments.

2.1 LITERATURE REVIEW

The literature review and records check included a review of standard field guides and texts on sensitive and non-sensitive biological resources potentially onsite, as well as the following sources:

- List of sensitive biological resources provided by the California Natural Diversity Data Base (CNDDB 2006)
- USFWS. 2008. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*); Final Rule.
- Michael Brandman Associates. July 2005. *San Bernardino Kangaroo Rat Presence/Absence Trapping Studies on the 260 acre Rolling Hills Ranch Country View Estates*. Prepared for: Century Vintage Homes, 1535 S. "D" Street, Suite 200, San Bernardino, CA 92408. Unpublished report

2.2 GENERAL BIOLOGICAL ASSESSMENT

A reconnaissance survey was conducted on the property to assess suitable habitat for sensitive biological resources within the project boundaries. The plant communities on the project site were assessed for their ability to support SBKR or other sensitive species. Notes were taken during the surveys of all plant and wildlife species observed. Observations of wildlife species included burrows, nests, sounds, and visual observation. In addition, site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the site were noted. A list of plant and wildlife species observed is included in Appendix A.

2.3 PRIMARY CONSTITUENT ELEMENTS

The project site was assessed in terms of suitability for SBKR by evaluating the primary constituent elements considered essential for the primary biological needs of foraging, reproducing, rearing of young, intra-specific communication, dispersal, genetic exchange, or sheltering. These are:

- Dynamic geomorphological and hydrological processes typical of fluvial systems within the historical range of the animal
- Historical and current alluvial processes
- Alluvial sage scrub and associated vegetation
- Sand, loam, or sandy loam soils
- Upland areas that may provide refugia
- Moderate to low degree of human disturbance to habitat

2.4 FOCUSED TRAPPING SURVEYS

Live trapping surveys for SBKR were conducted according to USFWS protocols established for SBKR. The current protocol calls for five consecutive nights of trapping, conducted when the species are active and when air temperature lows are above 50°F (degrees Fahrenheit). The trapping was conducted from July 12 to July 17, 2009.

Two hundred traps were set during the SBKR were not captured during this 2009 survey effort five-night trapping effort for a total of 1,000 trap nights. In two areas, traps were placed in a grid-like manner and in two areas traps were placed along a linear transect. In general, traps were placed 10 meters apart in areas of the most suitable habitat within the project site (Exhibit 4).

Each trap was baited with a mixture of birdseed and rolled oats, placed at the back of the traps. The traps were left in place and opened at dusk each night, and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture. Weather conditions at the time of the trapping were also noted.

N

0 100 200 400 Feet

1 inch = 400 feet

Source: PBS&J, ESRI Streetmap
07/08/2009

SPRING TRAILS ACCESS ROADS
FOCUSED SBKR SURVEY

EXHIBIT 4: TRAP LOCATIONS MAP

Chapter 3 Existing Conditions

3.1 TOPOGRAPHY AND SOILS

The topography of the survey area includes sandy washes and benches of Cable Creek. The elevation of the survey area is approximately 2,000 feet above mean sea level (AMSL).

The survey area is mapped by the Natural Resource Conservation Service (NRCS) as containing two soil series; Soboba and Tujunga. The Soboba series occur on talus slopes and alluvial fans and are excessively drained soils developed in alluvium from predominantly very gravelly, very cobbly, or stony granitic materials. The Tujunga series consists of excessively drained sloping soils formed on alluvial fans from granitic materials.

These sandy, loamy soils within the survey area are conducive for the digging of burrows for SBKR and other small mammals.

3.2 LAND USES

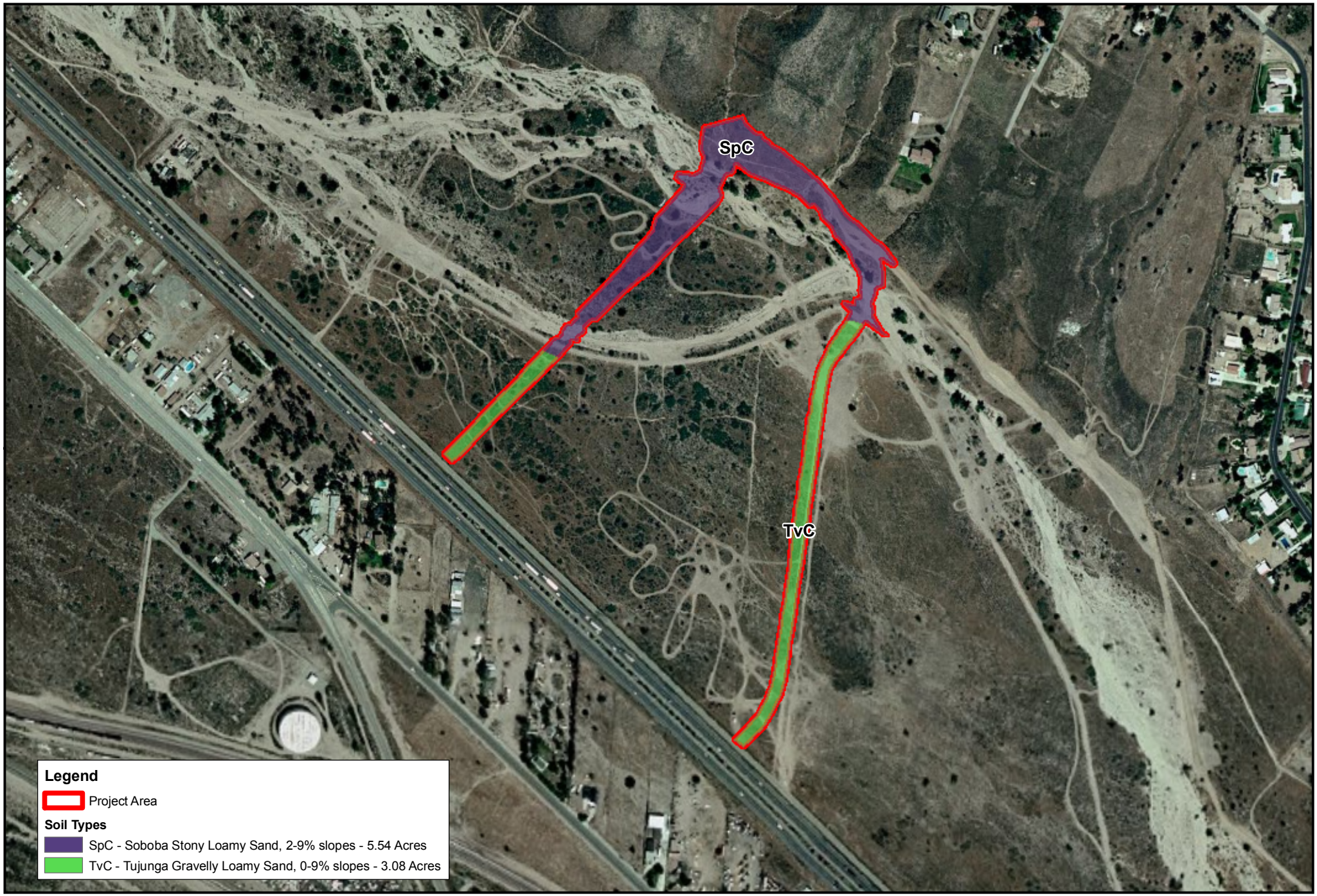
Residential developments are located to the northeast, rural housing is found on the benches to the north and a baseball park is to the southeast. A pet cemetery and a residence are located just east of the survey area. Cable Creek and unnamed tributaries run through portions of the survey area. Several dirt roads, a flood control levy and a powerline occur within the survey area. Heavy off-road vehicle (ORV) use is apparent throughout the two road alternative alignments, particularly within Cable Creek and around the powerline road.

3.3 DESCRIPTION OF HABITAT

The survey area is mostly composed of Riversidean alluvial fan sage scrub (RAFSS) plant community, with annual grasslands dominant where fluvial processes are limited by an existing levy. Riversidean sage scrub (RSS) plant community occurs on the base and on the foothills in the northern portion of the project site (Exhibit 5).

3.3.1 Riversidean Alluvial Fan Sage Scrub

The RAFSS occurs within Cable Creek Wash and on the benches. The CDFG lists RAFSS as rare and it is considered a sensitive plant community. CDFG's list of natural communities categorizes plant communities first by general habitat, then as alliances within the general habitat, and finally as associations within alliances. RAFSS is an association within the RSS alliance, which



N

0 180 360 720 Feet

1 inch = 500 feet

SPRING TRAILS ACCESS ROADS
FOCUSED SBKR SURVEY

PBS&J

EXHIBIT 5: SOILS MAP

Source: PBS&J, ESRI Streetmap, MSHCP
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falls within the general habitat type of coastal scrub. RAFSS is an open plant community adapted to the harsh conditions of flooding. It grows on sandy, rocky alluvium deposited by streams that experience infrequent episodes of flooding. Alluvial sage scrub is composed of an assortment of drought-deciduous sub-shrubs and large, evergreen, woody shrubs that are adapted to the periodic and intense episodes of flooding and erosion that occurs along the alluvial fans.

The RAFFS within Cable Creek is predominantly a pioneer phase of succession, with newly deposited sands and low growing vegetation, including California croton (*Croton californicus*). The adjacent benches are dominated by more intermediate to mature RAFSS, with large shrubs and an annual grassland understory. In the more intermediate areas, shrub species included lemonade berry (*Rhus integrifolia*), skunk bush (*Rhus trilobata*), holly-leaved cherry (*Prunus ilicifolia*), chaparral yucca (*Yucca whipplei*), and birch-leaf mountain mahogany (*Cercocarpus betuloides*). The annual grassland species include slender oats (*Avena barbata*) and ripgut brome (*Bromus diandrus*); and wildflowers, including southern sun cup (*Camissonia bistorta*), branching phacelia (*Phacelia ramosissima*), Parry's phacelia (*Phacelia parryi*), and blue dicks (*Dichelostemma capitatum*). Just west of the Edison easement, the RAFSS transitions to a mature stage dominated almost exclusively by yerba santa (*Eriodictyon trichocalyx*) with slender oats, ripgut brome, and filaree (*Erodium* spp.) as the understory. Scalebroom (*Lepidospartum squamatum*) is an indicator species of RAFSS and has a high fidelity to alluvial substrates and was located throughout the project site.

Cable Creek has a number of riparian species growing along its margins, including California sycamore (*Platanus racemosa*), Freemont cottonwood (*Populus fremontii* ssp. *fremontii*), blue elderberry (*Sambucus mexicana*), southern California black walnut (*Juglans californica* var. *californica*), and California wild grape (*Vitis californica*).

3.3.2 Riversidean Sage Scrub

The Riversidean sage scrub (RSS) within the study area is located along the upland slopes north of Cable Creek and the associated alluvial bench. White sage (*Salvia apiana*) and California sunflower (*Helianthus californicus*) are the dominant shrubs in the RSS plant community. Other species found in this plant community include California sagebrush (*Artemisia californica*), California buckwheat, and California bush sunflower (*Encelia californica*). In this community the canopy is intermittent with an understory of dense nonnative grasses, herbs and forbs including chia (*Salvia columbariae*), common fiddleneck (*Amsinckia menziesii*), and phacelia (*Phacelia* spp.).

N

0 270 540 1,080 Feet

1 inch = 1,000 feet

SPRING TRAILS ACCESS ROADS
FOCUSED SBKR SURVEY

PBS&J

Source: PBS&J, ESRI Streetmap, MSHCP
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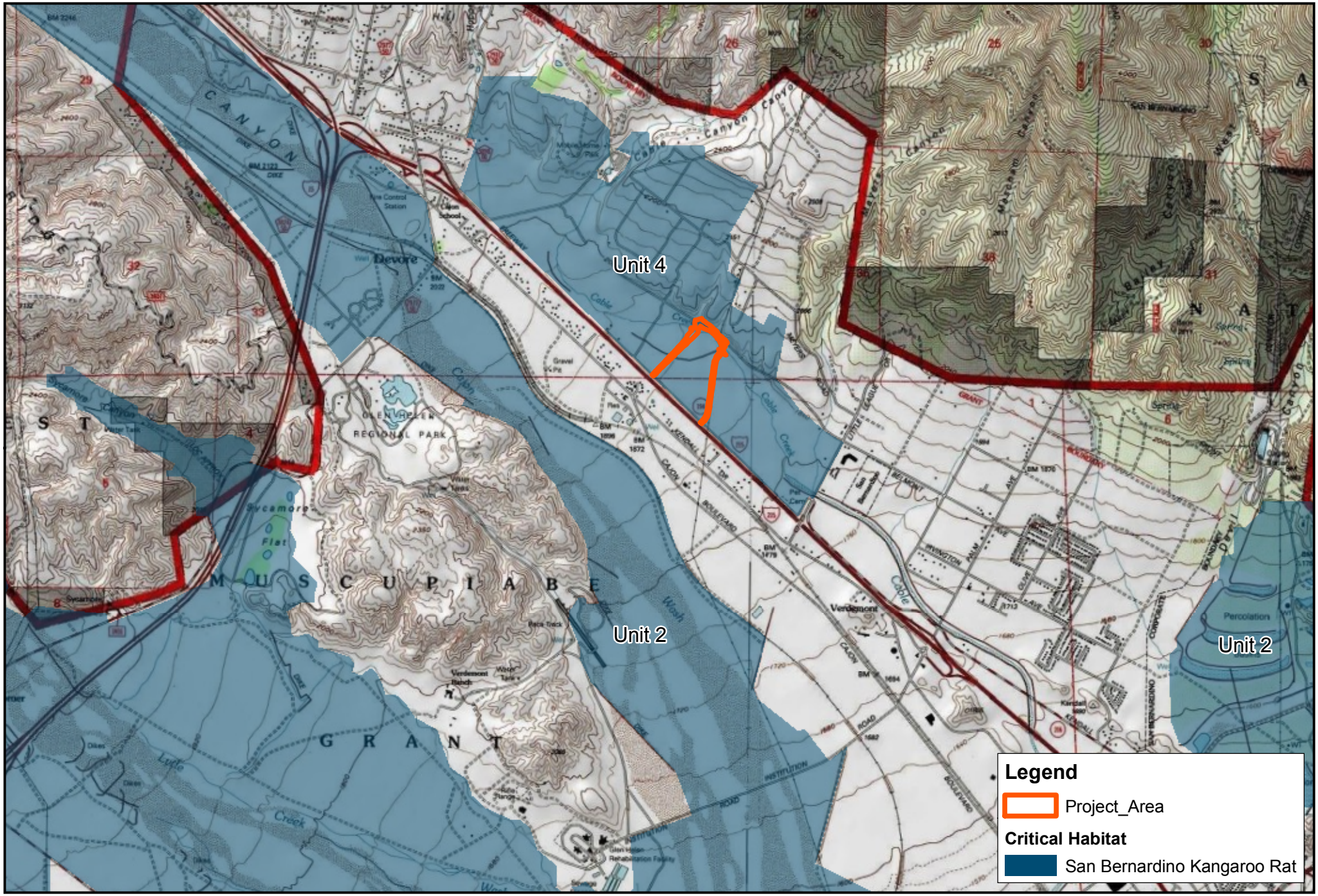
EXHIBIT 6: VEGETATION COMMUNITIES MAP

3.4 CRITICAL HABITAT

Critical habitat is a term defined and used in the Endangered Species Act. It is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

The entire project site is located inside the USFWS (2008) final designated Critical Habitat area for the federally listed endangered SBKR. Specifically, the project site is located within Critical Habitat Unit 4-Cable Creek. Unit 4 consists of approximately 483 acres and encompasses the Cable Creek alluvial floodplain from the mouth of Cable Canyon to I-215 where the creek becomes channelized (Exhibit 7).



N

0 750 1,500 3,000 Feet

1 inch = 3,000 feet

Source: PBS&J, ESRI Streetmap, MSHCP - 07/08/2009

SPRING TRAILS ACCESS ROADS
FOCUSED SBKR SURVEY

EXHIBIT 7: UNITED STATES FISH AND WILDLIFE SERVICE SAN BERNARDINO KANGAROO RAT CRITICAL HABITAT MAP

Chapter 4 Results

4.1 WEATHER CONDITIONS

Weather conditions during the trapping surveys included morning temperatures varying from 68 to 71°F with clear to partly cloudy skies and no wind. No ground fog or rain occurred during the survey periods. The weather conditions are summarized in Table 1 below.

Table 1: Weather Conditions

Day 2009	*Temperature (F)*	*Wind (mph)*
July 13	68	Calm
July 14	68	Calm
July 15	69	Calm
July 16	70	Calm
July 17	71	Calm

Six different small mammal species were trapped during the survey period. No SBKR were captured, but two sensitive mammal species were trapped—Northwestern San Diego pocket mouse and Los Angeles pocket mouse. Table 2 provides summary information on the species trapped and the minimum number known to be alive (maximum number captured during a single trap check) per trap group.

Table 2: Focused Trapping Results

Trap Group	*Trap Nights*	*DISI*	*CHFA*	*PELO*	*PEMA*	*PEER*	*SPBE*
G1	500	0	13	12	10	0	0
G2	125	8	4	6	3	0	3
L1	125	4	4	8	6	2	0
L2	250	11	0	7	12	3	0
Totals	1000	23	21	33	31	7	3

Legend:
DISI = Dipodomys simulans (Dulzura kangaroo rat)
CHFA= Chaetodipus fallax fallax (Northwestern San Diego pocket mouse)
PELO= Perognathus longimembris brevinasus (Los Angeles pocket mouse)
PEMA=Peromyscus maniculatus (Deer mouse)
PEER = Peromyscus eremicus (Cactus Mouse)
SPBE = Spermophilus beecheyi (California ground squirrel)

4.2 WILDLIFE

Most of the wildlife observed within the study area during the focused survey was represented by bird species. The habitats on the property provide foraging, cover, and nesting habitat for year-round resident, seasonally resident, and migrating songbirds. Common species observed include California towhee (*Pipilo crissalis*), mourning dove (*Zenaida macroura*), Bewick's wren (*Thryomanes bewickii*), bushtit (*Psaltriparus minimus*), western kingbird (*Tyrannus verticalis*), American kestrel (*Falco sparverius*), and red-tailed hawk (*Buteo jamaicensis*).

Common mammal species observed during the surveys include desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), and coyote (*Canis latrans*).

Common reptiles observed during the surveys include sagebrush lizard (*Uta stansburiana*) and coachwhip (*Masticophis flagellum*).

4.2.1 Sensitive Biological Resources

Two sensitive mammal species were identified as present during the focused mammal trapping—San Diego pocket mouse (*Chaetodipus fallax fallax*) and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). One sensitive bird species was identified as present on the project site— loggerhead shrike (*Lanius ludovicianus*). One sensitive (CSC) reptile, coast horned lizard (*Phrynosoma coronatum*), was observed onsite as well.

San Bernardino Kangaroo Rat

SBKR are members of the rodent family Heteromyidae and are endemic to southwestern California. It is one of three subspecies of the more common Merriam's kangaroo rat (*Dipodomys merriami*) that is widely distributed throughout the western United States and northwestern Mexico. Historically, SBKR ranged from the San Bernardino Valley in San Bernardino County to Menifee Valley in Riverside County. The present distribution is limited to seven widely separated locations in San Bernardino and Riverside counties, only three of which support significant populations (i.e., Santa Ana River, Lytle and Cajon creeks, and San Jacinto River [for a combined total of approximately 3,200 acres]). SBKR habitats have been historically altered as a result of flood control efforts and the increased use of river resources, including mining, off-road vehicle use, and road and housing development (McKernan, 1997). Overall habitat loss is estimated at 96 percent. These alterations led to an emergency listing as endangered in 1998 by the USFWS (USFWS, 1998a), followed by a Final Rule issuance in that same year (USFWS, 1998b). SBKR Critical Habitat was designated by USFWS in 2002 and re-designated in 2008.

The SBKR is described as being confined to primary and secondary alluvial fan scrub habitats, with sandy soils deposited by fluvial (water) rather than aeolian (wind) processes (USFWS 1998). Burrows are dug in loose soil, usually near or beneath shrubs. In recent years, SBKR have been found in highly disturbed habitats adjacent to suitable habitat and source populations.

Although suitable habitat exists within the project site, SBKR were not captured during this 2009 survey effort.

Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities, and is commonly is found in disturbed grassland and open sage scrub vegetation with sandy-loam to loam soils. It generally exhibits a strong microhabitat affinity for moderately gravelly and rocky substrates, and, to a lesser extent, shrubby areas.

The range of this species extends from Orange County to San Diego County, and includes the inland areas of Riverside and San Bernardino counties (Hall 1981). This pocket mouse is a California Species of Special Concern (CSC) whose historical range has been reduced by urban development and agriculture (CDFG 2001).

The San Diego pocket mouse was captured onsite during the 2009 survey.

Los Angeles Pocket Mouse

The habitat of the Los Angeles pocket mouse is described as limited to sparsely vegetated habitat areas in patches of fine sandy soils associated with washes or of aeolian (windblown) origin, such as dunes; it will utilize these soil types for burrowing. This subspecies appears restricted to lower elevation grassland and coastal sage scrub. For another subspecies, the Pacific pocket mouse (*P. l. pacificus*), evidence indicates that mice avoid dense grass cover because of difficulty locomoting and finding seeds.

The present known distribution of this species in Riverside and San Bernardino counties extends from the San Gabriel and San Bernardino mountains south to the Temecula and Aguanga areas, and from the east side of the Santa Ana Mountains east to Cabazon (Hall 1981). Some biologists believe that the Los Angeles pocket mouse is in serious decline in the region because it is seldom trapped and much of its suitable habitat has been lost to agriculture and urban development. The Los Angeles pocket mouse is listed as a CSC (CDFG 2001).

The Los Angeles pocket mouse was captured onsite during the 2009 survey.

San Diego Desert Woodrat

The coastal species of the desert woodrat, the San Diego desert woodrat (*Neotoma lepida intermedia*), prefers scrub habitats such as coastal sage scrub, chaparral and alluvial fan sage scrub; within coastal sage scrub communities, it appears strongly associated with prickly pear and large cactus patches. It is more common in areas with rock piles and coarse sandy to rocky soils throughout coastal Southern California. The desert woodrat (*Neotoma lepida*) is a relatively wide-ranging species extending along the coast of California from south of San Francisco through to the border with Baja California. This species also occurs in the Central Valley and the deserts of southern California and extends along the desert side of the Sierra Nevada into southeastern Oregon. The coastal subspecies of the widespread *Neotoma lepida* is listed as a CSC; its historical range has been impacted by the conversion of scrub habitats into residential, commercial and industrial use.

The San Diego desert woodrat was not captured onsite during the 2009 survey.

Chapter 5 Discussion

5.1 SAN BERNARDINO KANGAROO RAT

While Cable Creek supports the sandy loamy soils and alluvial fan sage scrub vegetation consistent with SBKR occupation, portions of the site also include a high percentage cover of invasive non-native grasses and ruderal species such as bromes. Some theorize that these invasive species can pose limitations for SBKR occupation. However, despite these limitations, SBKR have been trapped in weedy disturbed areas when they are adjacent to source populations of SBKR.

Because Cable Creek is not impeded by a dam or debris basins, the fluvial dynamics necessary to maintain the primary constituent elements of SBKR habitat remain in this un-channelized portion of Cable Creek supporting suitable SBKR habitat. This critical habitat unit was considered occupied at the time of listing, and contains all of the features essential to the conservation of the SBKR. Additionally, this unit contains a likely self-sustaining population of SBKR that may be important for the long-term conservation of the subspecies. This unit is demographically isolated from the core population of the subspecies in the Lytle/Cajon wash (Unit 2). According to the Recovery Plan a stochastic event causing dramatic population decline or local extirpation in Unit 2 may have little effect on Unit 4. In such a case, the population in Unit 4 could serve as a source of individuals for repopulating Unit 2. The physical and biological features contained within this unit may require special management considerations or protection to minimize impacts associated with flood control operations, water conservation projects, sand and gravel mining, and urban development.

Individual SBKR are protected under FESA and an incidental take authorization is required from USFWS. Additionally, impacts to SBKR Critical Habitat are potentially significant pursuant to CEQA and would require Take Authority through a Section 7 Consultation if the USACE issues a 404 Wetlands Permit as anticipated.

5.2 SENSITIVE RODENT SPECIES

Two sensitive mammals were caught onsite during the current survey (2009): the northwestern San Diego pocket mouse and the Los Angeles pocket mouse. Impacts to these species may be considered significant under CEQA. Potential impacts to San Diego pocket mouse are not typically considered significant because this species is widespread and abundant on a local and regional level. Potential impacts to Los Angeles pocket mouse may be considered significant since their range and preferred habitat is narrow, and it is not known to be locally or regionally abundant. However, with appropriate mitigation these impacts can be reduced to below a level of significance.

Chapter 6 Conclusion

No SBKR were captured during the current survey effort. However, the project site does provide suitable SBKR habitat and SBKR were trapped in the vicinity in 2004. Additionally the proposed access road is within designated USFWS Critical Habitat for SBKR. The area is presumed to be occupied by SBKR.

The southern portion of the two road alternatives are located within USFWS-designated SBKR Critical Habitat Unit 4. Impacts to SBKR and SBKR Critical Habitat are potentially significant under CEQA. The project will require a permit from USACE for modification of the Cable Creek channel. Consequently, the USACE will consult with the USFWS regarding impacts and mitigation measures for SBKR and its habitat. Impacts to SBKR individuals and Critical Habitat may be reduced to below the level of significance with mitigation coordinated through the USFWS.

Impacts to state sensitive species, such as San Diego pocket mouse are not typically considered significant under CEQA due to their abundance on a local and regional level. However, impacts to the Los Angeles pocket mouse may be considered significant since their range and preferred habitat is narrow and it is not known to be locally or regionally abundant. With appropriate mitigation, these impacts can be reduced to below a level of significance.

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Chapter 7 Certification

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

Date: July 22, 2009

Signed: Marnie S. McKernan

Marnie McKernan, Senior Scientist

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Appendix A
Floral And Faunal Compendia

FLORAL COMPENDIUM

ANGIOSPERMAE: DICOTYLEDONES	DICOT FLOWERING PLANTS
Anacardiaceae	**Sumac family**
Rhus ovata	Sugar bush
Rhus trilobata	Squaw bush
Toxicodendron diversilobum	Poison oak
Asteraceae	**Sunflower family**
Artemisia californica	California sagebrush
**Centaurea melitensis*	Tocalote
Ericameria pinifolia	Pinebush
Helianthus annuus	Annual sunflower
Lepidospartum squamatum	Scale-broom
Boraginaceae	**Borage family**
Amsinckia menziesii	Fiddleneck
Cryptantha intermedia	Popcorn flower
Cryptantha micrantha	Tiny popcorn flower
Brassicaceae	**Mustard family**
**Hirschfeldia incana*	Short-podded mustard
Cactaceae	**Cactus family**
Opuntia littoralis	Coastal prickly pear
Caprifoliaceae	**Honeysuckle family**
Sambucus mexicana	Blue elderberry
Cucurbitaceae	**Gourd family**
Cucurbita palmata	Coyote melon
Marah macrocarpa	Wild cucumber
Cuscutaceae	**Dodder family**
Cuscuta californica	California dodder
Euphorbiaceae	**Spurge family**
Croton californica	Croton
Fabaceae	**Pea family**
Lotus scoparius	Deer weed
Geraniaceae	**Geranium family**
**Erodium cicutarium*	Red-stemmed filaree

FLORAL COMPENDIUM (CONT.)

Hydrophyllaceae	**Waterleaf family**
Eriodictyon trichocalyx	Yerba santa
Juglandaceae	**Walnut family**
Juglans californica	California walnut
Lamiaceae	**Mint family**
Salvia apiana	White sage
Salvia columbariae	Chia
Salvia mellifera	Black sage
Onagraceae	**Evening primrose family**
Camissonia bistorta	California suncup
Camissonia brevipes	Yellow cups
Platanaceae	**Sycamore family**
Platanus racemosa	Sycamore
Polygonaceae	**Buckwheat family**
Eriogonum fasciculatum	California buckwheat
Rhamnaceae	**Buckthorn family**
Rhamnus crocea	Spiny redberry
Rosaceae	**Rose family**
Adenostoma fasciculatum	Chamise
Cercocarpus betuloides	Mountain mahogany
Prunus ilicifolia	Holly-leaved cherry
Rubiaceae	**Madder family**
Solanaceae	Nightshade family
Datura wrightii	Jimson weed
Solanum xanti	Deadly nightshade
Viscaceae	**Mistletoe family**
Phoradendron tomentosum macrophyllum	Hairy-coated mistletoe
ANGIOSPERMAE: MONOCOTYLEDONAE	**MONOCOT FLOWERING PLANTS**
Liliaceae	**Lily family**
Dichelostema pulchellum	Blue dicks
Yucca whipplei	Whipple's yucca

FLORAL COMPENDIUM (CONT.)

Poaceae	**Grass family**
**Avena barbata*	Slender wild oats
Bromus carinatus	California brome
**Bromus diandrus*	Ripgut brome
**Bromus madritensis*	Red brome
**Bromus mollis*	Soft chess
**Hordeum murinum*	Wild barley

* denotes non-native species

FAUNAL COMPENDIUM

REPTILIA	**REPTILES**
Iguanidae	**Iguanas and their allies**
Uta stansburiana	Side-blotched lizard
Phrynosoma coronatum	Coast horned-lizard
Teiidae	**Whiptails and their allies**
Cnemidophorus tigris multiscutatus	Coastal whiptail
Colubridae	**Colubrids**
Masticophis flagellum	Coachwhip
Anguidae	**Alligator lizards**
Gerrhonotus multicarinatus	Southern alligator lizard
AVES	**BIRDS**
Accipitridae	**Kites, hawks and eagles**
Buteo jamaicensis	Red-tailed hawk
Phasianidae	**Quails and pheasants**
Callipepla californica	California quail
Columbidae	**Pigeons and doves**
Zenaida macroura	Mourning dove
Trochlidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Tyrannidae	**Tyrant flycatchers**
Tyrannus verticaulis	Western kingbird
Corvidae	**Crows and ravens**
Corvus brachyrhynchos	American crow
Lanidae	**Shrikes**
Lanius ludovicianus	Loggerhead shrike
Ptilogonatidae	**Silky flycatchers**
Phainopepla nitens	Phainopepla

FAUNAL COMPENDIUM (CONT.)

Emberizidae	**Warblers, sparrows, blackbirds and relatives**
Pipilo crissalis	California towhee
Fringillidae	**Finches**
Carpodacus neomexicanus	House finch
MAMMALIA	**MAMMALS**
Leporidae	**Rabbits and hares**
Sylvilagus audubonii	Audubon's cottontail
Sciuridae	**Squirrels, chipmunks and marmots**
Spermophilus beecheyi	California ground squirrel
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
Heteromyidae	**Pocket Mice and Kangaroo Rats**
Perognathu longimembris brevinasus	Los Angeles pocket mouse
Chaetodipus fallax	San Diego pocket mouse
Dipodomys simulans	Dulzura kangaroo rat
Muridae	**Mice, Rats, and Voles**
Peromyscus eremicus	Cactus mouse
Peromyscus maniculatus	Deer mouse
Canidae	**Foxes, wolves and relatives**
Canis latrans	Coyote