

March 29, 2019  
(2019-023)

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BCR Investments, Inc.  
c/o Mr. Mark Stanson  
SD STANSON Company  
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Redlands, CA 92374

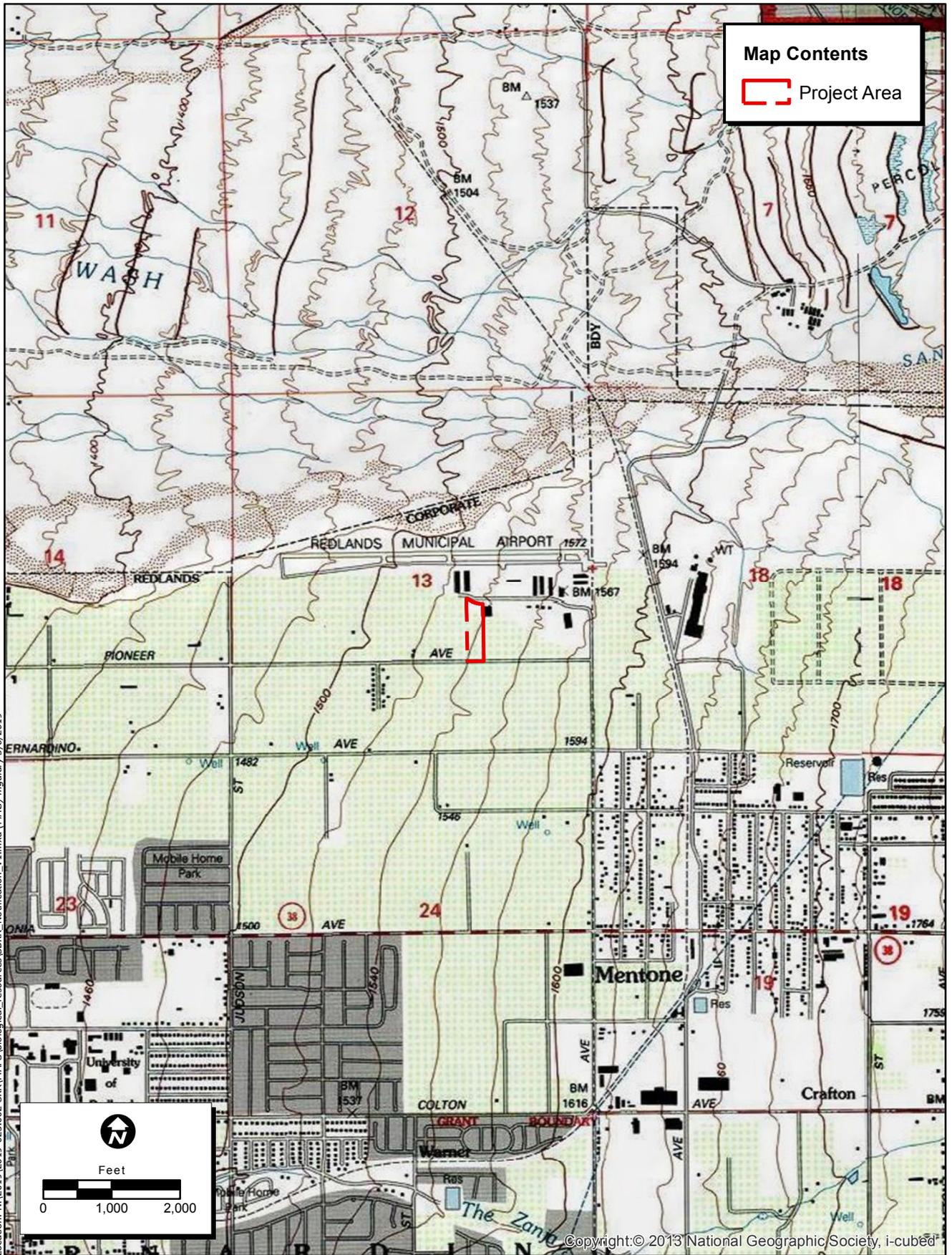
**Subject: Results of a Focused San Bernardino Kangaroo Rat Trapping Survey Conducted at an Approximately 5-acre Property (APN 0168-041-50 and 0168-041-13), in the City of Redlands, California**

Dear Mr. Rieger:

This letter report presents the results of a focused San Bernardino kangaroo rat (SBKR; *Dipodomys merriami parvus*) trapping survey conducted by ECORP Consulting, Inc. (ECORP) and SJM Biological Consultants (SJMBC) at an approximately 5-acre Property (APN 0168-041-50 and 0168-041-13; the project site), in the City of Redlands San Bernardino County, California. This report includes life history information for SBKR, a description of the methods used to conduct the survey, and a summary and discussion of the survey results

### **Project Description and Location**

The project site is located on Sessums Drive, east of Dearborn Street and West of Wabash Avenue in the City of Redlands (Figure 1). The property is bounded by Sessums Drive to the north, undeveloped land and industrial development to the east, undeveloped land and the Redlands Sports Complex to the south, and undeveloped land to the west. The site is located within the northeast portion of Section 13, Township 1 South, Range 3 West, on the U.S. Geological Survey (USGS) Redlands 7.5-minute topographic quadrangle map. The elevation on the project site is approximately 1,550 feet above mean sea level. The project site occurs outside United States Fish and Wildlife Service (USFWS) designated critical habitat for SBKR (USFWS 2008).



Location: N:\2019\2019-023\002\_SKR\MAPS\biological\_resources\SBKR\_Notification\_V1.mxd (MAG) nguidry 3/6/2019

Map Date: 3/6/2019  
 USGS Topographic Quadrangle

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## San Bernardino Kangaroo Rat Natural History and Occurrence in the Project Area

The SBKR, a member of the rodent family Heteromyidae, is endemic to southwestern California. It is one of 19 subspecies of the Merriam's kangaroo rat (*Dipodomys merriami*), which is widely distributed throughout the western United States and northwestern Mexico. Populations of SBKR historically ranged throughout alluvial floodplains and adjacent upland habitats of the San Bernardino Valley in San Bernardino County, as well as southward to the Menifee and San Jacinto Valleys in Riverside County.

Twenty-five separate SBKR locations were identified by McKernan (1997) in San Bernardino and Riverside counties, four of which (City Creek, Etiwanda, Reche Canyon, and South Bloomington) supported only small remnant populations of the species. The Santa Ana River, Lytle and Cajon washes, and the San Jacinto River support the largest extant concentrations of SBKR and suitable habitat for this species (approximately 13,697 acres); however only 3,215 of the occupied acres are classified as early successional (pioneer), which is the habitat type most preferred by SBKR. The remaining 10,482 acres are classified as more mature than the open pioneer stage of this vegetation type, making them relatively less suitable for SBKR (USFWS 1998a; USFWS 1998b; USFWS 2009).

SBKR occur primarily in the pioneer and intermediate phases of Riversidean alluvial fan sage scrub (RAFSS), a plant community with coastal sage scrub and chaparral elements on alluvial terraces and braided river channels in southern California (McKernan 1997). SBKR also can occur in abandoned agricultural fields and orchards, but usually only when such habitats are in close proximity to suitable natural habitats. SBKR abundance is greatest where there is sandy substrate with low-to-moderate perennial vegetative cover (less than 30% to 50%) and minimal dense non-native annual grass cover (McKernan 1997; MEC 2000). Root's (2008a and 2008b) extensive analysis of a long-term study of SBKR occurrence in the Santa Ana River Woolly Star Preserve Area similarly found that SBKR occupancy is negatively correlated with a dense cover of non-native grasses and areas where boulders and rocks dominate the surface, and positively correlated with sandy sparse ground cover and the perennial bush scalebroom (*Lepidospartum squamatum*).

The SBKR is known to be abundant within the Santa Ana River (SAR) wash system to the north, and undoubtedly occurred more broadly in the general area of the project site historically. However, over time, various types of development to the north and south of the property have restricted the populations of this species to small, isolated, and less disturbed parcels of land. Most of these parcels are located away from the SAR wash system and most now likely lack the animal. As an example, SBKR have been trapped on parcels located approximately 300 feet directly to the east (Montgomery 2012), approximately 600 feet to the southeast (Davenport 2007), and 1,250 feet to the west (S.J. Montgomery, personal field notes). Thus, there was a clear potential for SBKR to occur on the project site.

## Methods

### **Habitat Assessment**

A SBKR habitat assessment of the site was conducted by a biologist permitted to trap and handle SBKR under the authority of a federal USFWS 10(a)(1)(A) endangered species recovery permit. There is no official state or federal protocol for SBKR habitat assessments, but the permitted biologist used his knowledge of the species habitat requirements and natural history to assess the project site's potential to support the species. During the habitat assessment the project site was evaluated for habitat conditions potentially suitable for SBKR and to determine if a live-trapping survey of the site was warranted. During the assessment numerous transects were walked across the property in search of clear evidence of kangaroo rats (e.g., tracks, tail-drag marks, scat, obvious burrows). Transects were spaced appropriately to achieve 100-percent visual coverage of the project site, and the biologist conducted a focused analysis of all areas exhibiting potentially suitable habitat for SBKR. Locations with diagnostic kangaroo rat sign were marked with a global positioning system (GPS) receiver and flagged as potential trapping areas.

### **SBKR Trapping Survey**

The SBKR trapping survey was conducted according to established protocols described within the permitted biologist's federal 10(a)(1)(A) endangered species recovery permit for SBKR. The recently graded project site represented one contiguous habitat type. To achieve ample coverage of the entire project site, traps spaced approximately 10 meters apart and placed in four north-south oriented lines (Figure 2). The survey was completed in one session of five consecutive nights of trapping. A total of 100 traps were opened at dusk each day and baited with a bird seed mixture. Traps were then checked for captures and closed each morning near dawn. All captured animals were identified to species and released unharmed at the point of capture. Only 12-inch modified (front door shortened slightly) collapsible Sherman live-traps were used during this survey. Notes and photographs were taken to document habitat conditions where traps were placed. Weather conditions at the time of the trapping study were also noted.

## Results

### **Habitat Assessment**

The SBKR habitat assessment was conducted by Ecorp Senior Biologist, Phillip Wasz (TE-43597A-2.1) on February 6, 2019, between the hours of 0900-1100, during suitable weather conditions. At the time the assessment was conducted the property consisted of recently graded/grubbed land that was almost completely devoid of vegetation. The little vegetation remaining on the project site was typical of the disturbed/graded condition and consisted mostly of remnant non-native grasses and forbs, including Russian thistle (*Salsola tragus*), black mustard (*Brassica nigra*), fiddleneck (*Amsinckia menziesii*), summer mustard (*Hirschfeldia incana*), and common dandelion (*Taraxacum officinale*). Soils on the site are Soboba gravelly loamy sands (NRCS 2019). Although this soil type is fundamentally suitable for SBKR, the soil on the project site was compacted and rocky. Areas of



Location: N:\2019\2019-023\002\_SKR\MAPS\biological\_resources\SBKR\_Results\_V1.mxd (JDS)-Swager-3/29/2019

Map Date: 3/29/2019  
 Photo Source: USGS 2014



**Figure 2.SBKR Trap Lines**  
 2019-023 BCR - SBKR Surveys

deep, sandy soil such as that preferred by this species are absent. Representative photographs of the project site can be found in Attachment A.

No signs of small mammal activity, including kangaroo rat sign (active burrows, scat, tail drag marks) were observed on the project site at the time of the survey. The absence kangaroo rat sign and small mammal activity during the habitat assessment indicated that the potential for occurrence of SBKR on the property was extremely low and that the species was likely absent from the project site. The property has been separated from the effects of periodic alluvial flooding from the SAR to the north for many decades, and the more open alluvial fan habitat conditions typically favored by SBKR were not identified on the project site. Additionally, the project site was surrounded by a chain-link fence which also had small mammal exclusion fence attached to the base of the chain-link. The small mammal exclusion fence consisted of small diameter wire mesh fence (1/4-inch hardware cloth) that extended above ground for approximately 36 inches and was also buried under ground for approximately 18 inches. Based on these findings and the lack of suitable habitat on the property, it was determined by the biologist that that a protocol-level trapping survey was not recommended.

### ***SBKR Trapping Survey***

As mentioned, although the project site in its current state was considered unsuitable for SBKR by Mr. Wasz and Mr. Montgomery and no kangaroo rat signs (e.g., tail drags, burrows, and scat) were identified during the habitat assessment, the USFWS requested that a trapping survey be conducted to confirm the absence of SBKR. As a result, a USFWS protocol trapping survey was conducted by Phillip Wasz), who is permitted to trap and handle SBKR under the authority of a USFWS 10(a)(1)(A) endangered species recovery permit for SBKR (TE-43597A-2.1. Additional technical oversight was provided by Stephen Montgomery.

The trapping survey commenced with the setting and baiting of traps on the evening of March 24, 2019. Trapping continued through the morning of March 29, 2019. Nighttime weather conditions during the five-night trapping session were generally suitable for small mammal trapping, with average nightly temperatures (between approximately 10:00pm and 6:00am) ranging between 54 and 60degrees Fahrenheit, daytime highs ranging between 71 and 80 degrees Fahrenheit, wind speeds ranging from 1 to 12 mph, and cloud cover ranging from sunny to partly cloudy. There was no precipitation recorded during the trapping period.

No SBKR were captured during the survey, and the total of 500 trap-nights expended in the field effort (one trap-night is one trap set for one night) did not yield any animal captures (Table 1).

**Table 1. SBKR Trapping Survey Results**

Date Traps Checked	Animals Captured				
	SBKR	DKR	PEMA	PEFR	CHFA
3/25/2019	0	0	0	0	0
3/26/2019	0	0	0	0	0
3/27/2019	0	0	0	0	0
3/28/2019	0	0	0	0	0
3/29/2018	0	0	0	0	0
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
SBKR = San Bernardino kangaroo rat ( <i>Dipodomys merriami parvus</i> ) DKR = Dulzura kangaroo rat ( <i>Dipodomys simulans</i> ) PEMA = deer mouse ( <i>Peromyscus maniculatus</i> ) PEFR = Baja mouse ( <i>Peromyscus fraterculus</i> ) CHFA = Northwestern San Diego pocket mouse ( <i>Chaetodipus fallax fallax</i> ) NEBR = Bryant's woodrat ( <i>Neotoma bryanti</i> ) CATO = California towhee ( <i>Melospiza crissalis</i> )					

### Discussion and Conclusion

The lack of kangaroo rat sign (e.g., burrows, tracks, scat) and the lack of any SBKR captures on the project site strongly indicates that this species is absent on the project site at this time. As a result, no impacts to this species are expected to result from development of the project within the next year. The likelihood of impacts to this species also may extend beyond that time because (a) habitat conditions in the lands immediately adjacent to the property are developed or very heavily disturbed, and (b) the small mammal exclusion fence surrounding the project site will deter animals from occupying the property.

Endangered/sensitive small mammal species surveys are formally valid for a period of one year from the date of the trapping. For this reason, the trapping survey may need to be updated if development of the property is delayed past one year from the date of the current trapping survey, or if noteworthy changes occur to the project's impact area.

No avoidance, minimization, and mitigation measures for SBKR are recommended at this time

### Certification

Thank you for the opportunity to work on your project. If you have any questions regarding the contents of this letter report, please contact me at (909) 307-0046/[pwasz@ecorpconsulting.com](mailto:pwasz@ecorpconsulting.com) or Stephen Montgomery at (858) 232-9602/[steve@sjmbio.com](mailto:steve@sjmbio.com).

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

SIGNED: 

DATE: March 29, 2019

Phillip Wasz  
Senior Wildlife Biologist  
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SIGNED: 

DATE: March 29, 2019

Stephen Montgomery  
Principal Wildlife Biologist  
SJM Biological Consultants, Inc.  
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### Attachments:

Attachment A: Representative Photographs

## Literature Cited

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**ATTACHMENT A**

Representative Project Site Photographs



Photo 1: North end of the project site looking south on February 6, 2019.



Photo 2: Middle of project site looking south on February 6, 2019.



Photo 3: South end of the project site looking north on February 6, 2019.



Photo 4: Recently installed small mammal exclusion fence attached to the chain link boundary fence on February 6, 2019.



Photo 5: Western trap line looking south on March 25, 2019.



Photo 6: One of the middle trap lines looking north on March 25, 2019.



Photo 7: Representative picture of the soil on site on March 25, 2019.



Photo 8: Representative picture of the soil and vegetation on site on March 25, 2019.