General Biological & Burrowing Owl Survey

City of San Jacinto Refernce: Pre-Application P20-012

Assessor's Parcel Numbers: 436-040-006, 436-040-008, and 436-030-001

Project Address: Southwest corner of N. Ramona Blvd. at Ranch View Lane

City Requirement: Provide a biological survey with focus on the burrowing owl.

Executive Summary: No burrowing owls (*Athene cunicularia*) or burrowing owl burrows were observed on the 37.84-acre site during these burrowing owl surveys. Foraging habitat is present including small rodents. Two occupied ground squirrel burrows are present, but no active burrowing owl burrows are present.
The site is comprised of a recently disced agricultural field that is fenced. Impacts to the burrowing owl are expected to be limited to a loss of potential foraging habitat, but not direct "take" of the species.

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Survey Dates: 11-29-20 to 12-4-20

Report Date: 12-6-20

CERTIFICATION: **I hereby certify that the statements furnished above and in the attached exhibits present the 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: 12-6-20
12-6-20

SIGNED: _____
Victor M. Horchar

EXECUTIVE SUMMARY

No burrowing owls (*Athene cunicularia*) or burrowing owl burrows were observed on the 37.84-acre site during these protocol burrowing owl surveys. Foraging habitat is present as evidenced by the presece of small rodent burrows. Two occupied ground squirrel burrows are present but were never used by burrowing owls during prologed obeservations of the burrows over several consecutive days.

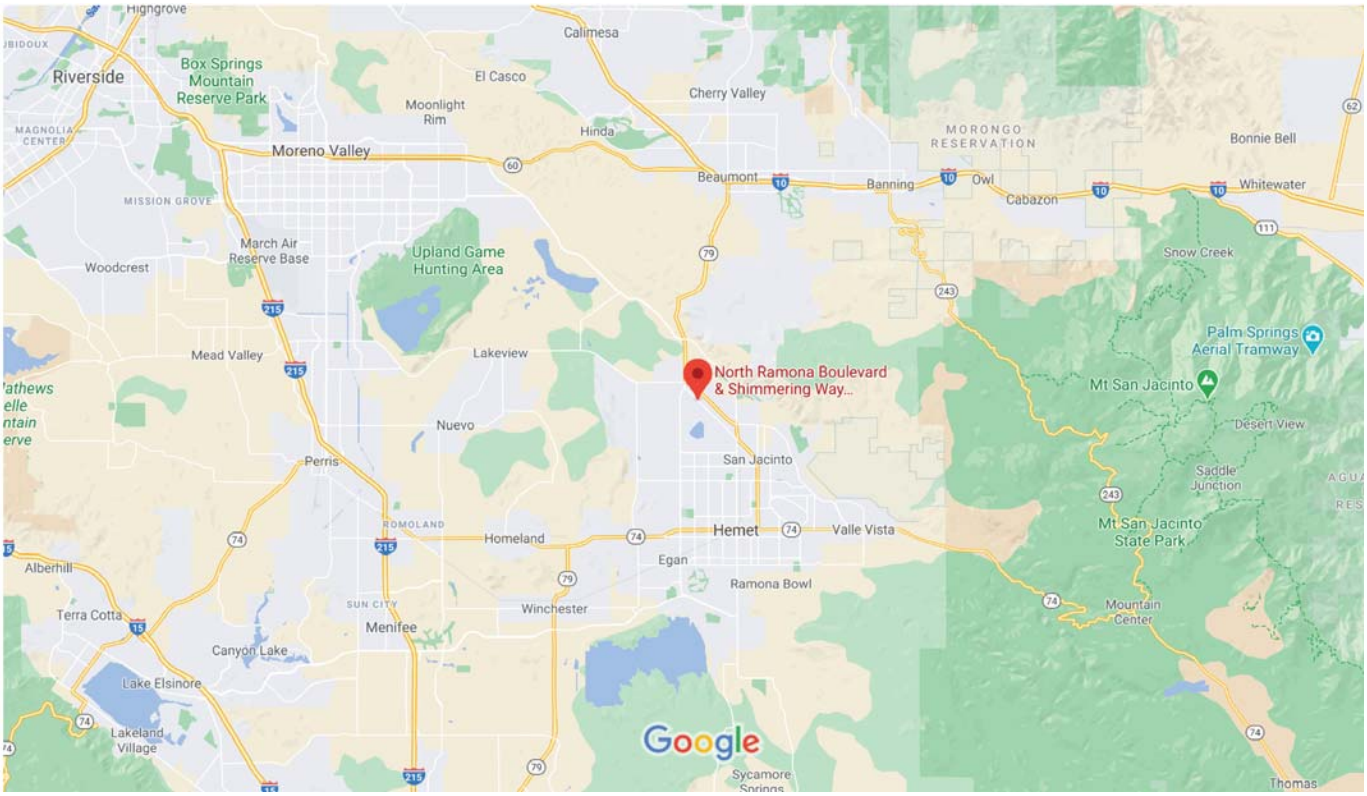
The site is comprised of land used exclusively for recent active agricultural production as evidenced by the existing grading furrows. Impacts to the burrowing owl are expected to be limited to a loss of 37.84-acres of potential burrowing owl foraging habitat, but not direct "take" of the species.

INTRODUCTION

Prior to grading approval by the City of San Jacinto requested the completion of a biological survey focusing on the burrowing owl. The project owner contacted the County-Certified biologists of VHBC, Incorporated to complete the required surveys and report per the survey protocol defined by the Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Project Vicinity: The project site is located in Riverside County, California (Figure 1).

FIGURE 1
VICINITY MAP



Project Location: The is located on the southwest corner of N. Ramona Boulevard and Ranch View Lane (Figure 2).

The 37.84-acre site is comprised of a fenced barren and furrowed agricultural lot with perimeter invasive flora and one cottonwood one the north center of the southern lot (Figure 3).

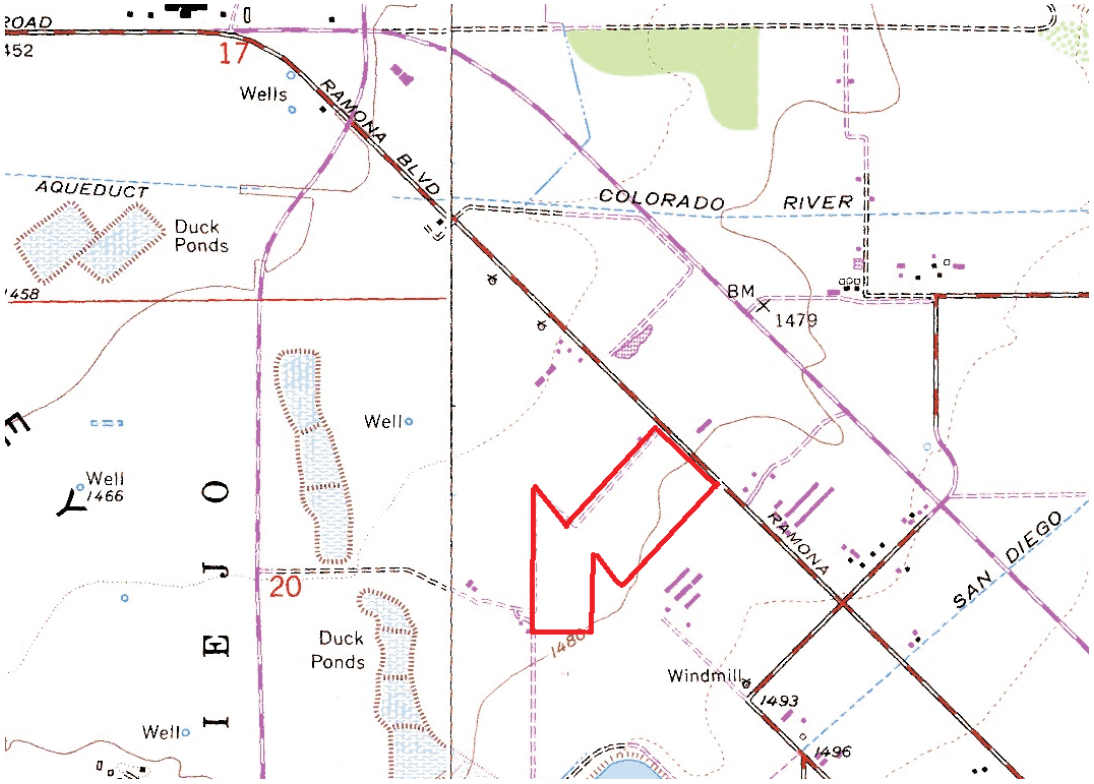
FIGURE 2
LOCATION MAP

FIGURE 3
Photograph of the Project Site

Project Habitat: The project site is comprised of bare agricultural with planting furrows present on 95% of the site and a few non-native annual weeds on the perimeter. One relictual cottonwood (*Populus freemontii*) is present on the northern side of the southern portion of the site alough no riparian habitat is present on-site. No intact alkaline soil-based habitat is present on-site because of repeated discing and furrowing from continuous farming operations. Hence, habitat for sensitive flora that require alkaline soils are absent.

Project Topography: The vertical relief on-site ranges from 1,464' asl to 1,475' asl (Figure 4).

FIGURE 4
SITE TOPOGRAPHY



Project Soils: No well-defined soil types are present because of the repeated historical discing and furrowing of the recently active agricultural field. Historically, before intensive soil mixing from farming operations, there were saline-alkaline soils present as detailed below in Figure 5. However, because of farming operations these soils are no longer discernable and no longer form viable alkaline habitat.

FIGURE 5
SOIL COMPOSITION OF THE PROJECT SITE

Map Unit Symbol	Map Unit Name	Percent of AOI
DrA	Dello loamy fine sand, gravelly substratum, 0 to 2 percent slopes	5.5%
GpB	Grangeville sandy loam, drained, saline-alkali, 0 to 5 percent slopes	0.2%
GsB	Grangeville sandy loam, sandy substratum, drained, saline-alkali , 0 to 5 percent slopes	1.9%
GuB	Grangeville fine sandy loam, poorly drained, saline-alk ali, 0 to 5 percent slopes	78.2%
GvB	Grangeville fine sandy loam, saline-alkali, 0 to 5 percent slopes	13.5%
Tr2	Traver loamy fine sand, saline-alkali, eroded	0.7%
Totals for Area of Interest		**100.0%**

Project Photographs: Representative site photographs are shown below in Figures 6 to Figure 14. These images show the existing site conditions, vegetation and habitat conditions on-site.

FIGURE 6
Photograph Key

FIGURE 7
Photograph 1

FIGURE 8
Photograph 2
Rodent burrow

FIGURE 9
Photograph 3

FIGURE 10
Photograph 4

FIGURE 11
Photograph 5

FIGURE 12
Photograph 6

FIGURE 13
Photograph 7
Active ground squirrel burrow

FIGURE 14
Photograph 8
Active rodent burrow

Project Site Wildlife: The wildlife on-site included only common species such as the western fence lizard (*Sceloperous occidentalis*), side-blotched lizard (*Uta stansburiana*), mourning dove (*Zenadia macroura*), mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), domestic dog (*Canis familiaris*), coyote (*Canis latrans*), domestic cat (*Felis domesticus*), ground squirrel (*Spermophyllus beechyi*), and pocket gopher (*Thomomy bottae*).

Project Site Vegetation: The flora on-site are limited to common native and invasive species. The main exception is the single Freemont cottonwood (*Populus freemontii*) located in the middle of the site. The common native and invasive species are located around the perimeter of the site because 95% of the site is recent active agriculture (with planting furrows present). The common species include red brome (*Bromus rubens*), short-podded mustard (*Hirschfeldia incana*), rattlesnake weed (*Euphorbia albomarginata*), doveweed (*Eremocarpus setigerus*), storksbill (*Erodium cicutarium*), telegraph weed (*Heterotheca grandifloa*), Russian thistle (*Salsola tragus*). No sensitive alkaline flora are present.

Surrounding Land Use: The northern side of the site is bordered by N. Ramona Boulevard and residenial units. The eastern side of the site is bordered by Ranch View Lane and residential units to the north and private agricultural land to the southeast. The southern and western sides of the site are private agricultural land (Figure 15).

FIGURE 15
Surrounding Land Use

BURROWING OWL BACKGROUND

The Burrowing Owl (*Athene cunicularia*) is the smallest owl in the United States. Burrowing owls begin nesting in spring within burrows. The female does all of the incubation and brooding. Clutch size ranges from 6 to 11 eggs. Eggs are laid at intervals of 24 to 72 hours. The incubation period is 27 to 30 days and begins when the first egg is laid, resulting in a multi-aged brood. Owlets are born partially covered with down and with eyes closed. Eyes open at 5 days of age. Owlets move among nest burrows when 10 days old. They fly well by 6 weeks of age, and fledge when about 44 days old. An item of interest is a DNA fingerprinting study of burrowing owl study at U.C. Davis which showed that 37 percent of adult owls were raising owlets other than their biological offspring.

Burrowing owls hunt in both day and night. They hunt while flying or while on high spots on the ground including fence posts or other elevated perches. Prey is either run down on foot or caught by hovering and swooping. Arthropods, mainly insects, form the majority of the burrowing owl diet, but they do eat small rodents, reptiles and even small birds. Young ground squirrels, pocket gophers, voles, mice, young cottontails, and young jackrabbits are common mammalian prey. Grasshoppers, Jerusalem crickets, and beetles are the most common arthropod prey.

Distribution: Within California the burrowing owl is known to occur in varying densities throughout the state (Figure 16). Christmas bird counts show California as the most important state for wintering burrowing owls, followed by New Mexico, Florida, Arizona, and Texas, respectively. Florida, the Southwest, and southern California have year-round burrowing owl residents as well as winter migrants.

Habitat: The preferred habitat for the Burrowing owl includes grasslands, shrub land, and savannas. They also occur in other open areas such as agricultural lands, old fields, extensive forest clearings, airports, golf courses, and spacious residential zones.

Burrowing owls typically live in colonies, using burrows excavated by other animal species for cover. Burrows are used for breeding, nesting, and brooding. When selecting a burrow, the owls prefer burrows with low, open cover that provide good horizontal visibility. Burrowing owls are commonly found in plant communities in early stages of succession because cover is low. Long-abandoned burrows are usually not used because the burrow entrance has become overgrown. Burrows adjacent to burrows occupied by other burrowing owls are preferred, although burrowing owl pairs have nested alone if other burrowing owls were not in the area. Burrowing owls often evict other animal species from desirable burrows.

In California, burrowing owls primarily use ground squirrel burrows. The length and depth of the burrow depends upon the requirements of the species that dug it. In friable soil, burrowing owls dig their own burrows when suitable ones are not available. Additionally, burrowing owls use ground cavities other than burrows for cover, including human-constructed cavities such as culverts and pipes.

Soil Requirements: This species is a generalist and only avoids toxic soils where possible. It has been observed in sand, decomposed granite, clay soils, farmed disturbed soils, etc.

Riverside County Locations: This species has been observed throughout Riverside County (Figure 17) including locations in the following cities/regions – Corona, Norco, Riverside, Woodcrest, Lake Elsinore, Perris, Temecula, Winchester, Aguanga, Moreno Valley, Hemet, San Jacinto, Sun City and Murrieta among others.

Status: This species is a State of California Species of Concern.

FIGURE 16
BURROWING OWL RANGE IN CALIFORNIA

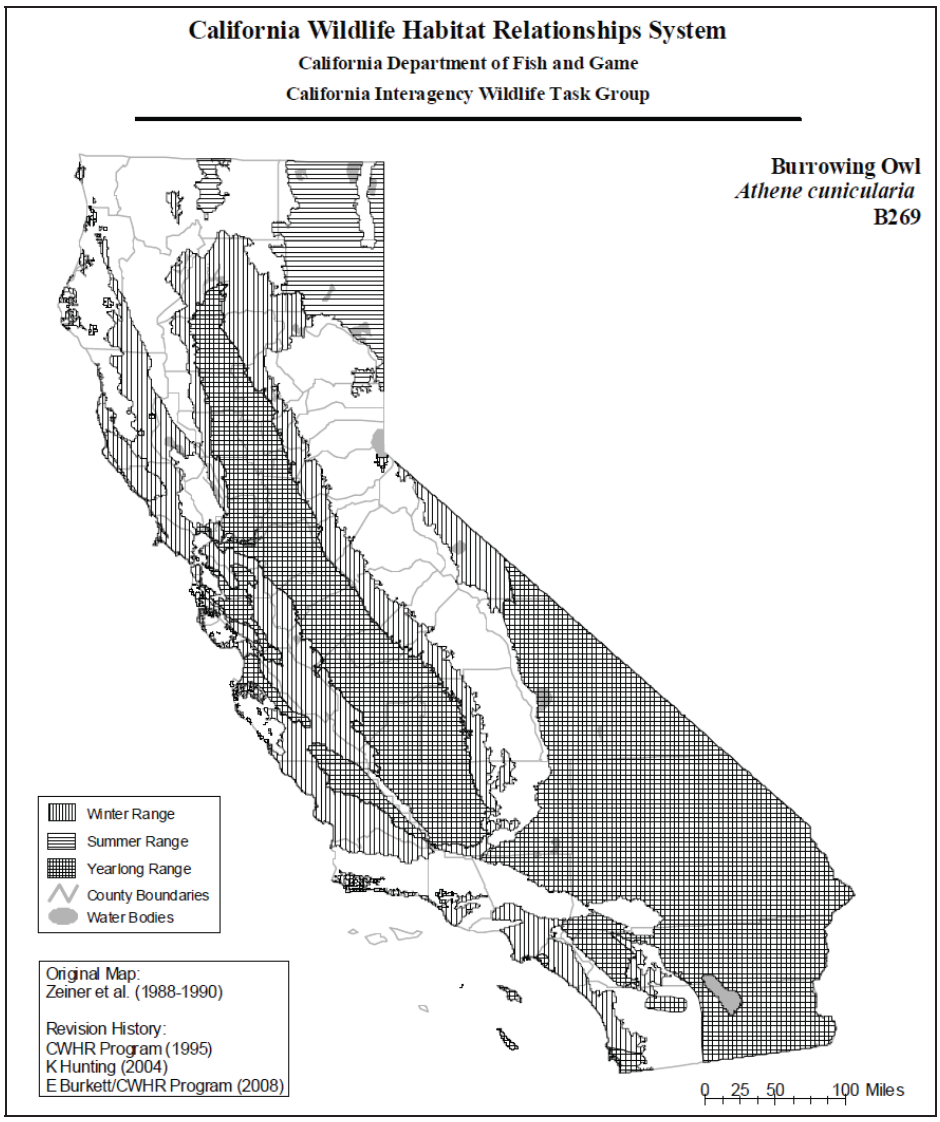
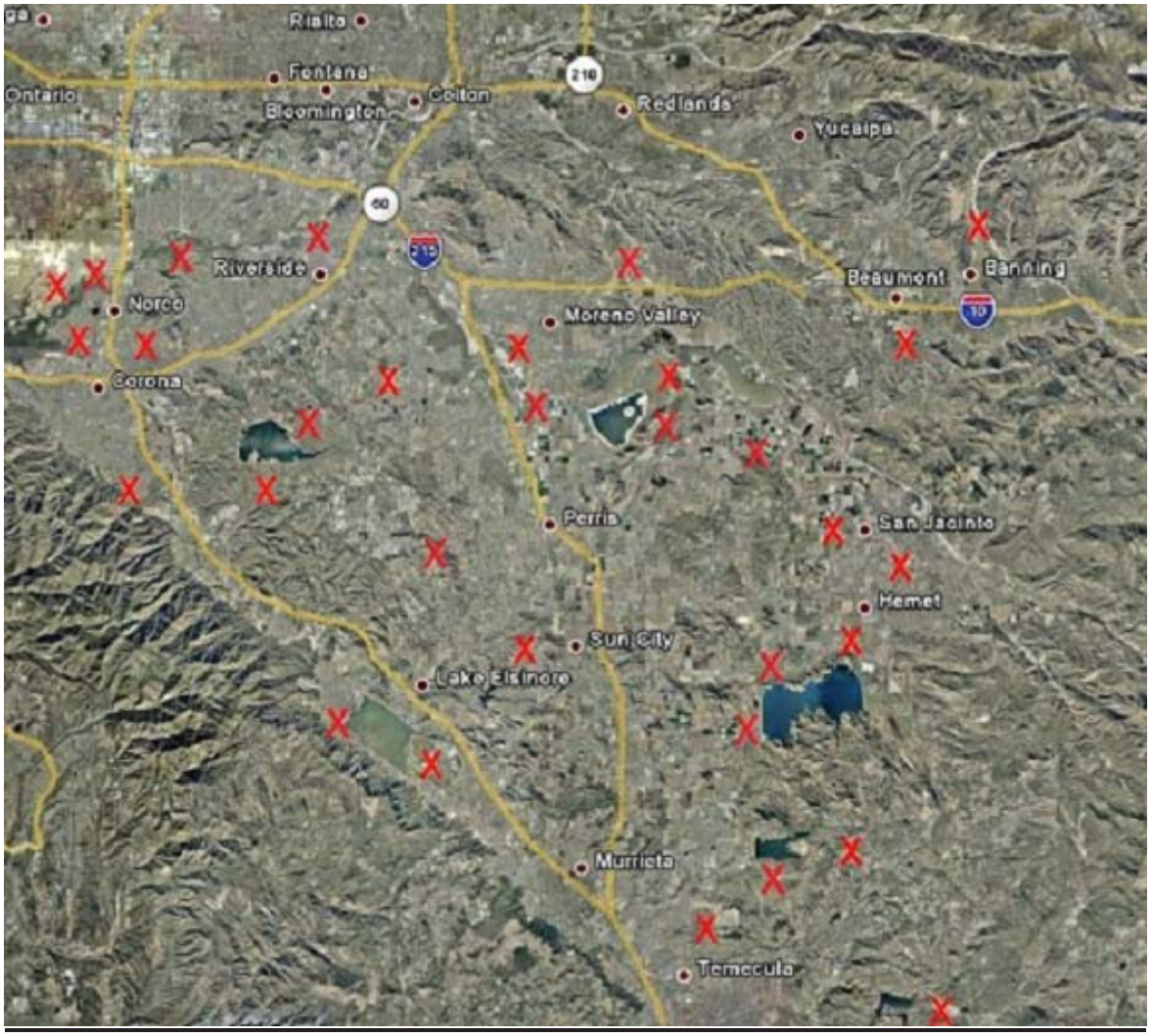


FIGURE 17
REGIONAL SIGHTINGS OF BURROWING OWLS



SURVEY METHODOLOGY

Surveys for the burrowing owl followed the guidelines provided by the County of Riverside Environmental Programs Department of the County of Riverside as defined in the MSHCP.

Initial surveys were started in early November but were delayed repeatedly by rain and wind that violated survey protocols. During acceptable weather between 11-29-20 and 12-4-20 biological surveys were completed. The focus was on the burrowing owl because intact alkaline habitat for sensitive plants was absent.

Biological surveys were completed along 10-meter-wide linear transects that spanned the entire site for full coverage (Figure 18). Focused surveys for the burrowing owl included long-term obsevations of ground squirrel burrows that could be used by burrowing owls. Surveys were completed in the early morning hours and then in the evening hours the following day (Table 1).

FIGURE 18
Burrowing Owl Survey Transects

Table 1 Survey Weather

Date	Time	Temp	Max Wind	Cloud Cover	Rain
11-29-20	0530-1230	73 F	5 mph	haze	0
11-30-20	1500-1730	82 F	13 mph	clear	0
12-1-20	0530-1230	81 F	7 mph	25%	0
12-2-20	1500-1730	75 F	8 mph	clear	0
12-3-20	0530-1230	68 F	4 mph	25%	0
12-4-20	1500-1730	73 F	3 mph	clear	0

RESULTS

Burrowing Owl (*Athene cunicularia*): No burrowing owls were observed on-site and none of the active ground squirrel burrows were visited by burrowing owls.

Rare Plants: No habitat for alkaline soil-dependent rare plants is present because it has been converted to agricultural land.

CONCLUSIONS

Burrowing Owl (*Athene cunicularia*): Based on the findings of these preconsruction surveys for the burrowing owl, impacts to this species and its habitat are not expected.

Rare Plants: No intact habitat.

MITIGATION

The County of Riverside will require a preconstruction burrowing owl survey within 30-days of the on-set of grading because the site includes potential foraging habitat for the burrowing owl and existing ground squirrel burrows that could be occupied between the time of the writing of this report and the start of grading.

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APPENDIX A
BOTANICAL COMPENDIUM

ANGIOSPERMAE: DICOTYLEDONES DICOT FLOWERING PLANTS

Asteraceae		**Sunflower family**
	Ambrosia psilostachya	Western ragweed
	Artemesia californica	California sage
	Centaurea melitensis	Tacalote
	Helianthus annuus	Annual sunflower
	Heterotheca grandiflora	Telegraph weed
	Senecio vulgaris	Common groundsel
	Taraxicum officionale	Dandelion
Boraginaceae		**Borage family**
	Amsinckia intermedia	Fiddleneck
	Cryptantha intermedia	Popcorn flower
Brassicaceae		**Mustard family**
	Brassica geniculata	Mustard
	Hirschfeldia incana	Short-podded mustard
	Sisymbrium irio	London rocket
Chenopodiaceae		**Goosefoot Family**
	Salsola tragus	Russian thistle
Euphorbiaceae		**Spurge family**
	Eremocarpus setigerus	Doveweed
	Euphorbia albomarginata	Rattlesnake weed
Geraniaceae		**Geranium family**
	Erodium cicutarium	Red-stemmed filaree
Lamiaceae		**Mint family**
	Marrubium vulgare	Horehound
Salicaceae		**Willow Family**
	Poplus fremontii	Freemont cottonwood

ANGIOSPERMAE: MONOCOTYLEDONAE MONOCOT FLOWERING PLANTS

Poaceae	**Grass family**
Avena barbata	Slender wild oats
Bromus diandrus	Ripgut brome
Bromus madritensis	Red brome
Cynodon dactylon	Bermuda grass
Lolium perenne	Ryegrass
Vulpia myuros	Foxtail

APPENDIX B
WILDLIFE COMPENDIUM

REPTILES

Colubridae	**Colubrid Snake Family**
Masticophus flagellum	Coachwip snake
Iguanidae	**Iguanine Lizard Family**
Sceloporus occidentalis	Western fence lizard
Uta stansburiana	Side-blotched lizard

BIRDS

Buteonidae	**Hawks & Buzzards**
Buteo jamaicensus	Red-tailed hawk
Columbidae	**Pigeon & Dove Family**
Zenadia macroura	Mourning dove
Corvidae	**Crow & Raven Family**
Corvus corax	Raven
Emberizidae	**Sparrow Family**
Pipilo crissalis	California towhee
Fringillidae	**Finch Family**
Carpodactus mexicanus	House finch
Mimidae	**Mockingbirds**
Mimus polyglottos	Mockingbird
Ploceidae	**Weaver Finch Family**
Passer domesticus	House sparrow
Tyrannidae	**Tyrant Flycatcher Family**
Sayornis nigricans	Black phoebe

MAMMALS

Canidae	**Dog, Wolf & Fox Family**
Canis familiaris	domestic dog
Felidae	**Cat Family**
Felis domesticus	domestic cat
Geomyidae	**Pocket Gopher Family**
Thomomys bottae	Pocket gopher

APPENDIX C

BURROWING OWL
SURVEY GUIDELINES
(Follows this page)

BURROWING OWL SURVEY INSTRUCTIONS
For the
Western Riverside Multiple Species Habitat Conservation Plan Area

PURPOSE OF THE SURVEYS

According to the Multiple Species Habitat Conservation Plan (MSHCP), surveys for the burrowing owl are to be conducted as part of the environmental review process. The MSHCP Additional Surveys Needs and Procedures identify a specific burrowing owl survey area within the MSHCP Plan Area. The MSHCP also identifies species-specific objectives for the burrowing owl, namely species-specific objectives 5 and 6, both of which require burrowing owl surveys if suitable habitat occurs on a proposed project site.

Although the MSHCP references the California Department of Fish and Game Staff report which is based on the Burrowing Owl Consortium Guidelines, the purpose of the following instructions is to clarify the methods necessary to obtain sufficient information to address consistency with; 1) specific conservation requirements of the MSHCP as identified in species-specific Objective 5, and 2) ensure direct mortality of burrowing owls is avoided through implementation of species-specific objective 6 (Pre-construction surveys). Note that surveys conducted to address burrowing owl species-specific objective 5 are necessary during the project design phase while surveys to address species-specific objective 6 are to be conducted just prior to project construction. Habitat assessments and burrowing owl surveys should be conducted by a biologist knowledgeable in burrowing owl habitat, ecology, and field identification of the species and burrowing owl sign.

STEP I: HABITAT ASSESSMENT

Burrowing Owl Habitat Description: Burrowing owls use a variety of natural and modified habitats for nesting and foraging that is typically characterized by low growing vegetation. Burrowing owl habitat includes, but is not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas.

Burrowing owls typically use burrows made by fossorial (adapted for burrowing or digging) mammals, such as ground squirrels (*Spermaphilus beecheyi*) or badgers (*Taxidea taxus*), they often utilize manmade structures, such as earthen berms; cement culverts; cement, asphalt, rock, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

The first step in the assessment process is to walk the property to identify the presence of burrowing owl habitat on the project site. If habitat is found on the site, then walk a 150-meter (approximately 500 feet) buffer zone around the project boundary. If permission to access the buffer area cannot be obtained, do not trespass on adjacent property but visually inspect the adjacent habitat areas with binoculars and/or spotting scopes. Habitat assessments that do not include walking the property will not be accepted. Driving by a site and reporting it as disturbed or under agricultural/dairy use is not acceptable.

If burrowing owl habitat occurs on-site, both Step II (focused surveys, census, and mapping) and Preconstruction Surveys are required. If burrows are found during the habitat assessment then suitable habitat is present and Step II is required. However, lack of identifying burrows during the habitat assessment does not negate the need for the systematic search for burrows included as part of the Step II survey instructions. If burrowing owl habitat is not present on-site (i.e. if the site is completely covered by chaparral, cement or asphalt) Step II of the survey is not necessary. No Pre-construction surveys are necessary if there is no suitable habitat on-site.

A written report (with photographs of the site) detailing results of the habitat assessment should be prepared, indicating whether or not the project site contains suitable burrowing owl habitat. Simply reporting that the site is disturbed or under agricultural/dairy use is not acceptable.

STEP II- LOCATING BURROWS AND BURROWING OWLS

Completion of the following will constitute an acceptable burrowing owl survey. A minimum of one site visit must occur, but additional visits may be warranted depending on the results of the first site visit. Surveys conducted during the breeding season March 1 - August 31 are required to describe if, when, and how the site is used by burrowing owls. Negative results during surveys outside the breeding season are not conclusive proof that owls do not use the project site and may not provide an accurate picture of the number of owls that may utilize the site. Surveys that are conducted outside the breeding season will likely need to be repeated during the breeding season; therefore, it is recommended that surveys only be conducted during the breeding season (unless conducting Preconstruction surveys).

All surveys shall be conducted as described in Parts A and B below. Surveys should be conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys will not be accepted if they are conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Part B surveys should be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset. Count and map all burrowing owl sightings, occupied burrows, and burrows with owl sign. Record the location of all owls including numbers of pairs and juveniles and any behavior such as courtship and mating. Map the extent of all suitable habitat. It should be noted that owl sign may not be detectable if surveys under Part A are conducted within 5 days following rain. Absence of burrowing owl sign cannot be used to confirm absence of the species if the focused burrow survey (Part A) is conducted within 5 days of rain; therefore, in this instance, completion of all four focused burrowing owl surveys (Part B) is required.

Part A: Focused Burrow Surveys

A focused burrow survey that includes natural burrows or suitable man-made structures needs to be conducted as described below.

1. A systematic survey for burrows including burrowing owl sign should be conducted by walking through suitable habitat over the entire survey area (i.e. the project site and within 150 meters). Pedestrian survey transects need to be spaced to allow 100% visual coverage of the ground surface.

   The distance between transect center lines should be no more than 30 meters (approximately 100 ft.) and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more qualified surveyors conduct concurrent surveys.

2. The location of all suitable burrowing owl habitat, potential owl burrows, burrowing owl sign, and any owls observed should be recorded and mapped, including GPS coordinates. If the survey area contains natural or man-made structures that could potentially support burrowing owls, or owls are observed during the burrow surveys, the systematic surveys should continue as prescribed in Part B. If no potential burrows are detected, no further surveys are required. A written report including photographs of the project site, location of burrowing owl habitat surveyed, location of transects, and burrow survey methods should be prepared. If the report indicates further surveys are not required, then the report should state the reason(s) why further focused burrowing owl surveys are not necessary.

Part B: Focused Burrowing Owl Surveys

Focused Burrowing Owl Surveys will consist of site visits on four separate days. The first one may be conducted concurrent with the Focused Burrow Survey.

1. Upon arrival at the survey area and prior to initiating the walking surveys, surveyors using binoculars and/or spotting scopes should scan all suitable habitat, location of mapped burrows, owl sign, and owls, including perch locations to ascertain owl presence. This is particularly important if access has not been granted for adjacent areas with suitable habitat.

2. A survey for owls and owl sign should then be conducted by walking through suitable habitat over the entire project site and within the adjacent 150 m (approx. 500 feet). These "pedestrian surveys" should follow transects (i.e. Survey transects that are spaced to allow 100% visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (approx 100 feet.) and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more qualified surveyors conduct concurrent surveys.) It is important to minimize disturbance near occupied burrows during all seasons.

3. If access is not obtained, then the area adjacent to the project site shall also be surveyed using binoculars and/or spotting scopes to determine if owls are present in areas adjacent to project site. This 150-meter buffer zone is included to fully characterize the population. If the site is determined not to be occupied, no further surveys are required until 30 days prior to grading (see Pre-construction Surveys below).

STEP III: REPORTING REQUIREMENTS

After completion of appropriate surveys, a final report shall be submitted to the Riverside County Environmental Programs Department and the RCA Monitoring Program Administrator, which discusses the survey methodology, transect width, duration, conditions, and results of the survey. Appropriate maps showing burrow locations shall be included.

PRE-CONSTRUCTION SURVEYS

All project sites containing burrows or suitable habitat (based on Step I/Habitat Assessment) whether owls were found or not, require pre-construction surveys that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls (MSHCP Species-Specific Objective 6).

Burrowing Owl Survey Protocol

The following is intended as a summary only. For complete instructions, please refer to the Burrowing Owl Survey Instructions dated 10/24/05 available on the EPD website www.tlma.co.riverside.ca.us/epd/.