



DRAFT

Focused Survey for Burrowing Owl (*Athene cunicularia*)

**Sycamore Canyon Business Park Warehouse Project
Riverside, County, California**

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15 July 2016

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1.0 INTRODUCTION

Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) was contracted by the Albert A. Webb Associates to conduct a focused survey for burrowing owl (*Athene cunicularia*) at the site of the proposed Sycamore Canyon Business Park Warehouse Project (project or project site). The project site is specifically located west of Sycamore Canyon Boulevard at the western terminus of Dan Kipper Drive, west of Lance Drive, immediately east of Sycamore Canyon Wilderness Park (Figure 1) and can be found in Section 4 of Township 3 South, Range 4 West, as shown on the Riverside East, California, United States Geological Survey (USGS) 7.5 minute quadrangle. The elevation of the gently rolling project site ranges from 1,530 to 1,620 feet above sea level. The geographic coordinates near the middle of the site are 33.939250° North latitude and -117.307438° West longitude. (Figure 1).

1.1 Project Background

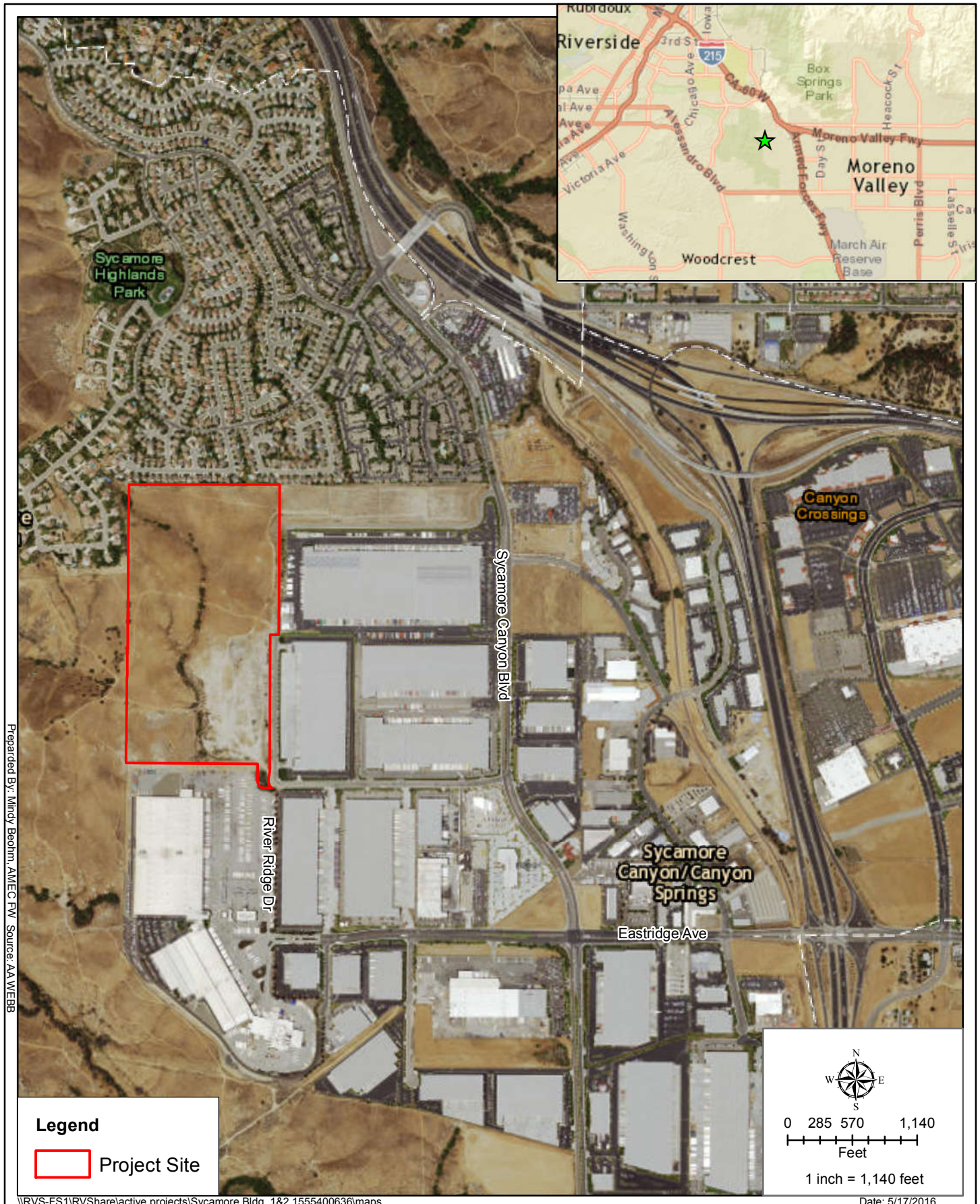
The approximately 76-acre project site encompasses Assessor's Parcel Numbers: 263-020-003, through -006, 263-300-001 through -006, 263-300-025, 263-300-029, 263-300-030, 263-300-033, 263-300-034, 263-300-035, and 263-300-036. The project site is currently undeveloped with no existing structures. The project site has been previously disturbed during development of the adjacent buildings to the east and south. One small v-ditch is located in the northeast corner of the project site and was installed to protect the adjacent properties to the east during construction activities from natural sheet-flow run-off. Disturbed non-native grassland dominates the site with a few ephemeral drainages traversing the site. The project site appears to be regularly mowed for weed abatement and fire control purposes. Surrounding land uses include preserved open space to the west as part of Sycamore Canyon Wilderness Park, warehouses to the east and south, and single-family residences to the north.

The project site is located within the Riverside County Multiple-Species Habitat Conservation Plan (MSHCP) designated burrowing owl (*Athene cunicularia*) survey area; per the MSHCP requirements, where potential habitat is located surveys must be conducted during the burrowing owl breeding season (March 1 through August 31, as defined by the MSHCP). A general biological assessment conducted by Amec Foster Wheeler in 2015 identified suitable habitat for burrowing owl on-site and in adjacent areas. Therefore, a burrow survey and focused burrowing owl protocol surveys for these fossorial owls was required under the MSHCP.

1.2 Burrowing Owl Background

The burrowing owl is an avian species of special concern that is protected by the Migratory Bird Treaty Act (MBTA) and California Department of Fish and Game (CFG) Code Section 3503. It is a small ground-dwelling owl that occurs in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation (Haug et al., 1993). In southern California, burrowing owls are not only found in undisturbed natural areas, but also follow agricultural fields, margins of active agricultural areas, livestock farms, airports, and vacant lots. It is a subterranean nester, typically utilizing pre-existing burrows (e.g. California ground squirrel, drain pipes, culverts, etc.). Burrowing owls are opportunistic in their selection of burrows, typically utilizing the burrows of small mammals (e.g., ground squirrels, kit fox), but also use desert tortoise (*Gopherus agassizii*) burrows, drain pipes, culverts, and other suitable natural or manmade cavities at or below ground level. In California, the species often occurs in association with colonies of the California ground squirrel (*Otospermophilus beecheyi*), where it makes use of the squirrel's burrows. The entrance of the burrow is often adorned with animal dung, feathers, debris, and other small objects. The species is active both day and night, and may be seen perching conspicuously on fence posts or standing at the entrance of their burrows. Due to the characteristic fossorial habits of burrowing owls, nest burrows are a critical component of their habitat

In spite of their apparent tolerance to human activities, burrowing owl populations in California are clearly declining and, if declines continue, the species may qualify for listing under the state and/or federal Endangered Species Act. The declines in burrowing owl populations are attributed to loss and degradation of habitat, ongoing residential and commercial development, and rodent control programs.



Prepared By: Mindy Boehm, AM/EC, FW. Source: AA WE/BB

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Date: 5/17/2016



Vicinity & Location
Sycamore Canyon Business Park Warehouse Project

FIGURE

1



2.0 METHODS

As previously stated, the project site is located within the MSHCP Burrowing Owl Survey Area, which requires habitat assessment surveys for burrowing owl habitat and focused surveys where suitable burrows ('habitat') is present.

A habitat suitability assessment and burrow search was conducted on 12 May 2015 by Amec Foster Wheeler biologists Nathan Moorhatch and Lisa Wadley. Scott Crawford conducted an additional burrow survey on 2 June 2015. The assessments were conducted throughout the project site and within the 500-foot buffer zone surrounding the site, where access was allowable in accordance with the County of Riverside Burrowing Owl Survey Instructions (County of Riverside, 2006).

Table 1. Focused Burrowing Owl Survey Data

Date	Time	Staff ¹	Survey Type	Temp. (°F) (begin/end)	Wind (mph) (begin/end)	Cloud Cover (begin/end)
12 May 2015	0850-1130	NM, LW	BS	60/67	2-6 / 3-7	100%/ 5%
2 June 2015	0600-1350	SC	BS	62	0-2 / 0-2	0%/ 0%

¹ LW = Lisa Wadley

BS = Burrow search

NM = Nathan Moorhatch

SC = Scott Crawford

3.0 RESULTS

3.1 Literature Review

The two closest known burrowing owl observations are approximately 7 miles west-northwest of the project site (pers. obs.) near the Riverside Municipal Airport and from the former Norton Air Force Base, approximately 3.5 miles southeast of the project site (CNDDDB 2016).



3.2 Weather Conditions

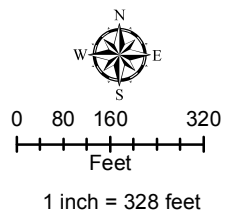
In general, weather conditions during the burrow search and burrowing owl habitat assessment, were suitable for burrowing owl detection. Temperatures ranged between 60° F and 67° F. Wind speeds were variable, ranging between 0 mph and 7 mph. More detailed daily weather variables are included in Table 1 above.

Prepared By: Mindy Boehm, AM/EC, FW Source: AA WEBB



Legend

-  Project Site
-  Meandering Transects



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Date: 7/14/2016



Transect Map
Sycamore Canyon Business Park Warehouse Project

FIGURE
2

3.3 Habitat Assessment & Burrow Search

All undeveloped areas of the project site and adjacent areas are suitable for burrowing owl. Suitable habitat (non-native grassland) occurs throughout the project site. The presence of California ground squirrel, desert cottontail, and San Diego Black-tailed jackrabbit are potential indicators of suitable burrowing owl (*Athene cunicularia*) habitat (burrows). During the habitat assessment and burrow surveys, as part of the protocol survey for burrowing owl, no suitable burrows were observed within the project site. Suitable burrowing owl burrows are those greater than four inches in diameter. It is assumed that since the above mentioned mammal species were observed within the project site that burrows associated with these species are within the adjacent Sycamore Canyon Conservation Area.

Since no suitable burrowing owl burrows were found to be present within the project site, protocol surveys for burrowing owl are not required under the MSHCP guidelines.

3.4 Focused Breeding Season Burrowing Owl Survey

No burrowing owls or burrowing owl sign (i.e., whitewash, pellets, feathers, tracks or burrow adornments) and/or suitable burrows were observed or otherwise detected during the course of the habitat assessments and/or burrow searches. Therefore, no focused surveys were required.

4.0 DISCUSSION

Marginally suitable habitat, rocky outcrops and nonnative grasslands were found on the project site, however no suitable burrows were observed on-site. Mammal burrows were for large fossorial mammals likely occur adjacent to the project site; specifically adjacent to the Sycamore Wilderness Canyon open space area.

A 30-day pre-construction survey, conducted by a qualified biologist, is required prior to project-related ground disturbance or vegetation removal activities in accordance with the burrowing owl survey protocol (CDFW 2012) to ensure that burrowing owls have not colonized or taken up residence on the site or immediately adjacent areas prior to construction activities.

If no burrowing owls are observed during the pre-construction burrowing owl survey, no additional surveys or monitoring will be required. However, if burrowing owls are observed on-site during the pre-construction surveys, additional effort may be required to avoid impacts to this species.

5.0 LITERATURE CITED

- Amec Foster Wheeler Environment & Infrastructure. 2015. Sycamore Canyon Business Park Warehouse Project, Biological Assessment and Western Riverside Multi-Species Habitat Conservation Plan Compliance Report. Unpublished report submitted to Webb, June, 2016.
- American Ornithologists' Union. 2013. Check-list of North American Birds, 7th edition + supplements. Online at: <http://checklist.aou.org/>
- California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Journal of Raptor Research Report, The Raptor Research Foundation, Inc., April, 1993.
- California Department of Fish and Game. 1995. Staff Report on Burrowing Owl Mitigation. State of California, Natural Resources Agency, March 7, 2012.
- California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California, Natural Resources Agency, March 7, 2012.
- Riverside County Transportation & Land Management Agency. Western Riverside County Multiple Species Habitat Conservation Plan (website) and Conservation Summary Generator. 2005, 2015. Online at: <http://www.rctlma.org/mshcp/>



APPENDIX A
PLANT SPECIES LIST

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PLANT SPECIES LIST

This list reports only plants observed on the site by this study. Other species may have been overlooked or undetectable due to their growing season. Plants were identified from keys, descriptions, and drawings in Baldwin et al (ed.) 2012 and Munz 1974.

MAGNOLIOPHYTA: MAGNOLIOPSIDA	DICOT FLOWERING PLANTS
Amaranthaceae	Amaranth family
<i>Amaranthus albus</i> *	Tumbling (white) pigweed
Anacardiaceae	Sumac family
<i>Schinus molle</i> *	Peruvian pepper tree
Asteraceae	Sunflower family
<i>Baccharis salicifolia</i>	Mule fat
<i>Centaurea solstitialis</i> *	Yellow star-thistle
<i>Conyza canadensis</i>	Canadian horseweed
<i>Cotula coronopifolia</i> *	African brass-buttons
<i>Deinandra paniculata</i>	Paniculate tarplant
<i>Encelia farinosa</i>	Brittlebush
<i>Filago californica</i>	California filago
<i>Helianthus annuus</i>	Common sunflower
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Stephanomeria virgata</i>	Tall wreath-plant
Boraginaceae	Borage family
<i>Amsinckia intermedia</i>	Common fiddleneck
<i>Heliotropium curassavicum</i>	Salt heliotrope
Brassicaceae	Mustard family
<i>Hirschfeldia incana</i> *	Shortpod mustard
Cactaceae	Cactus family
<i>Cylindropuntia californica</i> var. <i>parkeri</i>	Valley cholla
Chenopodiaceae	Saltbush family
<i>Salsola tragus</i> *	Russian thistle
Elaeagnaceae	Oleaster family
<i>Elaeagnus angustifolia</i> *	Russian olive
Euphorbiaceae	Spurge family
<i>Chamaesyce albomarginata</i>	Rattlesnake weed
<i>Croton setigerus</i>	Dove weed
Fabaceae	Pea family
<i>Acmispon glaber</i>	Common deerweed, California broom



Geraniaceae	Geranium family
<i>Erodium botrys</i> *	Longbeak stork's bill
<i>Erodium cicutarium</i> *	Redstem stork's bill
Lamiaceae	Mint family
<i>Trichostema lanceolatum</i>	Vinegar weed
Polygonaceae	Buckwheat family
<i>Eriogonum fasciculatum</i>	California buckwheat
Rhamnaceae	Buckthorn family
<i>Ceanothus</i> sp.	Ceanothus
Salicaceae	Willow family
<i>Populus fremontii</i>	Fremont cottonwood
<i>Salix lasiolepis</i>	Arroyo willow
Simaroubaceae	Quassia family
<i>Ailanthus altissima</i> *	Tree of heaven
Solanaceae	Nightshade family
<i>Nicotiana glauca</i> *	Tree tobacco
Tamaricaceae	Tamarisk family
<i>Tamarix</i> sp.*	Tamarisk
MONOCOTYLEDONEAE	MONOCOT FLOWERING PLANTS
Poaceae	Grass family
<i>Avena barbata</i> *	Slender wild oat
<i>Avena fatua</i> *	Wild oat
<i>Avena</i> sp.*	Oat
<i>Bromus diandrus</i> *	Ripgut brome
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red brome
<i>Bromus madritensis</i> *	Foxtail chess
<i>Salix gooddingii</i>	Goodding's Black willow

SYMBOLS AND ABBREVIATIONS:

* = Non-native (introduced) species
 ** = sensitive species
 sp. = Plant identified only to genus
 ssp. = Subspecies



APPENDIX B

VERTBRATE ANIMALS



APPENDIX B

VERTEBRATE ANIMALS SPECIES LIST

This list reports only animals or their sign observed during Amec Foster Wheeler's site visit. Burrows of unidentified small mammals are not included. Other species may have been overlooked or undetectable due to their nocturnal and/or subterranean activity patterns. Nomenclature and taxonomy for fauna observed generally follows the American Ornithologists' Union Checklist and its supplements (2013) for avifauna, CDFW (2006) for mammals, and Center for North American Herpetology (2014) for herpetofauna.

REPTILIA	REPTILES
Phrynosomatidae	Phrynosomatid Lizards
<i>Sceloporus occidentalis longipes</i>	Great Basin fence lizard
<i>Uta stansburiana</i>	Common side-blotched lizard
AVES	BIRDS
Cathartidae	American Vultures
<i>Cathartes aura</i>	Turkey vulture
Accipitridae	Kites, Hawks, and Eagles
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Aquila chrysaetos</i>	Golden eagle
Falconidae	Falcons
<i>Falco sparverius</i>	American kestrel
Charadriidae	Plovers and Lapwings
<i>Charadrius vociferus</i>	Killdeer
Columbidae	Pigeons and Doves
<i>Zenaida macroura</i>	Mourning dove
Trochilidae	Hummingbirds
<i>Calypte anna</i>	Anna's hummingbird
Tyrannidae	Tyrant Flycatchers
<i>Sayornis nigricans</i>	Black phoebe
<i>Sayornis saya</i>	Say's phoebe
<i>Tyrannus verticalis</i>	Western kingbird
Corvidae	Crows and Ravens
<i>Corvus corax</i>	Common raven
Alaudidae	Larks
<i>Eremophila alpestris</i>	Horned lark
Hirundinidae	Swallows
<i>Stelgidopteryx serripennis</i>	Northern rough-winged swallow
Aegithalidae	Bushtits
<i>Psaltriparus minimus</i>	Bushtit



Troglodytidae	Wrens
<i>Thryomanes bewickii</i>	Bewick's wren
Fringillidae	Finches
<i>Carpodacus mexicanus</i>	House finch
<i>Carduelis psaltria</i>	Lesser goldfinch

<u>MAMMALIA</u>	<u>MAMMALS</u>
LAGOMORPHA	RABBITS, HARES AND PIKA
Leporidae	Rabbits and Hares
<i>Lepus californicus</i>	San Diego black-tailed jackrabbit
<i>Sylvilagus audubonii</i>	Desert cottontail
RODENTIA	RODENTS
Sciuridae	Squirrels
<i>Spermophilus beecheyi</i>	California ground squirrel
Geomyidae	Pocket Gophers
<i>Thomomys bottae</i>	Botta's pocket gopher
CARNIVORA	CARNIVORES
Canidae	Foxes, Wolves and Dogs
<i>Canis latrans</i>	Coyote

SYMBOLS AND ABBREVIATIONS:

sp. = Identified only to genus; species unknown plural = spp.
 * = Non-native species
 ** = Sensitive species (State or Federally Listed as Threatened or Endangered, or a CDFW Species of Special Concern, Watch list, or a USFWS Bird of Conservation Concern)



APPENDIX C
PHOTOGRAPHS



Photo 1 – Looking south at the southern portion of the project site.



Photo 2 – Looking southwest at disturbed area adjacent to portion of riparian area.

SITE PHOTOGRAPHS



Photo 3 – Looking southwesterly from northwest corner of project site at non-native grasslands and riparian area commonly observed throughout the project site.



Photo 4 – Looking south at the southern portion of the project site showing drainage feature present in this area and the adjacent riparian habitat.

SITE PHOTOGRAPHS



Photo 5 – Looking southwest at the confluence of two upland swales.



Photo 6– Looking west at an isolated ponded area located in the southern portion of the projects site.

SITE PHOTOGRAPHS