Revised Biological Assessment

4444 Indian Valley Road
San Miguel, San Luis Obispo County
California 93451

APN: 027-420-001, -002, -003, -005, -009, -010 and -016

Prepared for

Sierra Delta Corporation
935 Riverside Avenue, Suite 21
Paso Robles, California 93446

September 27, 2007

Prepared By

Seay Biological Consulting
11127 Cebada Lane
Atascadero, CA 93422

SUMMARY OF FINDINGS

Based on the site visits, surveys conducted by specialized biological consultants, a search of faunal and floral databases and review of assessments conducted in the vicinity of the project site, it was determined that no direct impacts to sensitive plant or animal species are expected to occur on the project site. Based on site surveys, the size, location, and condition of the project site and surrounding properties, the project description, and the included mitigation, impacts to natural communities were determined to be low with no adverse direct impacts to sensitive species expected. The avoidance, minimization and mitigation measures proposed for this project protect against indirect impacts to sensitive species and communities. Below are summaries of the findings for each species considered to have the potential to occur on the Subject Property.

PLANTS

- **Big tarplant (*Blepharizonia plumose*) -** This species is closely associated with valley and foothill grasslands. It is an annual herb that blooms from July thru October. This species has potential to occur within the grassland habitat along the upland terrace. The potential of occurrence in the project area is low due to historical and recent disturbance of regular disking of the field for agriculture uses. No grassland habitat on the Subject Property will be impacted by the projects activities. This species was not identified during multiple site visits and according to the Botanical Report "No rare plants were found and none is expected to occur on the site" (Appendix J).

- **Dwarf Clycadenia (*Calycadenia villosa*) -** This species has a reasonable potential to occur within the Subject Property due to possible habitat requirements. This clycadenia species may occur within the non-native grassland habitat along the terraces, however, it has a low potential to occur within the project boundaries due to historical and recent disturbance of regular disking of the field for agriculture uses. In addition, this species is usually associated with rocky soils, which in general the Site lacks and the Site is below known elevation range. This species was not identified during multiple site visits and according to the Botanical Report "No rare plants were found and none is expected to occur on the site" (Appendix J).

- **Obispo Indian paintbrush (*Castillega densiflora obispoensis*) -** This species has a low potential to occur within the project area due to the density of the non-native species, such as poison hemlock (*Conium maculatum*) and other non-native invasive grasses that dominate the upland terrace east of Indian Valley Road. The potential of occurrence is further reduced due to historical and recent disturbance of regular disking of the field for agriculture uses. This species was not identified during multiple site visits and according to the Botanical Report "No rare plants were found and none is expected to occur on the site" (Appendix J).

- **Lemmon's jewelflower (*Caulanthus coulteri var. lemmonii*)** - This species is found in Pinyon-Juniper woodland and valley and foothill grasslands, neither of which is present within the project area of the Subject Property. This species has potential to occur within the grassland habitat along the terraces, however, it has a low potential to occur within the project boundaries due to historical and recent disturbance of regular disking of the field for agriculture uses. This species was not identified during multiple site visits and according to the Botanical Report "No rare plants were found and none is expected to occur on the site" (Appendix J).

- **Abbott's bush mallow (*Malacothamnus abbottii*)** - This deciduous shrub is associated with riparian scrub habitat. Known from Sargent Creek in San Ardo, Monterey County. Three occurrences on the CNDDB all associated with the Salinas River floodplain. Potential habitat exists on the Subject Property within the project area of the Salinas River floodplain extraction area. This species was not identified during multiple site visits and according to the Botanical Report "No rare plants were found and none is expected to occur on the site" (Holland and Keil, 2007) (Appendix J).

- **Davidson's bush mallow (*Malacothamnus davidsonii*)** - This species has potential to occur on the Subject Property due to the previous identification in San Antonio River on Camp Roberts. It has potential to occur within the riparian woodland of the Salinas River within the Subject Property. However, this species was not identified during multiple site visits and according the Botanical Report "No rare plants were found and none is expected to occur on the site" (Holland and Keil, 2007) (Appendix J).

BIRDS

- **Cooper's hawk (*Accipiter cooperii*) -** No Cooper's hawks were identified on the Subject Property during multiple site visits. This is a CDFG Species of Special Concern. Inhabits mature forests, open woodlands, wood edges and riparian areas. Locally it is uncommon, however it is a permanent resident. Potential foraging and nesting habitat exists on the Subject Property in the area of the riparian woodland.

- **Tricolored blackbird (*Aqelaius tricolor*) -** No tricolored blackbirds were identified on the Subject Property during multiple site visits. This is a CDFG Species of Special Concern. Inhabits wetlands, riparian woodlands and ponds. Potential foraging and nesting habitat exists on the Subject Property for this species in the area of the freshwater marshes and ponds when those elements are present.

- **Golden eagle (*Aquila chrysaetos*) -** No golden eagles were identified on the Subject Property during multiple site visits. This is a CDFG Species of Special Concern. Inhabits mountainous or hilly terrain, hunting over open country for small mammals, snakes, birds, and carrion. Potential foraging habitat exists on the Subject Property for this

species in the area of the dry-farmed field. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species.

- **Great blue heron (*Ardea herodias*) -** Great blue heron was observed on the Subject Property during the 2006 and 2007 least Bell's vireo surveys. This species is not afforded protection under Federal or State ESA but is listed under California Department of Forestry and Fire Protection as a Sensitive species. This species is a common permanent resident of streams, ponds, meadows and upland fields. Potential forage and nesting habitat exists on the Subject Property in the area of the fresh water marshes and ponds when those elements are present.

- **Long-eared owl (*Asio otus*) -** No long-eared owls were identified on the Subject Property during multiple site visits. This is a CDFG Species of Special Concern. The long-eared owl is a permanent resident but is rare in occurrence. The long-eared owl inhabits desert oases, riparian thickets and coniferous woodlands. Potential roosting habitat exists in the riparian woodland area, while foraging habitat exists in the agricultural field on the Subject Property. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species.

- **Burrowing owl (*Athene cunicularia*) -** Mike McGovern completed a burrowing owl survey on July 21, 2005. The survey failed to observe burrowing owls or evidence of use by the species on any portion on the proposed disturbance site. Ms. Jennifer Moonjian completed a Burrowing Owl Phase 1 and 11 Habitat Assessment and Burrow Survey on May 18 & 28, 2007. Her conclusion states: "The Subject Property is within burrowing owl range, and has some habitat qualities (i.e. ground squirrel burrows) that have the potential to be used by burrowing owls. Although the extraction area will disturb 47.75 acres, the soil composition in the river and creek does not support earthen dens suitable for burrowing owls. As proposed, the project will affect 9.18 acres of potential burrowing owl habitat"(Appendix E).

- **Ferruginous hawk (*Buteo regalis*) -** No Ferruginous hawks were identified on the Subject Property during multiple site visits. This is a CDFG Species of Special Concern. The ferruginous hawk is a winter migrant. It inhabits arid grasslands and treeless areas. Breeds in open country, including prairie grasslands. Potential foraging habitat exists on the Subject Property in the area of the agricultural field.

- **Northern harrier (*Circus cyaneus*) -** No Northern harriers were identified on the Subject Property during multiple site visits. The Northern harrier is listed by the State of California as Species of Special Concern. It is a common winter resident. It inhabits grasslands, coastal ponds/sloughs, coastal marshes, coastal wetlands, salt marshes and sagebrush areas. Potential foraging habitat exists on the eastern terrace of the Subject Property.

- **Yellow warbler (*Dendroica petechia brewsteri*) –**. This is a summer migrant that inhabits any wet brushy habitat such as willow thickets. Shares similar habitat requirements with the least Bell's vireo. Following paragraphs are reproduced from the least Bell's vireo report. Several isolated areas at this location could be considered marginally suitable nesting habitat. In most sections little understory was present. From commencement of survey, April 13, 2007 the river and floodplains were dry. No least Bell's vireos were detected. Several yellow warblers were detected in the southern section during the first two surveys, April 13 and 27. One brown-headed cowbird was observed in the northern section on June 29. No yellow-breasted chats were observed or heard calling during surveys.

- **Willow flycatcher (*Empidonax traillii brewsteri*) -** No willow Flycatchers were observed during focused surveys. However, there are patches of suitable habitat for the occurrence of nesting *E. traillii* according the Andrew Forde. This species may occur periodically as a migrant. Andrew Forde conducted presence/absence surveys for the willow flycatcher and least Bell's vireo during the week of June 17-June 21, 2007. He states, "Not all the riparian habitat described above is suitable for the occurrence of nesting *E. traillii* and *V. b. pusillus*; however, there are patches of habitat, which have vegetation characteristics similar to those where *E. traillii* and *V. b. pusillus* are known to nest. The suitable patches are restricted to areas mostly adjacent to water "(Appendix I).

- **California horned lark (*Eremophila alpestris actis*) -** No California horned larks were identified on the Subject Property during multiple site visits. There is potential that horned larks could utilize the eastern terrace, west of Indian Valley Road, for foraging (currently an agricultural field). The terrace has been disked regularly throughout the years, therefore it is unlikely that California horned larks have used this terrace for breeding due to the high levels of disturbance. Stockpiles may exist on the property during the California horned lark breeding season which may result in a loss of foraging area for this species.

- **Prairie falcon (*Falco mexicanus*) -** No prairie falcons were identified on the Subject Property during multiple site visits. This is a CDFG Species of Special Concern. The prairie falcon is a permanent resident. This species inhabits deserts, grasslands and agricultural lands. Potential foraging habitat exists on the Subject Property in the area of the agricultural field. Stockpiles may exist on the property, which may result in a loss of foraging area for this species.

- **Yellow-breasted chat (*Icteria virens*) –** No yellow-breasted chats were observed during focused surveys for the least Bell's vireo. This is a CDFG Species of Special Concern. This is an uncommon summer migrant that inhabits primarily riparian areas. This species is found in low, dense vegetation without a closed tree canopy, including shrubby habitat along stream, swamp, and pond margins; forest edges, regenerating burned-over forest, and logged areas; and fencerows and upland thickets of recently abandoned farmland

(The Birds of North America, 2007). Potential patches of nesting habitat exist on the Subject Property in the area of the Salinas River riparian woodland.

- **Yellow-billed magpie (*Pica nuttalli*) -** No Yellow-billed magpies were identified on the Subject Property during multiple site visits. This species in not afforded protection by the Federal or State ESA. Inhabits grasslands, fields and agricultural areas and oak woodlands. Potential habitat exists on the Subject Property in the area of the agricultural field.

- **Least Bell's vireo (*Vireo bellii pusillus*) -** No least Bell's vireos (LBVI) were identified during protocol surveys and potential habitat was deemed not suitable for breeding for least Bell's vireo, lacking dense understory (1-2 meters from the ground) with a dense, stratified canopy. Andrew Forde conducted presence/absence surveys for the willow flycatcher and least Bell's vireo during the week of June 17-June 21, 2007. He states, "Not all the riparian habitat described above is suitable for the occurrence of nesting *E. traillii* and *V. b. pusillus*; however, there are patches of habitat, which have vegetation characteristics similar to those where *E. traillii* and *V. b. pusillus* are known to nest. The suitable patches are restricted to areas mostly adjacent to water. Based on my experience and knowledge, I concluded that there is no potential nesting habitat for *E. traillii* or *V. b. pusillus* within the property boundary" (Appendix I). "Due to the absence of least Bell's vireos and the lack of essential habitat for nesting in the vicinity of the project area, it is our opinion that the Wellsona Sand and Gravel operation will have no impact to the species. Any potential for impact could be reduced or eliminated by restricting activity to outside of the least Bell's vireos breeding season and to avoid vegetation removal" (Hancock and Woodbury, 2007) (Appendix F).

MAMMALS

- **Pallid bat (*Antrozous pallidus*)** – The Pallid bat is listed by the State of California as Species of Special Concern. The pallid bat is primarily a crevice roosting species. Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. On July 31, 2001 a biologist found a dead juvenile pallid bat on the ground near a support of the existing bridge. They concluded that there was potential for a maternity colony to be occupying the bridge at that time (Garcia and Associates, 2001). The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

- **Hoary bat (*Lasiurus cinereus*) -** This is a CDFG Species of Special Concern. The hoary bat roosts in cottonwood riparian habitat and forested areas. Potential roosting and foraging habitat exists on the Subject Property in the area of the riparian woodland.

- **Small-footed myotis (*Myotis ciliolabrum melanorhinus*) -** This species is not afforded protection by the Federal or State ESA. The small-footed bat can be found roosting in caves, buildings, crevices and sometimes under bark and bridges, preferring more humid areas (CDFG, 2007). Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. No small-footed myotis bats were netted as a result of their survey effort. However, they concluded, "potential for occurrence is high for the genus and unknown for the species" (Garcia and Associates, 2001). The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

- **Long-eared myotis (*Myotis evotis*)** - This species is not afforded protection by the Federal or State ESA. The long-eared myotis can be found roosting in buildings, rock crevices, under bark and in snags and may use caves as night roosts. Usually roosts singly or in small groups of 12-30 animals, including maternity colonies (CDFG, 2007). Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. They concluded that "Acoustic and physical evidence was indeterminate. Occurrence is high for the genus and unknown for this species" (Garcia and Associates, 2001). The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

- **Yuma myotis (*Myotis yumanensis*)** - This species is not afforded protection by the Federal or State ESA. The Yuma myotis is predominantly a crevice dwelling species, although it is also frequently found roosting on open surfaces. Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. They concluded, "Structural habitat exists, but potential occurrence is low due to lack of water. No direct observations were made during surveys" (Garcia and Associates, 2001). The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

- **Monterey dusky-footed woodrat (*Neotoma macrotis luciana*) -** This is a CDFG Species of Special Concern. The woodrat utilizes dense chaparral, coastal sage-scrub, pinyon-

juniper, oak and riparian woodlands, and mixed coniferous forest habitat with well-developed understory in which to make it's nest. Potential habitat exists on the Subject Property in the area of the riparian woodland. Woodrat nests were observed on the Subject Property in the area of the project site in the Salinas River riparian corridor.

- **San Joaquin pocket mouse (*Perognathus inornatus inornatus*) -** This species is not afforded protection by the Federal or State ESA. It inhabits grasslands and oak savannahs and needs friable soils to burrow. The only occurrence as reported on the CNDDB was in 1918 two miles south of San Miguel. Potential habitat exists on the eastern terrace of the Subject Property.

- **Salinas pocket mouse (*Perognathus inornatus psammophilus*) -** This species is not afforded protection by the Federal or State ESA. It inhabits grasslands and shrub communities and needs fine-textured, sandy and friable soils to burrow. Six occurrences have been reported on the CNDDB with the most recent in 1995 on Camp Roberts. Potential habitat exists on the eastern terrace of the Subject Property.

- **American badger (*Taxidea taxus*) -** No American badger activity was observed on the Subject Property. The eastern terrace (operations area: see Site Plan) of the Subject Property is considered marginal habitat due to the nature of the land use and the poor burrowing habitat found in the sandy substrate. The field (eastern terrace) is farmed regularly each year, disked and turned under after harvest. The sand substrate of the creek bed is not stable enough to support any burrowing activity. No mammal burrows were observed within the creek bed. Only ground squirrel burrows were observed on the eastern terrace. Potential habitat exists on the eastern terrace east of Indian Valley Road in the grassland habitat on the Subject Property.

- **San Joaquin kit fox (*Vulpes macrotis mutica*)** - "San Joaquin kit foxes have not been documented on the Subject Property, and the nearest, most recent documented occurrence recorded was approximately 1.1 miles away 7 years ago. Further, although potential foraging (i.e. ground squirrels) and denning habitat is present on the uplands portion of the property, the loss of this type of habitat is of lower value because of the current agricultural practices that involve regular ground disturbing activities. In addition, only 7.96 acres of these agricultural lands will be impacted. The areas adjacent to Vineyard Creek are also potential foraging and denning habitat for kit fox, particularly because cattle grazing is a more compatible land use with foxes than the soil disturbance associated with farming. However, only 1.1 acres of upland habitat will be disturbed outside of the creek bed, all within an area that is currently used heavily for residential and agricultural purposes. Therefore, the adverse effects to kit fox as a result of the denning and foraging habitat loss associated with this project are minimal" (Appendix D).

REPTILES

- **Southwestern pond turtle (*Actinemys marmorata pallida*) -** This is a CDFG Species of Special Concern. Western pond turtles require some slack- or slow-water aquatic habitat. Western pond turtles are uncommon in high gradient streams probably because water temperatures, current velocity, food resources, or any combination thereof may limit their local distribution (Holland 1991a). Potential habitat, pools, exist in the project boundaries within the Salinas Riverbed during non-drought years when freshwater marsh and pond habitat may be present. Surface water on the Subject Property was gone by April 2007. However, the adjacent property to the south of River Road Bridge did retain water later into the year. This area is where a beaver pond was located (see California red-legged frog report - Appendix G).

- **Coast horned lizard (*Phrynosoma coronatum frontale*)** - This is a CDFG Species of Special Concern. This species inhabits open areas of sandy soil and low vegetation; frequently found near ant colonies. This species has potential to exist in the Salinas River primarily along the sandbars as well as along the banks of Vineyard creek. No Coast horned lizards were observed during multiple site visits for the various protocol level surveys for Subject Property.

AMPHIBIANS

- **Arroyo toad (*Bufo californicus*)** – The United States Fish and Wildlife Service has designated this species as Endangered and the California Department of Fish and Game list the species as a Species of Special Concern. "Although arroyo toad breeding was not detected, nor were conditions suitable for breeding in 2007, the entire property contains appropriate habitat for all life stages of the arroyo toad. It is our opinion that if arroyo toads were to colonize the Salinas River, breeding may occur on this property. It is also our opinion that the proposed project activities would have little to no impact to the species if present if the proposed activity is restricted to the open sandy areas of the eastern flood channel, an area that would only likely be used by nocturnal foraging adults. To reduce any potential impacts, we also recommend activity be restricted to daylight hours and vegetation removal be avoided." (Hancock and Woodbury, 2007). The closest occurrence as reported on the CNDDB occurs approximately 22 miles to the northwest of the Site in the vicinity of Camp Roberts.

- **California red-legged frog (*Rana aurora draytonii*) –** The United States Fish and Wildlife Service has designated this species as Threatened and is listed by the State of California as Species of Special Concern. "Ca red-legged frogs were not found during protocol surveys and are not expected to occur along this section of the Salinas River watershed. A number of factors were identified that contribute to this conclusion and they are; a lack of water, the absence of deep breeding ponds, the number of native and non-native predators and finally off-road vehicle disturbances" (Appendix G).

- **Western spadefoot (*Spea hammondii*) -** This is a CDFG Species of Special Concern. No Western spadefoot were observed during multiple site visits as well as focused surveys for the arroyo toad and the California red-legged frog. This species prefers shortgrass plains and sandy, gravelly areas such as alkali flats, washes, and river floodplains. Potential breeding habitat exists on the Subject Property in the primary channel. However, with the presence of exotic predators (i.e. bullfrogs, crayfish, and fishes) it is unlikely that the western spadefoot breed in this segment of the Salinas River.

- **Coast Range newt (*Taricha torosa torosa*) –** This is a CDFG Species of Special Concern. No coast range newts were observed on the Subject Property. The Coast range newt occurs along creeks and streams close to water, especially in rocky areas. This species requires cool waters in ponds, reservoirs, or slow moving waters for breeding purposes. Potential habitat, pools, could exist within the project boundaries within the Salinas Riverbed during non-drought years when freshwater marsh and pond habitat may be present.

FISH

- **Steelhead – South/Central California Coast E.S.U. (*Oncorhynchus mykiss irideus*) -** Steelhead are a sea-run rainbow trout that have large mouths with well-developed teeth. Steelhead of the south/central California coast ecologically significant unit are currently listed by the Federal government as a threatened run of steelhead that have specific genetic differences that separate them from other runs of steelhead in northern California. Southern steelhead are considered a winter run of steelhead that takes advantage of the high winter storm flows of southern California creeks to spawn. Potential habitat exists on the Subject Property.

TABLE OF CONTENTS

Summary of Findings i
FIGURES AND TABLES xi
APPENDICES xi
1.0 Project description 12
1.1 INTRODUCTION 12
1.2 PROJECT COMPONENTS 12
1.3 SETTING 14
1.3.1 GEOGRAPHIC COORDINATES 14
1.3.2 TOPOGRAPHY 14
1.3.3 CLIMATE 18
2.0 STUDY METHODS AND SPECIES CONSIDERED 22
2.1 LITERATURE REVIEW 22
2.2 FIELD SURVEY 22
3.0 reSULTS OF LITERATURE REVIEW and field surveys 25
3.1 SENSITIVE PLANT SPECIES 25
3.2 SENSITIVE WILDLIFE SPECIES 25
3.3 PLANT COMMUNITIES AND HABITAT TYPES 35
3.3.1 ANTHROPOGENIC VEGETATION 36
3.3.2 RIPARIAN WOODLAND (FREMONT COTTONWOOD-RED WILLOW SERIES) 37
3.3.3 RIVER WASH VEGETATION 40
3.3.4 FRESHWATER MARSHES AND PONDS 41
4.0 SPECIAL-STATUS NATURAL COMMUNITIES AND SPECIES 42
4.1 NATURAL COMMUNITIES 42
4.1.1 FREEMONT COTTONWOOD-RED WILLOW SERIES 42
4.1.2 VERNAL POOLS 43
4.2 SENSITIVE SPECIES 43
4.2.1 SENSITIVE PLANT SPECIES 43
4.2.2 SENSITIVE WILDLIFE SPECIES 49
4.3 MOVEMENT CORRIDOR 65
5.0 general avoidance and minimization measures 65
5.1 PROJECT BOUNDARIES AND SETBACKS 66
6.0 mitigation measures 68
6.0.1 PRECONSTRUCTION 68
6.0.2 DURING CONSTRUCTION 70
6.0.3 POST CONSTRUCTION 71
6.1 MITIGATION MEASURES FOR PLANT COMMUNITIES AND WILDLIFE 71
6.2 MITIGATION FOR VEGETATION REMOVAL 74
7.0 Alternatives to Proposed Project Description 74
8.0 REFERENCES 75

FIGURES AND TABLES

List of Figures

FIGURE 1: REGIONAL MAP (MICROSOFT CORPORATION, 2004). 15
FIGURE 2: VICINITY MAP (MICROSOFT CORPORATION, 2004). 16
FIGURE 3: TOPOGRAPHIC MAP WITH OUTLINE OF SUBJECT PROPERTY (DELORME INCORPORATED, 1999). 17
FIGURE 4: SOILS MAP OF THE PROJECT SITE ON THE SUBJECT PROPERTY (NRCS, 2006) 19

List of Tables

TABLE 1: SOILS OF THE SUBJECT PROPERTY. 20
TABLE 2. SURVEY DATES, PERSONNEL AND SURVEY CONDUCTED. 24
TABLE 3. SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR ON THE SUBJECT PROPERTY. 26
TABLE 4. SENSITIVE WILDLIFE SPECIES WITH POTENTIAL TO OCCUR ON THE SUBJECT PROPERTY. 30
TABLE 5. SPECIES IDENTIFIED* WITHIN ANTHROPOGENIC COMMUNITIES ON THE SUBJECT PROPERTY. 37
TABLE 6. SPECIES IDENTIFIED* WITHIN THE RIPARIAN WOODLAND COMMUNITY ON THE SUBJECT PROPERTY. 40
TABLE 7. SPECIES IDENTIFIED* WITHIN RIVER WASH VEGETATION ON THE SUBJECT PROPERTY. 41
TABLE 8. SPECIES IDENTIFIED* WITHIN FRESHWATER MARSHES AND PONDS ON THE SUBJECT PROPERTY AND ADJACENT PROPERTIES. ... 42
TABLE 9. PROJECT AREAS AND DISTURBANCE IN ACRES. 66
TABLE 10. MEASURES TO AVOID AND MINIMIZE IMPACTS TO SENSITIVE RESOURCES. 68

APPENDICES

Appendix A – Site, Plant Communities and Vegetation Removal Plan Maps
Appendix B – Site Photographs
Appendix C – CNDDB Results
Appendix D – San Joaquin Kit Fox Early Evaluation Report
Appendix E – Burrowing Owl Phase I and II Survey Report
Appendix F – Least Bell's Vireo Protocol Survey Report
Appendix G – Survey Report for California Red-legged Frog
Appendix H – Arroyo Toad Survey Protocol Survey Report
Appendix I – Willow Flycatcher Protocol Survey Report
Appendix J – Botanical Report

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

This report presents the results of a Biological Assessment (BA) conducted for the Subject Property identified as Assessor's Parcel Number (APN) 027-420-001, -002, -003, -005, -009, -010 and -016, located at 4444 Indian Valley Road, San Miguel, CA in San Luis Obispo County. The Subject Property is an approximately 1,225-acre parcel and is located approximately two miles north of the San Miguel Bridge along Indian Valley Road in San Miguel, San Luis Obispo County (Figures 1, 2 and 3). The proposed development is a surface gravel mining operation that will be accessed via Indian Valley Road. Seay Biological Consulting conducted the assessment for Sierra Delta Corporation on behalf of their client Mr. Chad Pankey.

The BA was requested by the County of San Luis Obispo and conducted between June 2005 and March 2006. This amendment to the Biological Assessment was conducted between March 2007 and September 2007. Site visits were made by Sierra Delta Corporation (SDC) staff biologists, Ms. Stephanie Seay of Seay Biological Consulting, and sub-contracted biological consultants who conducted protocol level surveys for a variety of Sensitive Biological Species for the Subject Property. Resulting reports, species lists, project description and background data were provided by SDC to Seay Biological Consulting.

The purpose of this Biological Assessment (BA) was to determine the sensitive fauna and floral species that have the potential to occur on the Subject Property, and to define mitigation measures to avoid, minimize or compensate for potential impacts to those species and their habitat. This assessment focuses on sensitive communities and sensitive species, and identifies biological constraints to the project.

1.2 PROJECT COMPONENTS

Mr. Pankey is proposing an in-stream sand and gravel mining operation within the Salinas River and Vineyard Creek, approximately 1 mile northeast of the town of San Miguel, in San Luis Obispo County, California. The mine will provide a valuable source of construction material for various projects throughout the County. The Vineyard Creek portion of the operation will serve an additional purpose, which is to clean out Vineyard Creek around the Indian Valley Road Bridge. The Salinas River and Vineyard Creek, within the proposed extraction areas, contains fine to coarse sand, with very little to no gravel. The following project description and recommended setbacks to lessen potential impacts of the project were developed from information detailed in the technical reports included with Mr. Pankey's application and from the best professional judgment of Sierra Delta Corporation. An itemized list of impact avoidance, minimization, and mitigation measures related to and suggested for the project is provided in Section 6.0.

The Salinas riverbed extraction area encompasses approximately 40.75-acres and spans approximately 9,000 linear feet of the riverbed (Appendix A). The proposed maximum extraction depth will be 1) depths not less than one foot above subsurface water and 2) to mine to a depth of not more than 5' below elevations surveyed. The maximum potential annual yield for the mine is approximately 125,000 cubic yards at the annual extraction depth of two (2) feet.

The Vineyard Creek extraction area encompasses approximately 7.0-acres and spans approximately 4,400 linear feet of the creek bed. The proposed maximum extraction depth will be 1) depths not less than one foot above subsurface water and 2) to mine to a depth of not more than 4' below elevations surveyed. The maximum potential annual yield for the mine is approximately 44,000 cubic yards at the annual extraction depth of three (3) feet.

Extraction for the Salinas riverbed and Vineyard Creek will only be conducted during the dry season, when the groundwater table is sufficiently low to allow for extraction (usually August 1st to November 1st); however measures to protect biota may further limit the length of the extraction window.

The proposed project requires processing and stockpiling extracted material on approximately 7.50-acres total (Appendix A). The "operations areas" are where sorting and stockpiling of sand and gravel will occur. Two operations areas adjacent to and upland from the Salinas River will exist east of the primary channel. The northern and southern operations areas will be located on the eastern upland terrace at approximately 590 and 630 feet msl respectively. Two operations areas adjacent to and upland of Vineyard Creek will exist south of the creek in areas where the existing ranch headquarters are located. A horse pasture and arena currently occupy those future operations areas.

Material will be skimmed from the Salinas riverbed using a Caterpillar Challenger 45 Tractor with drag scraper (or similar equipment). The scraper will enter the riverbed from one of two access points illustrated on the Site Plan. Each access point will consist of a ramp from the terrace to the riverbed with a maximum width of twenty (20) feet and a maximum incline of twelve (12) degrees. The scraper will enter the riverbed from either of the access points, skim sand and gravel from the riverbed, and exit the river at either access point to the terrace to deposit the extracted material in the sorting and stockpile area. Extracted material will be stockpiled in the areas designated on the Site Plan where it will be processed. Processing will be conducted using a screening plant and a radial stacker. One loader will be utilized to provide material to a single hopper / conveyor. Processed material will be stored in piles on the terrace adjacent to the screening plant until it is transported off-site. Material will then be loaded into trucks, and transported off site to be utilized in construction projects. No extracted material will be processed in the riverbed and no material will be stored or stockpiled in the riverbed.

Material will be skimmed from Vineyard Creek using a combination of equipment, including a scraper, backhoe, and front-end loader. All equipment will enter and exit the creek bed from the designated ingress/egress points. On-site equipment will be parked or stored in the sorting

and stockpiling areas indicated on the Site Plan. No extracted material will be stockpiled or processed in the creek bed, and all materials will be hauled off site after processing. No spoils will remain on site, and no discharges to the creek bed will occur.

The approximate anticipated life of the project is 20 years. Annual cross-sections will be surveyed before and after extraction operations each season. These cross-sections will be used to determine recruitment, approximate extraction volumes and short-term responses in the river system to the extraction operations. A water tank will be placed on site to supply water to a water truck utilized for dust control. A portable office trailer (10 x 20 feet) will be located on site for daily operations (Appendix A). Portable toilets will be located in the operations area adjacent to the portable office trailer. All equipment and facilities will be portable with no permanent installations, with the exception of the water well. On-site equipment will be parked or stored in the operations area (Appendix A).

1.3 SETTING

The Subject Property and surrounding properties have historically been used for grazing, including the Salinas Riverbed. At the end of the grazing era of land use, the flood terrace on the eastern portion of the Subject Property began to be utilized as dry and irrigated agricultural land. The field is currently used for irrigated and dry farm agriculture. The soils that occur on the terrace are considered prime agriculture soils. Currently the property is planted with alfalfa and yields multiple harvests annually. During the fall and winter the fields are grazed by sheep and maintained to control invasive plant species.

The surrounding properties are currently used for agriculture as grazing land or various crop productions. To the west of the Subject Property is the Salinas riverbed, to the north is dry farm fields with an open field, to the south is dry and irrigated farmland, and to the east is rural residential with rangeland.

1.3.1 GEOGRAPHIC COORDINATES

The geographical coordinates for the Subject Property are Latitude 35°46’36.8” North and Longitude 120°42’3.7” West.

1.3.2 TOPOGRAPHY

Topography of the Subject Property in the project area is only slightly variable, with elevations ranging from approximately 580 feet above mean sea level (msl) in the Salinas riverbed to 660 feet above msl east of Indian Valley Road in the area of the ranch headquarters (Delorme Incorporated, 1999). The Subject Property in the project area is relatively flat with the elevation

increasing to the east. The bank that separates the riverbed from the eastern upland terrace starts as a steep bluff in the south decreasing to a moderate bank in the northern portion of the project area. Elevation continues to increase from the eastern terrace up the slopes of the hills east of Indian Valley Road. Surface water drains west/northwesterly towards the Salinas River, which occurs on the western portion (primary channel) of the Subject Property and continues adjacent to the western boundary.

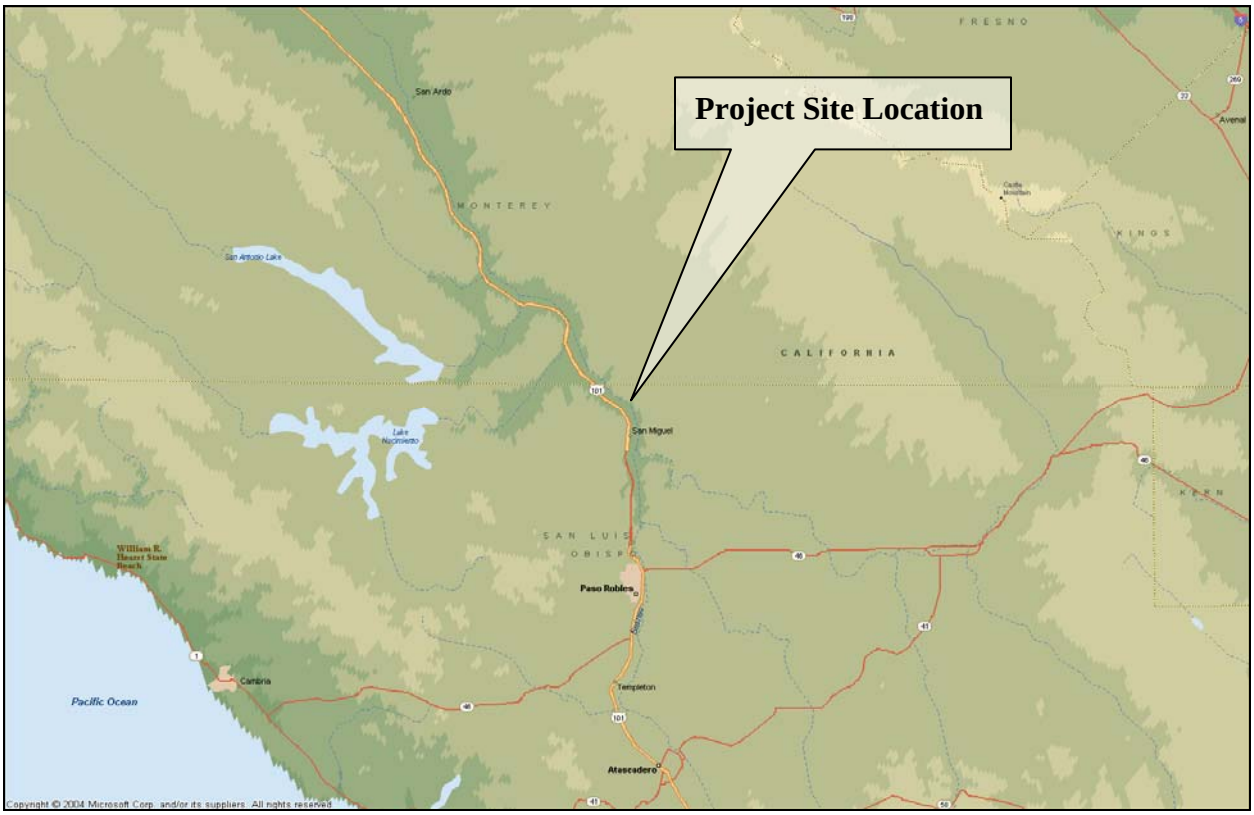

Figure 1: Regional Map (Microsoft Corporation, 2004).

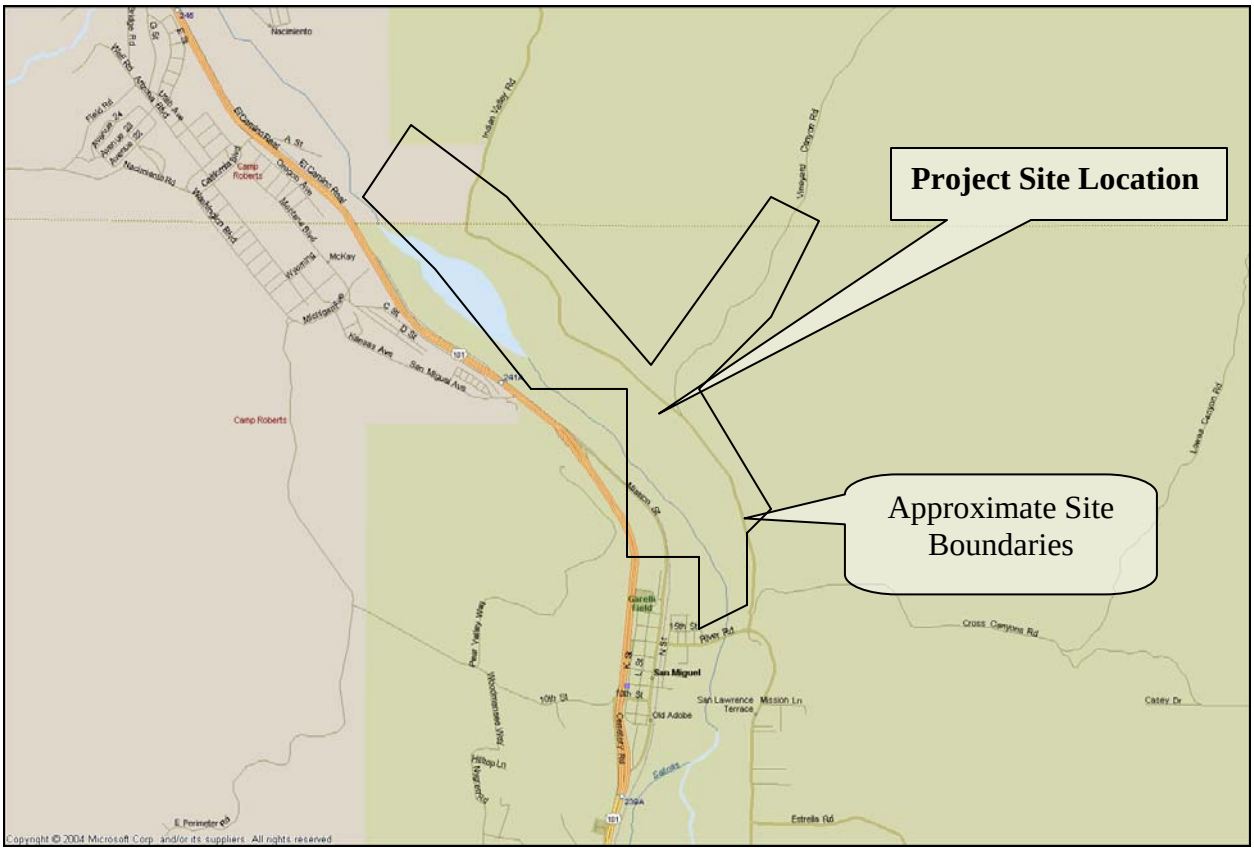

Figure 2: Vicinity Map (Microsoft Corporation, 2004).

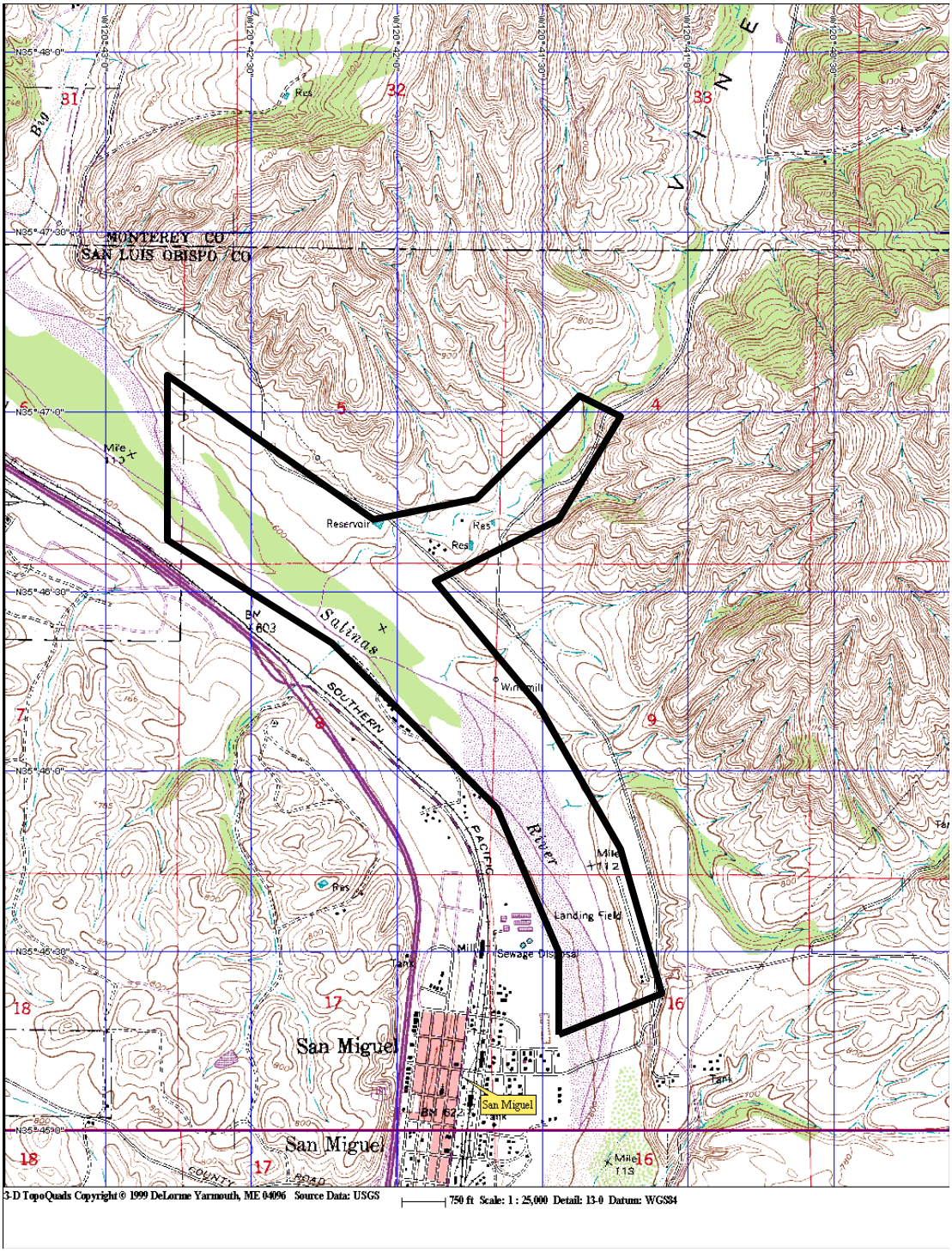

Figure 3: Topographic Map with Outline of Subject Property (Delorme Incorporated, 1999).

1.3.3 CLIMATE

The climate in the region of the Subject Property is classified as Mediterranean, and is characterized by hot, dry summers and mild wet winters. The major influence on the regional climate is the Eastern Pacific High, a strong persistent high-pressure area of counterclockwise winds. Seasonal variations in the position and strength of this system are key factors in producing weather changes in the area.

The average summer high temperature is approximately 90 degrees, with a maximum recorded at 117 degrees. Average winter low temperatures are approximately 35 degrees, with a minimum recorded at 7 degrees (Weather, 2007).

The majority of precipitation for this area falls November through April. The average annual rainfall is approximately 14.7 inches, with most occurring between the months of December and March. The rainy season concludes in April or May followed by a dry period lasting six (6) to seven (7) months.

1.3.4 SOILS

The soil types that occur on the Subject Property boundaries are listed in Table 1 by Map Unit Symbol (number) while the soil descriptions are organized as percentage of coverage on the property, from high to low: Xerofluvents, Metz-Tujunga Complex, occasionally flooded (0-5 percent slopes), Metz loamy sand (0-5 percent slopes), Rincon clay loam (0 to 2 percent slopes) and Mocho clay loam (2 to 9 percent slopes) (Table 1). The soils on the Subject Property range from well drained to excessively well drained.

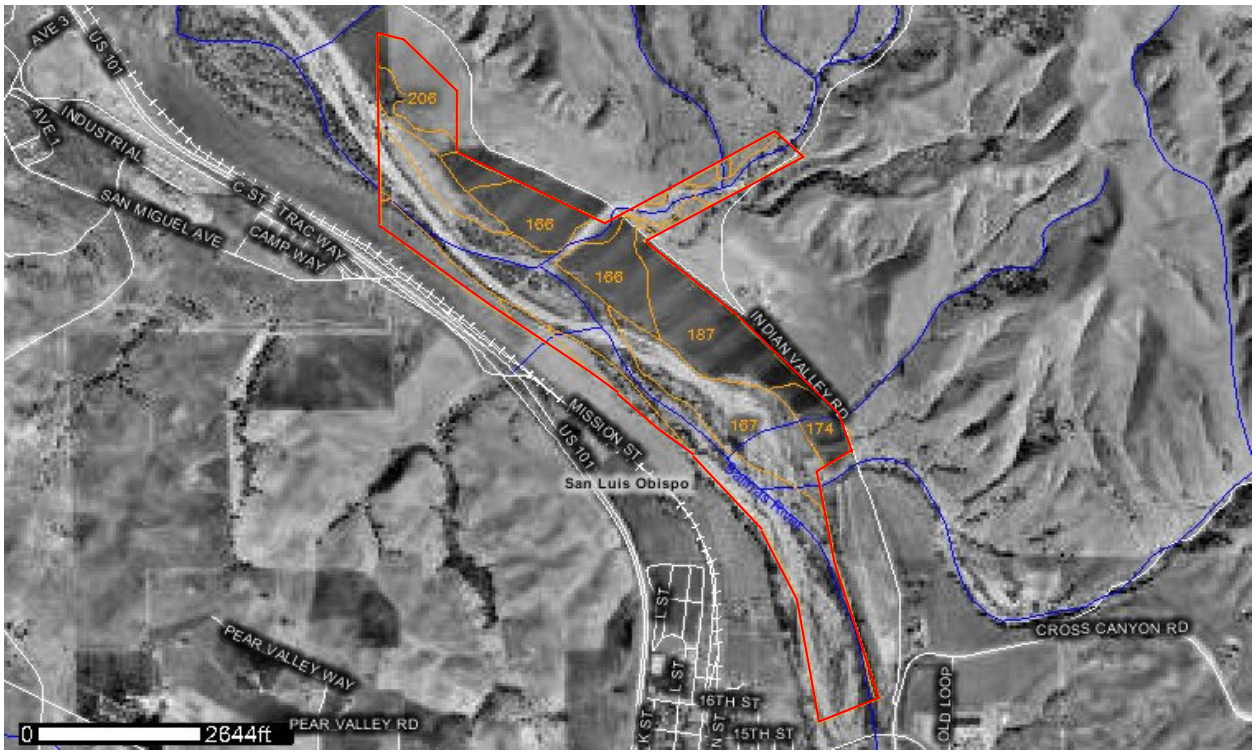

Figure 4: Soils Map of the Project Site on the Subject Property (NRCS, 2006)

Table 1: Soils of the Subject Property.

San Luis Obispo County, California, San Miguel Area			
Map Unit Symbol	**Map Unit Name**	**Acres on Property**	**Percent of Property Area**
212	Xerofluvents	162.1	36.7
167	Metz Tujunga Complex, occasionally flooded, 0 to 5 percent slopes	93.3	21.1
166	Metz loamy sand, 0 to 5 percent slopes	75.1	17.0
187	Rincon clay loam, 0 to 2 percent slopes	71.1	16.1
174	Mocho clay loam, 2 to 9 percent slopes	39.9	9.0

- **Xerofluvents:** This group of soils is associated with barren areas on floodplains and river washes. River wash areas are generally flooded every year. Soils in the riverbed areas have very poor potential for the establishment of vegetation useful for wildlife. Value to wildlife depends on the soils proximity to other food and habitat resources. Areas along larger streams are used as a source of sand and gravel. These soils provide excellent source materials for construction applications (USDA 1977).

- **Metz Tujunga Complex, occasionally flooded, 0 to 5 percent slopes:** The Metz-Tejunga Complex is a very deep, somewhat excessively well-drained soil formed in alluvium from mixed rock. This soil is occasionally flooded, about twice every ten years. This soil has moderate to rapid permeability with low to moderate water capacity. Surface runoff is slow, and erosion hazard is slight. These soils are used for rangeland, but are poorly suited to this use due to droughtiness (USDA, 1977).

- **Metz loamy sand, 0 to 5 percent slopes:** The Metz loamy sand is a very deep, somewhat excessively well-drained soil formed in alluvium from mixed rocks. This soil has moderate to rapid permeability with low to moderate water capacity. Surface runoff is slow, and the erosion hazard is slight. This soil is used for cultivated crops such as alfalfa, small grain, grain hay, and other irrigated crops. The most significant limitation with this soil is droughtiness, and is too droughty for dry-farmed crops (USDA, 1977).

- **Rincon clay loam, 0 to 2 percent slopes:** The Rincon clay loam is a very deep, nearly level, well drained soil that formed in alluvium derived from sedimentary rocks. This soil has low permeability and the available water capacity is high to very high. Surface runoff is slow and the erosion hazard is slight. These soils are used for rangeland, and have severe limitations for building sites and roads due to high shrink-swell potential (USDA, 1977).

- **Mocho clay loam, 2 to 9 percent slopes:** The Mocho clay loam is a very deep, gently sloping to moderately sloping, well-drained soil formed in calcareous alluvium derived from sedimentary rocks. This soil has moderately slow permeability and the water capacity is high to very high. Surface runoff is medium and the erosion hazard is moderate. This soil is used for cultivated crops and occasionally used for rangeland. This soil has few limitations (USDA, 1977).

2.0 STUDY METHODS AND SPECIES CONSIDERED

2.1 LITERATURE REVIEW

A search of the State of California, Department of Fish and Game's (CDFG) Natural Diversity Database (CNDDB) for the Adelaida, Bradley, Estrella, San Miguel, Paso Robles, Ranchito Canyon, Stockdale, Valleton, and Wunpost USGS 7.5-minute quadrangles was conducted to identify reported occurrences of sensitive habitats, plant and animal species (Appendix C). The results of the CNDDB search were then reviewed to evaluate the potential for occurrence of sensitive species on, or near the Subject Property, including the habitat requirements for each species. The California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (Tibor, 2001) and the *Jepson Manual, Higher Plants of California* (Hickman, 1996) were also reviewed to provide information on rare plants that are expected to occur in the area. Vegetation/habitat types were classified based on *Preliminary Description of Terrestrial Natural Communities of California* (R. Holland, 1986) and *A Manuel of California Vegetation* (Sawyer, Keeler-Wolf, 1995).

2.2 FIELD SURVEY

SDC biologists surveyed the Subject Property on several occasions, including a site visit made by Cletis England and Kelly Gillogly on June 23, 2005. During this visit, the location and extent of plant communities and the potential for the occurrence of sensitive plant and wildlife species was assessed. Cletis England visited the site again on July 21 and August 1, 2005, with Mike McGovern joining him on the former date. Stephanie Seay's initial site visit occurred on February 14, 2006 to review the project and conduct a site visit for the Biological Assessment. A second visit by Mrs. Seay occurred on May 25, 2007 for the Revised Biological Assessment and to assess the revised project description. During the site surveys, vegetative communities were documented, and photographs were taken (see Appendix B). Jennifer Moonjian completed a Burrowing Owl Survey and Phase 1 and 11 Habitat Assessment and Burrow Survey on May 18 and 28, 2007 (Appendix E). Jennifer Moonjian completed a San Joaquin Kit Fox Early Evaluation on May 18 and 28, 2007 (Appendix D). Eight nesting bird surveys were conducted from April 13 – July 27, 2007 by Jackie Hancock and Darlene Woodbury following the least Bell's vireo protocol survey guidelines (Appendix F). Jackie Hancock and Darlene Woodbury completed an Arroyo toad presence/absence survey on April 12, 2007 (Appendix H). Andrew Forde completed Willow Flycatcher Protocol Surveys and concurrent surveys for least Bell's vireo the week of June 18 and July 7, 2007. Botanical Surveys were completed April thru June 2007 by V.L. Holland, Ph.D. (Appendix J) (see Table 2 for Survey Dates and Personnel).

During the site visits for this Revised Biological Assessment, the proposed project area and vicinity were surveyed using walking transects spaced 50 feet apart. The eastern terrace where

the proposed stockpile areas will be located, potential ingress/egress points to the riverbed; the proposed extraction areas and the proposed access road areas were surveyed. The walking transects were completed to document all sightings of birds and mammals and any scat, tracks or burrows of mammals. Also, plant communities, soil types, topography, seasonal aquatic habitat, and current site conditions were observed and evaluated to determine the potential for rare and sensitive plant and animal species to occur on the site. Walking transects were conducted on the Site at intervals of approximately 50 feet apart depending on the density of vegetation and overall visibility of the surrounding area. The entire Site including the main channel was surveyed by this method. Some areas east of the main channel were more difficult to survey, however as much of the habitat was surveyed except for those areas where the vegetation was so dense that it precluded access. All linear transects were 50 feet apart and walked in a zigzag motion covering a width of approximately 40 feet each.

Table 2. Survey Dates, Personnel and Survey conducted.

Date	Survey	Surveyor
June 23, 2005	General botanical and wildlife surveys and project site evaluation	Cletis England and Kelly Gillogly
July 21 & August 1, 2005	General botanical and wildlife surveys and project site evaluation for San Joaquin kit fox and burrowing owl	Cletis England and Mike McGovern (July visit only)
October 3, 2005	San Joaquin Kit Fox Habitat Evaluation	Mike McGovern
February 14, 2006	General botanical and wildlife surveys and project site evaluation	Stephanie Seay and Cletis England
April 12, 2007	Arroyo Toad Habitat Assessment; Presence / Absence Surveys for the Arroyo Toad	Jackie Hancock and Darlene Woodbury
March 8, 21, & 28, April 23, and July 5, 2007	California Red-legged Frog Protocol Surveys	Vince Semonsen
April 13, 23 & 27, May 4, 12, 18 & 26, June 1, 9, 16, 22 & 29 and July 9, 13, 20 & 27, 2007	Least Bell's Vireo Presence/Absence Surveys and other Riparian Birds	Jackie Hancock and Darlene Woodbury
April thru June, 2007	Botanical Surveys	V.L. Holland, Ph.D.
May 18 & 28, 2007	Burrowing Owl Survey Phase 1 & 11 Habitat Assessment and Burrow Survey	Jennifer Moonjian
May 18 & 28, 2007	San Joaquin Kit Fox Early Evaluation	Jennifer Moonjian
June 1, 2007	General botanical and wildlife surveys and project site evaluation	Cletis England and Stephanie Seay
June 16 & 18 and July 7, 2007	Willow Flycatcher Protocol Surveys and concurrent Least Bell's Vireo surveys	Andrew Forde

3.0 RESULTS OF LITERATURE REVIEW AND FIELD SURVEYS

3.1 SENSITIVE PLANT SPECIES

The CNDDB and the CNPS documents several special-status plant species occurrences within the nine-quad search of the Subject Property. Table 3 lists sensitive plants identified in the literature review, their listing status, habitat association, field survey results, and their potential to occur on the Subject Property. The "Potential to Occur on Subject Property" information is based on the results of the Botanical Report included as Appendix J and the previous and concurrent surveys conducted for this report.

"This search revealed a significant number special status plant species with known or probable occurrence in the general vicinity of the site. However, many of the rare plants on the list are highly restricted in their distribution and would not be expected to occur on the site. Others have habitat requirements that are not present on the site such as coastal salt marshes, coastal dunes, and serpentine soils. Very few of those listed could survive in the habitats found on the project site. However, we decided to list them all, including such plants as the Santa Lucia fir and Monterey pines, because they occurred in our search of the surrounding nine (9) quadrangles. During our study, we conducted careful rare plant surveys of the entire site over a period of two months. We searched for the presence of the rare plants on the list as well as any that were not on the list generated by our computer search. No rare plants were found, and none is expected to occur on the site" (Holland 2007).

3.2 SENSITIVE WILDLIFE SPECIES

The CNDDB documents several special-status wildlife species occurrences within the nine-quad search of the project area. Table 4 lists the sensitive wildlife species identified in the literature review, their listing status, their habitat association, field and protocol survey results, and their potential to occur on the Subject Property.

Table 3. Sensitive Plant Species with Potential to Occur on the Subject Property.

Scientific/ Common Name	Status Fed / State / Other*	Blooming period	Habitat Association	Potential to Occur on Subject Property with CNDDB referenced
Aristocapsa insignis Indian Valley spineflower	-/-/1B	May-September	Cismontane woodland, sandy soils	Unlikely. Not observed. The last sighting of this species was 1885 occurring just north of the SLO/ Monterey County line.
Blepharizonia plumose Big tarplant	-/-/1B	July-October	Valley and foothill grassland. Elevation 30-505m.	Potential. Not observed. No occurrences on CNDDB. Historical occurrences- probably extirpated by agriculture and non-native plants; also threatened by residential development.
California macrophylla Round-leaved filaree	-/-/1B	March-May	Cismontane woodland, valley and foothill grassland / clay. Elevation 15-1200m.	Unlikely. Not observed. One historical occurrence from 1937 between "Estrella & Parkfield"
Calycadenia villosa Dwarf calycadenia	-/-/1B	May-October	Chaparral, cis-montane woodland, valley and foothill grassland, meadows and seeps. Occurs on rocky substrates. Elevation 285-1350m.	Potential. Not observed. Two occurrences: one in area of Chimney Rock Road, Santa Lucia Mtns. (Adelaida quad.); one documented in Camp Roberts, north of Nacimiento river in 2001. Site below known elevation range.
Camissonia hardhamiae Hardham's evening-primrose	-/-/1B	April-May	Chaparral, cismontane woodland / sandy, decomposed carbonate, disturbed or burned areas.	Unlikely. Not observed. Six occurrences: all in Monterey county-disturbed roadside; burned area; dry sandbars in Salinas riverbed. One occurrence associated with blue oak woodland.
Castilleja densiflora ssp. obispoensis Obispo Indian paintbrush	-/-/1B	March-May	Meadows and seeps, valley and foothill grassland, generally coastal environs/sometimes serpentinite soils.	Potential. Not observed. Three occurrences: two on Camp Roberts assoc. with meadow in gravelly clay loam/clay soils; one in the Paso Robles area at the southwest corner of Airport and Dry Creek Road in 2005. Suitable habitat exists on Subject Property.
Caulanthus coulteri var. lemmonii Lemmon's	-/-/1B	March-May	Pinyon-juniper woodland, valley and foothill grassland.	Potential. Not observed. Five occurrences: four between 1932-1957, vague site locations. Most recent occurrence is in

Scientific/ Common Name	Status Fed / State / Other*	Blooming period	Habitat Association	Potential to Occur on Subject Property with CNDDB referenced
jewelflower				2000 above Nacimiento River, near twin bridges, Camp Roberts. Grassland habitat is present, however not expected to occur.
Chlorogalum purpureum var. purpureum Purple amole	-/-/1B	April-June	Chaparral, cismontane woodland, valley and foothill grassland / gravelly, clay. Elevation 205-350m.	Unlikely. Not observed. One occurrence in 2003 on Camp Roberts. Associated with Oak woodland, meadow; gravelly to loamy clay soils with cryptobiotic crust. Site lacks suitable habitat. Site at lower elevation range.
Chorizanthe rectispina Straight-awned spineflower	-/-/1B	Apr-July	Chaparral, cismontane woodland, coastal scrub.	Unlikely. Not observed. One occurrence in 2005 on Camp Roberts associated with Limestone "pebble plain" with sparse non-native grasses. Site lack suitable habitat.
Delphinium umbraculorum Umbrella larkspur	-/-/1B	April-June	Cismontane woodland; elevation 400-1600 m.	Unlikely. Not observed. One occurrence in 1959 at the headwaters of Las Tables Creek on the Adelaida quad. Site lacks suitable habitat and site is below elevation range.
Entosthodon kochii Koch's cord-moss	-/-/1B	Moss	Cismontane woodland (soil); elevation 500-1000m.	Unlikely. Not observed. One occurrence on Camp Roberts in *Quercus douglasii* woodland. Site lacks suitable habitat.
Gilthopsis tenella Delicate bluecup	-/-/1B	May-June	Chaparral, cismontane woodland / mesic; elevation 1100-1900m.	Unlikely. Not observed. One occurrence in 1969 between Cholame Creek and Vineyard Canyon. Not listed on the CNPS search. Site lacks suitable habitat and is below elevation range.
Horkelia cuneata ssp. sericea Kellogg's horkelia	-/-/1B	April-September	Closed cone coniferous forest, coastal scrub, chaparral, coastal dune / sandy or gravelly, openings.	Unlikely. Not observed. One occurrence in 1877 in the vicinity of San Miguel. Site lacks suitable habitat.
Layia heterotricha Pale-yellow layia	-/-/1B	March-June	Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland / alkaline or clay; elevation 300-1705 m.	Unlikely. Not observed. One occurrence on Camp Roberts in 1993. No habitat described. Site lacks suitable habitat and at lower elevation range.
Lepidium jaredii ssp. jaredii	-/-/1B	March-May	Valley and Foothill Grassland; alkali flats and sinks, sandy,	Unlikely. Not observed. One occurrence in the late 1800's,

Scientific/ Common Name	Status Fed / State / Other*	Blooming period	Habitat Association	Potential to Occur on Subject Property with CNDDB referenced
Jared's pepper-grass			alkaline, sometimes adobe soils; elevation 335-1005m.	not specific, in the Estrella area. Site is below elevation range.
Malacothamnus abbottii Abbott's bush mallow	-/-/1B	May-October	Riparian scrub; elevation 135-490m.	Potential. Not observed. Three occurrences in San Ardo associated with riparian scrub habitat on the Salinas River floodplain. Not listed on the CNPS search. Suitable habitat exists with the project site on the Subject Property.
Malacothamnus aboriginum Indian Valley bush mallow	-/-/1B	April-October	Chaparral, cismontane woodland / rocky, often in burned areas; elevation 150-1700m.	Unlikely. Not observed. Two occurrences reported on the CNDDB both associated with chaparral habitat at 1250 and 2500' msl. Not listed on the CNPS search. Site lacks suitable habitat.
Malacothamnus davidsonii Davidson's bush mallow	-/-/1B	June-January	Chaparral, cismontane woodland, coastal scrub, riparian woodland.	Potential. Not observed. One occurrence on Camp Roberts-San Antonio River-approx. 2.5 miles upstream from Highway 101 crossing. Potential habitat exists on the Subject Property.
Malacothrix saxatilis var. arachnoidea Carmel Valley malacothrix	-/-/1B	(March) June-December (uncommon)	Chaparral (rocky).	Unlikely. Not observed. One occurrence documented on Camp Roberts-steep slope in chaparral/coastal sage scrub on decomposing shale. Site lacks suitable habitat.
Micropus amphibolus Mt. Diablo cottonweed	-/-/3	March-May	Broadleaved upland forest, chaparral, cismontane woodland, valley and foothill grassland (rocky).	Unlikely. Not observed. Listed on CNPS search. Not currently found in San Luis Obispo County. Site lacks suitable habitat.
Navarretia prostrata Prostrate navarretia	-/-/1B	April-July	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pool / mesic.	Unlikely. Not observed. Three occurrences: 2001, 2002 and 2003. All on Camp Roberts associated with vernal pools and clay soils. Site lacks suitable habitat.
Navarretia nigelliformis ssp. radians Shining navarretia	-/-/1B	May-July	Cismontane woodland, valley and foothill grasslands, vernal pools; elevation 200-1000 m.	Unlikely. Not observed. Eleven occurrences: nine on Camp Roberts (2000-2003) assoc. with vernal pool habitat; one in 1907 in Paso Robles-no habitat, and one is 1891 in San Miguel-no habitat listed. Site lacks suitable

Scientific/ Common Name	Status Fed / State / Other*	Blooming period	Habitat Association	Potential to Occur on Subject Property with CNDDB referenced
				habitat.
Plagiobothrys uncinatus Hooked popcorn-flower	-/-/1B	April-May	Chaparral (sandy), cismontane woodland, valley and foothill grassland; elevation 300-760 m.	Unlikely. Not observed. Two documented occurrences on Camp Roberts in 2003-both associated with moist clay soils. Not expected to occur due to lack of suitable habitat and site is at lower elevation range.
Stebbinsoseris decipiens Santa Cruz microseris	-/-/1B	April-May	Broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland / open areas, sometimes serpentinite soils.	Unlikley. Not observed. One occurrence in 2003: East Garrison, just East of the Salinas river, North of Nacimiento, Camp Roberts. Site lacks suitable habitat. Not listed as occuring in San Luis Obispo County.
Triteleia ixioides ssp. Cookii Cook's triteleia	-/-/1B	May-June	Closed-cone coniferous forest, cismontane woodland / serpentinite seeps.	Unlikely. Not observed. One occurrence at headwaters of Las Tablas Creek in Adelaida quad, "Old occurrence", unknown location. Site lacks suitable habitat.

Table 4. Sensitive Wildlife Species with Potential to Occur on the Subject Property.

BIRDS Scientific/Common Name	Status Fed/State	Habitat Association	Potential to Occur on Subject Property
Accipiter cooperii Cooper's hawk	-/CSC	Mature forests, open woodlands, wood edges, and riparian areas.	Potential. Not observed. Uncommon permanent resident. CNDDB did not have any occurrences for this species. Potential forage and nesting habitat on Subject Property.
Agelaius tricolor Tricolored blackbird	-/CSC	Nests in colonies in reedy marshes, winters and forages in large flocks in marshes and on farmland.	Potential. Not observed. Uncommon permanent resident. One occurrence in 1998 on Camp Roberts in Sycamore/willow riparian habitat in Salinas River-mouth of Hare Canyon. Potential forage habitat on Subject Property. Only a few small pool areas were located on the Site.
Aquila chrysaetos Golden eagle	-/-	Grasslands, deserts and open country far from human settlement.	Potential. Not observed. Uncommon permanent resident. One occurrence in 2006. Nest site along Huerhuero Creek in Paso Robles between Golden Hill and Airport Roads. Potential forage and nesting habitat on Subject Property.
Ardea herodias Great blue heron	-/-	Open habitat, streams, ponds, meadows and upland fields.	Potential. Not observed. Common permanent resident. CNDDB 2005 report for Camp Roberts-13 nests and 18 adults along Salinas River. Potential forage and nesting habitat on Subject Property.
Asio otus Long-eared owl	-/CSC	Desert oases, riparian thickets, and coniferous forests.	Potential. Not observed. Resident that is rarely observed. No occurrences in the CNDDB. Potential roosting and foraging habitat exists on the Subject Property.
Athene cunicularia Burrowing owl	FSC/CSC	Open grasslands, especially prairie, plains, and savanna, sometimes in vacant lots near human habitation or airports, nesting and roosting in burrow dug by mammal.	Potential. Not observed. Last CNDDB sighting 2004; San Miguel 0.1 mile north of the perimeter road, between Perimeter Road and Bee Rock Road, Camp Roberts. Potential forage and nesting habitat exists on the Subject Property in the upland areas in agricultural fields and non-native annual grasslands.

Buteo regalis Ferruginous hawk	-/CSC	Arid grasslands and treeless areas. Breeds in open country, including prairie grassland and shrubsteppe.	Potential. Not observed. Uncommon winter visitor. CNDDB did not have any occurrences for this species. Potential foraging habitat on Subject Property.
Circus cyaneus Northern harrier	-/CSC	Inhabits grasslands, coastal ponds/sloughs, coastal marshes, coastal wetlands, salt marshes and sagebrush areas.	Potential. Not observed. Common winter resident. CNDDB did not have any occurrences for this species. Potential foraging habitat on Subject Property.
Dendroica petechia brewsteri Yellow warbler	-/CSC	Common in wet brushy habitat-riparian and woodland habitat.	Potential. Observed in southern section of Site on April 13 & 27, 2007. One occurrence in 1977 near the Bradley Bridge on the Salinas River. Potential patches of nesting habitat exist on the Subject Property in the area of the riparian woodland.
Empidonax traillii Willow flycatcher	-/SE	Riparian habitat, often near water.	Potential. Not observed. Uncommon migrant to San Luis Obispo County. No occurrences in the CNDDB. May occur periodically as a migrant (Forde, 2007). Small patches of suitable nesting habitat-site lacks water, most years, during nesting period.
Eremophila alpestris actia California horned lark	-/CSC	Common in expansive open areas with barren or only sparsely vegetated ground such as beaches, plowed fields, and edges of airport runways.	Potential. Not observed. Common permanent resident. Two occurrences in 1999 on Camp Roberts-associated with grasslands. Potential foraging habitat exists on the eastern terrace of the Subject Property.
Falco mexicanus Prairie falcon	-/CSC	Deserts, grasslands and agricultural lands.	Potential. Not observed. Uncommon permanent resident. Five occurrences: 1974 and 1981-Bradley quad-location suppressed. Potential foraging habitat exists on the eastern terrace of the Site.
Haliaeetus leucocephalus Bald eagle	FT/SE	Usually seen near lakes, rivers, and coasts where prey is abundant and prominent trees afford nest sites.	Unlikely. Not observed. Uncommon permanent resident. One occurrence in 2006 on Camp Roberts. Nest site in sycamore woodland along the Nacimiento River. Nesting habitat does not exist on Subject Property. Foraging may exist during years with high

			water.
Icteria virens Yellow-breasted chat	-/CSC	Inhabits dense thickets, brush, or scrub, especially along swamp margins and streams.	Potential. Not observed. Uncommon summer migrant. No occurrences in the CNDDB. Same as yellow warbler and least Bell's vireo- Potential patches of nesting habitat exist on the Subject Property in the area of the riparian woodland.
Pica nuttalli Yellow-billed magpie	-/-	Common permanent resident. Inhabits grasslands, fields and agricultural areas; open oak woodlands.	Potential. Not observed. Common permanent resident. No occurrences in the CNDDB. Potential foraging habitat exists on the eastern terrace of the Subject Property.
Vireo bellii pusillus Least Bell's vireo	FE/SE	Rare migrant in riparian habitats. Requires dense cover within 1-2 m of the ground for nesting and dense, stratified canopy for foraging.	Potential. Not observed. Individual records for San Luis Obispo County. Two occurrences: 1983 and 1985- Salinas River up and downstream of Bradley Bridge. Unlikely that species would occur; Site outside species current known range (Forde, 2007).
INVERTEBRATES	**Status Fed/State**	**Habitat Association**	**Potential to Occur on Subject Property**
Branchinecta lynchi Vernal pool fairy shrimp	FT/-	Grasslands of the Central Valley and Coastal Mtns. in bedrock or earthen depressions with no current	Unlikely. Not observed. 20 occurrences (1995-2004): 17 documented at Camp Roberts. Three other records are associated with vernal pools or temporary pools. No vernal pools or suitable habitat on the Subject Property.
Polyphylla nubile Atascadero june beetle	-/-	Old Sand Dunes in Atascadero and San Luis Obispo.	Unlikely. Not observed. One record: 1956 in Paso Robles. No suitable habitat on Subject Property.
Trimerotropis occulens Lompoc grasshopper	-/-	No ecological information was available regarding this species. *Trimerotropis sp.* feed on herbaceous plants on range and arid land.	Unlikely. Not observed. One observation from the Paso Robles area in 1909. Known only from Santa Barbara and San Luis Obispo County. Potential foraging habitat on Subject Property.
MAMMALS	**Status Fed/State**	**Habitat Association**	**Potential to Occur on Subject Property**
Antrozous pallidus Pallid bat	-/CSC	True desert areas, moister oak woodlands and redwood forests of coastal	Potential. Not observed. Two occurrences: one observation in 1995 on Camp Roberts and one

		regions. At lower elevations-highly assoc. with oak woodlands and oak savannah.	in 2001 along River Road bridge, crossing the Salinas River, east of San Miguel. Suitable roosting habitat along the southern boundary of the Project Site at the River Road bridge.
Lasiurus cinereus Hoary bat	-/CSC	Highly associated with cottonwood riparian habitat and forested areas. Roosts in foliage of coniferous and deciduous trees.	Potential. Not observed. One occurrence in 1940 from Nacimiento Ranch. Potential roosting and foraging habitat exists on Subject Property.
Myotis ciliolabrum melanorhinus Small-footed myotis	FSC/-	Prefers open stands in forests, woodlands and brushy habitats. Roosts in caves, buildings, mines and crevices.	Potential. Not observed. No CNDDB occurrences. Potential roosting and foraging habitat exists on Subject Property.
Myotis evotis Long-eared myotis	FSC/-	Roosts in buildings, rock crevices, under bark and in snags and may use caves as night roosts.	Potential. Not observed. No CNDDB occurrences. Potential foraging habitat exists on Subject Property.
Myotis yumanensis saturatus Yuma myotis	FSC/-	Crevice dwelling species. Associated with anthropogenic structures; barns and bridges. Also roost in caves, mines, abandoned swallow nests and under flaking bark of large snags.	Potential. Not observed. No CNDDB occurrences. This species is highly associated with water, therefore potential for this species to exist on the Subject Property is low.
Neotoma macrotis luciana Monterey dusky-footed woodrat	-/CSC	Dense chaparral, coastal sage-scrub, pinyon-juniiper, oak and riparian woodlands, and mixed conifer forest habitats with well-developed understory.	Potential. Nests observed on the Subject Property along the Salinas River riparian corridor. Three occurrences: 1997, 1999 and 2000 all on Camp Roberts associated with chaparral and oak woodland habitat. Potential habitat exists on Subject Property.
Perognathus inornatus inornatus San Joaquin pocket mouse	-/-	Grasslands and Oak Savannahs. Needs friable soils to burrow.	Potential. Not observed. One observation in 1918 – two miles south of San Miguel. Potential habitat on the Subject Property-eastern terrace (operations area).
Perognathus inornatus psammophilus Salinas pocket mouse	-/CSC	Grasslands and desert shrub communities. Needs fine-textured, sandy soils; friable soils to burrow.	Potential. Not observed. Six occurrences: all observations in 1993 and 1995 on Camp Roberts; associated with grassland, blue oak woodland, coastal scrub and chaparral habitat. Potential habitat on the Subject Property-eastern

			terrace (operations area).
Taxidea taxus American badger	-/CSC	Open grassland, chaparral, and oak woodland with friable soils. Needs sufficient food and open, uncultivated ground	Potential. Not observed. 28 occurrences: all on Camp Roberts. Potential habitat on Subject Property. No burrows or sign identified.
Vulpes macrotis mutica San Joaquin kit fox	FE/ST	Annual grassland or grassy open stages with scattered shrubby vegetation.	Potential use as movement corridor (Moonjian, 2007). No burrows or sign identified. 38 occurrences as reported in CNDDB. Potential denning and foraging habitat on Subject Property in area of eastern terrace.
REPTILES	**Status Fed/State**	**Habitat Association**	**Potential to Occur on Subject Property**
Actinemys marmorata pallida Southwestern pond turtle	-/CSC	Ponds and small lakes with abundant vegetation.	Potential. Nine occurrences: One occurrence on Camp Roberts in San Miguel Quadrangle. Potential habitat exists on Subject Property when water is present.
Phrynosoma coronatum frontale Coast horned lizard	-/CSC	This species inhabits open areas of sandy soil and low vegetation.	Potential. Not observed. Not listed on CNDDB in quad. Search. Potential habitat exists on the Subject Property in area of secondary channel (sandbars) and upland terraces.
AMPHIBIANS	**Status Fed/State**	**Habitat Association**	**Potential to Occur on Subject Property**
Bufo californicus Arroyo toad	FE/CSC	Loose gravelly areas of streams and arroyos in drier portion of range; often on sandy banks of quiet water.	Potential. Not observed. No CNDDB occurrences. Potential habitat during non-drought years (Hancock and Woodbury, 2007).
Rana aurora draytonii California red-legged frog	FT/CSC	Wetlands and ponds with emergent vegetation. Deep holes in wetlands and ponds are needed for predator escape, which also discourages aquatic plants; shallow water for tadpole development.	Potential. Not observed. No CNDDB occurrences. Potential habitat, primarily as a movement corridor, exists on the Subject Property.
Scaphiopus hammondii Western spadefoot	-/CSC	Prefers shortgrass plains and sandy, gravelly areas such as alkali flats, washes, and river floodplains.	Potential. Not observed. 28 occurrences: most on Camp Roberts associated with vernal pools and artificial wetlands; other occurrences associated with reservoirs. Potential foraging and dispersal habitat exists on the Subject Property in

			the area of the eastern terrace.
Taricha torosa torosa Coast Range newt	-/CSC	Coastal drainages from Mendocino County to San Diego County. Cool waters in quiet streams, ponds, and lakes.	Potential. Not observed. No CNDDB occurrences. Potential habitat exists on the Subject Property during non-drought years.
FISH	**Status Fed/State**	**Habitat Association**	**Potential to Occur on Subject Property**
Oncorhynchus mykiss irideus South/Central California coast ESU steelhead trout	FT/-/-	Gravel bedded rivers and streams with shaded deep pools and perennial water available.	Potential. Known to occur in the Salinas River watershed. Utilizes the Salinas River as a movement corridor to tributary creeks with spawning habitat.

***Sources:** CNDDB (2005); CNPS (2001); Hickman (1993)
***Federal Status (determined by U.S. Fish and Wildlife Service):**
E Endangered. In danger of extinction throughout all or a significant portion of its range.
T Threatened. Likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
FSC Federal Species of Concern, formerly List 2 Candidate Species (designation in not used by CNPS or CDFG). Species of Concern is an informal term used by some but not all U.S. Fish & Wildlife Service offices. Species of Concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species (USFWS, 2002).
***MNBMC** Migratory Nongame Birds of Management Concern
***State Status (determined by California Department of Fish and Game):**
E Endangered
T Threatened
CSC California Species of Special Concern
FP Fully Protected
***California Native Plant Society List (CNPS) List:**
1B Plants considered rare or endangered in California and elsewhere.
2 Plants considered rare or endangered in California but more common elsewhere.
3 Plants for which more information is needed.
4 Plants of limited distribution-a watch list.

3.3 PLANT COMMUNITIES AND HABITAT TYPES

This section describes the vegetation communities present on the Site. The description of natural communities follows the *Preliminary Description of Terrestrial Natural Communities of California* (Holland, 1986), *A Manuel of California Vegetation* (Sawyer, Keeler-Wolf, 1995) along with other references. The following information is referenced from the Botanical Report included as Appendix J. The following communities were identified in the project area:

- Riparian Woodland (Fremont Cottonwood – Red Willow Series)
- River Wash Vegetation
- Anthropogenic Communities

The natural vegetation of the site can be divided into three plant communities based on species composition, successional stage of development, and habitat conditions: (1) riparian woodland communities in the lower and upper floodplains; (2) river wash communities; and (3) ruderal communities. The riparian woodland along the Salinas River in San Luis Obispo County, including the project site, is mostly composed tall, dense riparian trees that form a continuous forest-like community along the river's broad floodplain. Much of the riparian woodland is composed of dense, tall *Salix laevigata* (Red willow) and *Populus fremontii* (Fremont cottonwood) that form extensive canopies among the dry, sandy river channels. The riparian woodlands that do occur along Vineyard Creek have similar species composition but much of the creek does not have trees. Instead, the banks, which are highly disturbed, are covered by a diversity of shrubs and introduced herbs.

The sandy channels of the river and creek are vegetated by River Wash communities composed of riparian tree and shrub seedlings, waifs, seedlings of terrestrial species from the surrounding upland areas, and/or opportunistic weeds that grow in many different kinds of disturbed environments. These seral communities often are washed away in the winter during time of rapid stream flow (Holland, 2007).

Plant community characteristics and representative plants expected to occur within each community along with the wildlife species typically associated with the plant community habitats at the project site are discussed below.

3.3.1 Anthropogenic Vegetation

Anthropogenic vegetation is associated with human disturbance that has modified the native vegetation and habitats to the extent that invasive weedy species begin to dominate the area. There are many different human disturbances that can cause this to take place. As described in the included Botanical Report, Anthropogenic Communities are classified under four broad categories: arval (associations of cultivated lands such as row crops; pastoral associations where plants are grazed heavily by livestock; ruderal associations along roadsides and disturbed, fallow lands; and castral or urban associations where horticultural plants often grow together with some plants considered rudurals or "weeds".

On the study site, anthropogenic communities occur along the roadsides, ORV trails, the margins of agricultural fields, the upland areas along Vineyard Creek, and the pasture areas near the ranch headquarters. The dominant plants in these disturbed areas are invasive grasses and forbs that are adapted to a variety of disturbed habitat conditions. Some of these weedy plants are part of the invasive, opportunistic flora of the exposed river channel sediments and of the riparian woodland understory in some areas. Plants identified during the site reconnaissance and biological survey visits are listed in the table below along with common anthropogenic plant species. Plant species identified during the Botanical survey are located in Appendix J – Botanical Report.

Anthropogenic Communities commonly have a grassland community type compostion and can provide some habitat value for a variety of wildlife species. Raptors, such as the red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), and American kestrel (*Falco sparverius*) commonly use open grassland for foraging purposes, and all three species were observed on the Subject Property during site visits (Table 5). Reptiles that often occur in anthropogenic habitats include western fence lizard (*Sceloporus occidentalis*), which was identified at this site and gopher snakes (*Pituophis melanoleucus*), which was not observed during site visits. Mammals with potential to occur in or frequent anthropogenic communities include California ground squirrel (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Table 5). Evidence of small mammal burrows was observed along the upland terrace in the area of the agricultural field and grasslands currently utilized for livestock grazing. Further description of Anthropogenic Communities and the species occurring in this community on the site are located in Appendix J – Botanical Report.

Table 5. Species Identified* within Anthropogenic Communities on the Subject Property.

Common Name	Scientific Name
Plants	
Poison hemlock	*Conium maculatum*
Yellow star thistle	*Centaurea solstitialis*
Cheeseweed mallow	*Malva parviflora*
Black mustard	*Brassica nigra*
Hordeum spp.	*Hordeum spp.*
Ripgut brome	*Bromus diandrus*
Filaree	*Erodium spp*
Horseweed	*Conyza canadensis*
Prickley lettace	*Lactuca serriola*
Blessed milkthistle	*Silybum marianum*
Birds	
American Kestrel	*Falco sparvarius*
Red tailed hawk	*Buteo jamacensis*
California quail	*Callipepla californica*
Western scrub jay	*Aphelocoma insularis*
Mammals	
Coyote	*Canis latrans*
Rodent (unidentifiable)	*F. Rodentia*
Cottontail rabbit	*Sylvilagus bachmani*
Reptiles	
Western fence lizard	*Sceloporus occidentalis*

*Identification made by direct sight ID, by call ID, or via indicative signs such as tracks or scat.

3.3.2 Riparian Woodland (Fremont Cottonwood-Red Willow Series)

Riparian communities border most streams, lakes and springs in California. In general, deciduous trees and a variety of aquatic and semi-aquatic shrubs and herbs dominate these

communities. Many riparian plants are only found along the banks and flood plains of waterways because they are dependent upon permanent water supply, either above or below ground. However, other environmental factors may also be significant in determining community structure and composition.

The extent of the riparian vegetation depends on several factors such as the size and nature of the flood plain and river banks, the amount of water carried by the stream, and the depth and lateral extent of subterranean aquifers. Historical patterns of land use often determine the actual extent of the riparian corridor as over 90% of California's historic riparian woodlands have been removed or highly modified. At the present, riparian communities occupy less than one percent of California.

While there are stands of *Quercus lobata* (Valley oak) and Quercus douglasii (Blue oak) on the terrace near the river and patches of ruderal vegetation along roadsides and on margins of agricultural fields, most native vegetation on the site is restricted to the Salinas River floodplain. The floodplain is composed of a complex of braided river channels, vegetated islands, and riverbanks. The vegetation of the river and of Vineyard Creek is highly influenced by flowing and standing water and the depth of the water table. The riverbanks, floodplain, and channels are vegetated by a mosaic of riparian woodland and river wash vegetation. The structure and composition of the vegetation varies with the amount and nature of the water flow, the seasonality of the water, the length of time standing water is present, the distance to the water table, the lateral extent of the floodplain, and the distance from the river channels and banks.

The riparian woodland areas along Vineyard Creek are similar to those along the Salinas but not nearly as dense and well developed. The Red willows and Fremont cottonwoods are more scattered forming open woodland. Much of the creek's banks are highly disturbed and do not have any trees at all, especially the section that traverses the agricultural field. In these areas, the vegetation along the creek banks consists of the weedy herbaceous vegetation similar to that found in the anthropogenic communities along roadsides. Several shrubs are also common along the creek banks in these areas, such as those listed below.

Overall, the environment in riparian woodlands is more mesic than in adjacent open areas. As a result, the understory in riparian woodlands is quite variable. Understory vegetation usually consists of various mixtures of shrubs and herbs. Sometimes the shrubs form dense thickets, and sometimes they are scattered or absent entirely. Numerous herbaceous plants also occur in riparian woodlands. Like the shrubs, they may form a dense, lush understory, and sometimes they are sparse or absent. Species composition varies from place to place and is significantly different in the upper floodplain compared to the lower floodplain. In the lower floodplain, where water is present each year, the most common riparian understory plants are those that require greater soil moisture that persists for most of the year. Common plants found in this area are listed below.

The understory in the upper floodplain away from the main channels, while sharing some of the species listed above, is significantly different in composition and structure. It is composed

largely of more drought tolerant introduced grasses and forbs typical of coastal valley grasslands because the sandy soils hold less water and dry rapidly. Many of the understory species are the same as those of the anthropogenic communities discussed later in this report.

It should also be noted that presence of more mesic conditions along streams permits some plants from adjacent upland communities to grow as riparian species in areas that are otherwise outside their limits of drought tolerance. For example, *Quercus lobata* (valley oak) and Quercus douglasii (Blue oak) are common in the foothill and valley woodlands around the Salinas River and Vineyard Creek and extend into the riparian zone in some areas (Holland, 2007).

The cottonwood-willow series typically provides important habitat for a variety of wildlife species. Large cottonwoods provide overstory canopy and willows build structure to these linear corridors, ultimately providing protection for wildlife to migrate continuously from one area to another. Many species use these corridors for travel routes, shade and protection, specifically mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), skunk (*Mephitis mephitis*), raccoon (*Procyon lotor),* and coyote (*Canis latrans*). Many birds, such as house wren (*Troglodytes aldon*), willow flycatcher (*Empidonax triallii*), yellow warbler (*Dendroica petechia*), black-headed grosbeak (*Pheucticus melanocephalus*) use willows for nesting and foraging. Other birds, such as tree swallows (*Tachycineta bicolor*), American kestrel (*Falco sparverius*), downy woodpecker (*Picoides pubescens*), and wood ducks (*Aix sponsa*) use cottonwoods for cavity nesting and perching. The wildlife species identified within the Subject Property include such species as the American kestrel (*Falco sparverius*), common yellowthroat (*Geothlypis trichas*), coyote (*Canis latrans*) and cottontail rabbit (*Sylvilaus bachmani*). Further description of riparian woodlands and the species occurring in this community on the site are located in Appendix J – Botanical Report.

Table 6. Species Identified* within the Riparian Woodland Community on the Subject Property.

Common Name	Scientific Name
Plants	
Fremont cottonwood	*Populus fremontii*
Red willow	*Salix laevigata*
Sand bar willow	*Salix exigua*
Elderberry	*Sambucus mexicana*
Arroyo willow	*Salix lasiolepis*
Coyote bush	*Baccharis pilularis*
Mulefat	*Baccharis salicifolia*
Posion hemlock	*Conium maculatum*
Birds	
Great horned owl	*Bubo viginianus*
Red tailed hawk	*Buteo jamacensis*
Scrub Jay	*Aphelocoma insularis*
American Robin	*Turdus migratorius*
Pacific slope flycatcher	*Empidonax difficilis*
Black Phoebe	*Sayornis nigricans*
Acorn Woodpecker	*Melanerpes formicivorus*
California quail	*Callipepla californica*
Mammals	
Coyote	*Canis latrans*
Rodent (unidentifiable)	*F. Rodentia*
Cottontail rabbit	*Sylvilagus bachmani*
Black-tailed jackrabbit	*Lepus californicus*
Raccoon	*Procyon lotor*

*Identification made by direct sight ID, by call ID, or via indicative signs such as tracks or scat.

3.3.3 River Wash Vegetation

Stream-flow in the Salinas River and Vineyard Creek channels is not uniform and may not occur at all in dry years. Channels with rapidly flowing water carry sediments of varying sizes that are deposited when the water recedes. The time period between river flows is usually sufficient for plants to become established on newly exposed, denuded channels of the braided river plain. The surface flow in most secondary channels completely disappears during the dry season leaving sand bars and channels on which a mixture of seedlings of annual and perennial herbs, shrubs, and trees colonize. Some of these are characteristic of the riparian zone while others are waifs and seedlings of terrestrial species from the surrounding upland areas. Still others are opportunistic weeds that grow in many different kinds of disturbed environments including the upland areas on site. These plants may be swept away in the winter's floodwaters the following year; however, it they persist and stabilize the sediments, they start the development of islands of vegetation between river channels. These seral plant assemblages are referred to as River Wash communities.

Cottonwoods and willows may also colonize these sediments, and if they become established, they start the development of islands of riparian woodland between river channels. A diversity of plant species can be found in river wash areas, and the species composition is extremely variable from place to place and from year to year (Holland, 2007). Plant species identified that are associated with this community are listed in Table 7 below. Further description of River Wash Vegetation and the species occurring in this community on the site are located in Appendix J – Botanical Report.

Table 7. Species Identified* within River Wash Vegetation on the Subject Property.

Common Name	Scientific Name
Plants	
Heliotrope	*Heliotropium curassavicum*
Cocklebur	*Xanthium strumarium*
Scale broom	*Lepidospartum squamatum*
Fiddleneck	*Amsinckia menziesii ssp. intermedia.*
White sweet-clover	*Melilotus albus*
Yellow star-thistle	*Centaurea solstitialis*
Annual bur-sage	*Ambrosia acanthicarpa*
Mule fat	*Baccharis salicifolia*
Birds	
Scrub Jay	*Aphelocoma insularis*
European Starling	*Sturnus vulgaris*
Black Phoebe	*Sayornis nigricans*
Mammals	
Cottontail rabbit	*Sylvilagus bachmani*

*Identification made by direct sight ID, by call ID, or via indicative signs such as tracks or scat.

3.3.4 Freshwater Marshes and Ponds

Freshwater marshes are common along the Salinas River, especially in areas of standing water in the primary channels; however, no marshes occur in or near the proposed project site. I did find a few small depressions along the channels in which small patches of aquatic and semi-aquatic plants became established, but these are not common and are very small. These are seasonal freshwater marshes and usually dry out during the summer and fall (Holland, 2007). Plant species identified that are associated with this community are listed in Table 8 below.

Table 8. Species Identified* within Freshwater Marshes and Ponds on the Subject Property and adjacent properties.

Common Name	Scientific Name
Plants	
Umbrella sedge	*Cyperus eragrostis*
Rush	*Juncus balticus*
Brown-headed rush	*Juncus phaeocephalus*
Common three-square	*Scirpus pungens*
Mammals	
American Beaver	*Castor canadensis*

*Identification made by direct sight ID, by call ID, or via indicative signs such as tracks or scat.

4.0 SPECIAL-STATUS NATURAL COMMUNITIES AND SPECIES

All potential sensitive flora and fauna were reviewed prior to site visits and are discussed in further detail in the following sections. Potential sensitive habitats, wildlife and plant species were evaluated and surveyed for during site visits.

4.1 NATURAL COMMUNITIES

Two sensitive habitats, Sycamore Alluvial Woodland and Valley Oak Woodland, were listed within the CNDDB search for the area (Appendix C). However, these habitats do not exist on the Subject Property. Fremont cottonwoods / red willows were located on the Subject Property and could be considered sensitive because they are components of the riparian corridor. Vernal pool habitat is considered sensitive and was researched and surveyed for during site visits, however, the habitat type was not listed within the CNDDB to occur within the Subject Property area or observed during site reconnaissance.

4.1.1 FREEMONT COTTONWOOD-RED WILLOW SERIES

Fremont cottonwoods and red willows occur within riparian communities that support abundant and diverse animal populations and are extremely important to some rare, endangered and endemic species. Riparian zones are essential wildlife corridors and breeding sites. Migratory birds, such as the Southwestern willow flycatcher (*Empidonax trialii extimus*) and the least Bell's vireo (*Vireo bellii pusillus*) may use these areas in spring for breeding. Also, riparian scrub communities are essential in some areas to help stabilize riverbanks to decrease erosion.

4.1.2 VERNAL POOLS

Vernal pools are unique wetland ecosystems ranging in size from one square foot to one hectare. Vernal pools fill with water temporarily in the winter and spring and remain dry in the summer season. The existence of vernal pool habitat is dependent on climate, soil and topography. The Subject Property is located in the Carrizo Vernal Pool Region, which occurs almost entirely within San Luis Obispo County (Keeler-Wolf et al. 1998). This region includes the large dry interior basin of the Carrizo Plain and stretches northward along the San Andres fault zone to the vicinity of Cholame near the Monterey County boundary.

Vernal pool habitat is unlikely to be present on the Subject Property due to the soil types present on site. All soils found on the Subject Property range from well drained to excessively well drained (Table 1, NRCS 1999). The Subject Property is located in the Carrizo Vernal Pool Region, however during site visits no vernal pool habitat was identified. No vernal pools or species associated with vernal pools, such as Jarred's Pepper grass (*Lepidium jaredii*) or vernal pool fairy shrimp (*Branchinecta lynchi*) were identified within the Subject Property boundaries.

4.2 SENSITIVE SPECIES

For the purpose of this BA, sensitive species are defined as plants and animals that are; A) listed as endangered or threatened under the Federal or California Endangered Species Acts (ESA), B) considered rare under the California Native Plant Protection Act, or C) are afforded protection under acts or codes other than the state or federal ESA's (e.g. Migratory Bird Treaty Act, Fish and Game Code).

The CNDDB lists forty-four sensitive species (twenty-five plants and nineteen animals), with CNPS adding two more sensitive plant species, as occurring within the Adelaida, Bradley, Estrella, San Miguel, Paso Robles, Ranchito Canyon, Stockdale, Valleton, and Wunpost quadrangles (Tables 3 and 4, Appendix C).

4.2.1 SENSITIVE PLANT SPECIES

The CNDDB lists twenty-three sensitive plant species as occurring in the Adelaida, Bradley, Estrella, San Miguel, Paso Robles, Ranchito Canyon, Stockdale, Valleton, and Wunpost quadrangles. These species were separated by low potential and reasonable potential of occurring within the Subject Property. Potential is based on date of last documented identification and probability that the habitat in which the species is associated with occurs on the Subject Property. Six species were determined to have the potential to occur on the Subject Property based on the proximity to known sightings and the floral habitat characteristics of the Subject Property: Big tarplant (*Blepharizonia plumosa*), Dwarf calycadenia *(C. villosa),* Obispo Indian Paintbrush (*Castillega densiflora obispoensis*), Lemmon's jewelflower (*Caulanthus coulteri var. lemmonii*), Abbott's bush mallow (*Malacothamnus abbottii*) and Davidson's bush mallow (*M. davidsonii*). The CNPS listed twenty-two species in the nine quadrangles searched with two species, Mt. Diablo Cottonweed (*Micropus amphibolus*) and Big

tarplant, not included in the CNDDB search. One of these species was determined to have potential to exist on the Subject Property or in the area due to habitat requirements or locality of species, Big tarplant. The remaining nineteen species as listed on the CNDDB and CNPS were determined to have a low potential to occur are listed in Tables 3 (Appendix C).

Walking transect surveys were conducted to determine the presence of any sensitive plant species. No sensitive plants were observed during the surveys conducted on the project site. Although the sensitive flora species listed above may occur on the Subject Property, there is little potential for any of the possible sensitive plant species to occur within the project boundaries due to the historical and current land use (historic cattle grazing and current irrigated and dry-farm agriculture on the eastern terrace (operations area)), the substrate and hydrology of the riverbed extraction area, the specific ecological requirements, and the length of time since the last documented sighting of many of the listed species. The proposed disturbance areas with the potential to impact a sensitive floral species are the riverbed and creek ingress/egress points and any sandbar extraction in the riverbed. Four of the five species with potential to exist on the Subject Property, except Davidson's bush mallow, inhabit valley grassland habitat and could potentially inhabit the riverbed ingress/egress points. Only one of the five species, *M. davidsonii*, with potential to occur on the Subject Properties is described as riparian and could potentially exist on a sandbar included in the extraction area in the riverbed.

Sensitive Plants with Low Potential of Occurring within the Subject Property

The species detailed in this section were determined to have a low potential to occur within property boundaries due to the limited ecological requirements of the species compared to the habitat available on the Subject Property and the length of time since the last documented sighting of many of the listed species. All species categorized with a low potential to occur are listed with the California Native Plant Society as (1B), rare, threatened or endangered in CA and elsewhere. No sensitive plant species were identified during the multiple site visits to the Subject Property.

- **Indian Valley spineflower (*Aristocapsa insignis*):** The Indian Valley spineflower is associated with sandy soils in cismontane woodlands, such as blue oak or valley oak woodlands, which do not occur within the Subject Property boundaries. This spineflower species is native and endemic to California, occurring within San Luis Obispo and Monterey Counties. The last documented identification of this species, however, occurred in 1885, north of the San Luis Obispo/Monterey County line. No Indian Valley spineflowers were identified within the area of the project site within the Subject Property boundaries.

- **Round-leaved filaree (*Erodium macrophyllum*)**: The round-leaved filaree is found in cismontane woodlands, valley and foothill grasslands on clay soils. It is found throughout California, southern Oregon, and northern Baja California (Mexico). This species of filaree has one occurrence within the nearby vicinity of the Subject Property;

one in 1937, between Estrella and Parkfield. Although this species has the potential to exist in grassland habitat, the potential for occurrence is low due to the lack of clay soils.

- **Hardham's evening-primrose (*Camissonia hardhamiae*)**: Hardham's evening primrose habitats include chaparral and cismontane woodland, decomposed carbonate, and disturbed or burned areas. The species is known from approximately six occurrences and according to the CNPS is threatened by proposed road construction in San Luis Obispo County. No Hardham's evening primrose was identified within the area of the project site within the Subject Property boundaries.

- **Purple amole (*Chlorogalum purpureum var. purpureum*):** This species is found in chaparral, cismontane woodland, valley and foothill grassland habitat with gravelly or clay soils. The species is known from one occurrence on Camp Roberts. No Purple amole was identified within the area of the project site within the Subject Property boundaries.

- **Straight-awned spineflower (*Chorizanthe rectispina*):** This annual herb is associated with chaparral, cismontane woodland and coastal scrub habitats. The species is known from one occurrence associated with limestone "pebble plain" with sparse non-native grasses. Site lacks suitable habitat. No Straight-awned spineflowers were identified within the area of the project site within the Subject Property boundaries.

- **Umbrella larkspur (*Delphinium umbraculorum*):** The Umbrella larkspur is a perennial herb that is endemic to California. The species is found in cismontane woodlands between 400 and 1600 meters elevation. Site lacks suitable habitat and is below known elevation range. No Umbrella larkspur was identified within the area of the project site within the Subject Property boundaries.

- **Koch's cord-moss (*Intosthodon kochii*):** Koch's cord-moss is an endemic moss to California and is associated with cismontane woodland habitats. The elevation range is 500 – 1000 meters. Site lacks suitable habitat and is below known elevation range. No Koch's cord-moss was identified within the area of the project site within the Subject Property boundaries.

- **Delicate bluecup (*Gilthopsis tenella*):** This annual herb is associated with chaparral, cismontane woodland and mesic soils. The elevation range is 1100-1900 meters. Site lacks suitable habitat and is below elevation range.

- **Kellogg's horkelia (*Horkelia cuneata spp. sericea*):** This species is associated with closed cone coniferous forests, coastal scrub, chaparral, old dunes, sand hills and openings. It was last documented in the San Miguel vicinity in 1877. It is not expected to occur within Subject Property due to lack of proper habitat. No Kellogg's horkelia were identified within the area of the project site within the Subject Property boundaries.

- **Pale-yellow layia (*Layia heterotricha*)**: The Pale-yellow layia is an annual herb that is endemic to California. The species can be found in cismontane woodlands, pinyon and juniper woodlands, and valley and foothill grasslands. Site is at the lower end of the known elevation range (335-1005 meters). No Pale-yellow layia were identified within the area of the project site within the Subject Property boundaries.

- **Jared's peppergrass (*Lepidium jaredii ssp. jaredii*):** Jared's peppergrass ranges from San Benito County south to San Luis Obispo County. There are two sub-species, Panoche peppergrass (*Lepidium jaredii album*) and the Carrizo peppergrass (*Lepidium jaredii jaredii*). The Panoche subspecies is found in Fresno and San Benito Counties and the Carrizo subspecies is historically represented in San Luis Obispo County. The CNDD documented one occurrence within the Estrella area in the 1800's. The Carrizo peppergrass is found in valley and foothill grasslands and alkali flats and sinks, in association with spiny saltbush species (*Atriplex sp*.) in low-lying, alkaline areas on steep, south-facing slopes, none of which occur within the Subject Property boundaries. No Jared's peppergrass was identified within the area of the project site within the Subject Property boundaries.

- **Indian Valley bush mallow (*Malacothamnus aboriginum*):** This shrub thrives in areas after fires. It is associated with chaparral and cismontaine woodland with rocky soils. Two occurrences as reported by the CNDDB. Site lacks suitable habitat.

- **Carmel Valley malacothrix (*Malacothrix saxatilis var. arachnoidea*):** This rhizomatous herb is endemic to California and is restricted to rocky chaparral habitats. The species is known from one occurrence on Camp Roberts associated with chaparral and coastal sage scrub habitat. No Carmel Valley malacothrix were identified within the area of the project site within the Subject Property boundaries.

- **Mt. Diablo cottonweed (*Micropus amphibolus*):** This species is associated with broadleaved upland forest, chaparral, cismontane woodland, valley and foothill grassland on rocky soils. It is not known to occur in San Luis Obispo County. This species was listed by the CNPS. No Mt. Diablo cottonweed was identified within the area of the project site within the Subject Property boundaries.

- **Prostrate navarretia (*Navarretia prostrata*)**: Prostrate navarretia is an annual herb that is endemic to California. The species is associated with various habitats including: coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Three occurrences were reported on the CNDDB all associated with vernal pool habitat on Camp Roberts. No Prostrate navarretia were identified within the area of the project site within the Subject Property boundaries.

- **Shining navarretia (*Navarretia nigelliformis ssp. radians*):** This annual herb is associated with cismontane woodlands, valley and foothill grasslands and vernal pools. Eleven occurrences were reported by the CNDDB, nine associated with Camp Roberts in vernal pool habitat. No Shining navarretia were identified within the area of the project site within the Subject Property boundaries.

- **Hooked popcorn-flower (*Plagiobothrys uncinatus*):** This annual herb is endemic to California. The Hooked popcornflower is found in chaparral, cismontane woodlands, and valley and foothill grasslands. Two occurrences on Camp Roberts in 2003 associated with moist clay soils. No Hooked popcornflower were identified within the area of the project site within the Subject Property boundaries.

- **Santa Cruz microseris (*Stebbinsoseris decipiens*):** The Santa Cruz microseris was last documented in nearby vicinity in 2003 at Camp Roberts, East Garrison and North of Nacimiento Lake. This species is associated with broadleaf upland forests, closed-cone coniferous forest, chaparral, coastal prairies and coastal scrub, valley and foothill grassland / open areas. No Santa Cruz microseris was identified within the area of the project site within the Subject Property boundaries.

- **Cook's triteleia (*Triteleia ixioides*):** This triteleia is associated with closed-cone coniferous forest, cismontane woodland and serpentinite seeps. There was one occurrence at the headwaters of Las Tablas Creek in the Adelaida quad. The Site lacks suitable habitat. No Cook's triteleia was identified within the area of the project site within the Subject Property boundaries.

Sensitive Plants with Reasonable Potential of Occurring within the Subject Property

Sensitive plants that have a reasonable potential of occurring within the Subject Property have been last documented in the vicinity on more recent dates or have habitat associations within the property boundaries. No sensitive plant species were identified within the Subject Property boundaries during the site visits. The following sections describe the habitat characteristics of the five species with potential to occur on the Subject Property.

1. **Big tarplant *(Blepharizonia plumose):*** Big tarplant species is closely associated with valley and foothill grasslands. It is an annual herb that blooms from July thru October. CNPS states that "historical occurrences probably extirpated by agriculture and non-native plants. This species is also threatened by residential development." This species has potential to occur within the grassland habitat along the upland terraces. The potential of occurrence in the project area is low due to historical and recent disturbance of regular disking of the field for agriculture uses. No grassland habitat on the Subject Property will be impacted by the projects activities.

2. **Dwarf clycadenia (*Calycadenia villosa*):** Dwarf clycadenia is native and endemic to California, occurring in San Luis Obispo, Santa Barbara and Monterey Counties as well Kern, Madera, Fresno and Santa Clara Counties. It is listed with the California Native Plant Society as 2.1, rare, threatened, or endangered in CA and is common elsewhere. It occurs in chaparral, valley grasslands, woodlands, meadows and seeps. It was last documented in the vicinity in 2001 at Camp Roberts, north of Nacimiento Lake. This species has potential to occur within the Subject Property boundaries due to possible habitat present on the property and the recent sighting in 2001. This clycadenia species may occur within the non-native grassland habitat along the terraces, however, it has a low potential to occur within the project boundaries due to historical and recent disturbance of regular disking of the field for agriculture uses.

3. **Obispo Indian paintbrush *(Castilleja densiflora ssp. obispoensis)*:** Obispo Indian paintbrush (*Castillega densiflora obispoensis)* is listed with the California Native Plant Society as 1B, rare, threatened or endangered in CA and elsewhere. It is a native to California and an endemic species to San Luis Obispo County last documented off Airport Road and Dry Creek Road in April 2005. The Obispo Indian paintbrush is an annual herb from the figwort family, Scrophulariaceae. It is found in meadows and seeps as well as valley and foothill grasslands, occurring along the southern coast of the southern central coast in San Luis Obispo. This species has potential to occur within the grassland habitat along the terraces, however, it has a low potential to occur within the project boundaries due to historical and recent disturbance of regular disking of the field for agriculture uses.

4. **Lemmon's jewelflower (*Caulanthus coulteri var. lemmonii*):** This species is found in Pinyon-Juniper woodland and foothill grasslands, neither of which is present within the Subject Property boundaries. This species most recent occurrence is above Nacimiento River, near twin bridges on Camp Roberts. This species has potential to occur within the grassland habitat along the terraces, however, it has a low potential to occur within the project boundaries due to historical and recent disturbance of regular disking of the field for agriculture uses. No Lemmon's jewelflower were identified within the Subject Property boundaries.

5. **Abbott's bush mallow (*Malacothamnus abbottii*):** This deciduous shrub is associated with riparian scrub habitat. Known from Sargent Creek in San Ardo, Monterey County. Three occurrences on the CNDDB all associated with the Salinas River floodplain. Potential habitat exists on the Subject Property within the project area of the Salinas River floodplain extraction area. However, no Abbott's bush mallow was identified within the Subject Property boundaries.

6. **Davidson's bush mallow *(Malacothamnus davidsonii):*** The Davidson's bush mallow is found in chaparral, cismontane woodland, coastal scrub and riparian woodland. It is found throughout California and northwestern Mexico. This species of bush mallow is listed with the California Native Plant Society as 1B, rare, threatened or endangered in CA and elsewhere. This species of bush mallow has one documented occurrence in 2001 on Camp Roberts approximately 2.5 miles upstream on the San Antonio River from Highway 101 crossing. This species has potential to occur on the Subject Property due to the previous identification in the San Antonio River on Camp Roberts. It has potential to occur within the riparian woodland of the Salinas River within the Subject Property.

According to the Botanical Report (Appendix J) "During our study, we conducted careful rare plant surveys of the entire site over a period of over two months. We searched for the presence of the rare plants on the list as well as any that were not on the list generated by our computer search. No rare plants were found, and none is expected to occur on the site" (Holland and Keil, 2007).

4.2.2 Sensitive Wildlife Species

The CNDDB lists twenty-one sensitive wildlife species as occurring in the Adelaida, Bradley, Estrella, San Miguel, Paso Robles, Ranchito Canyon, Stockdale, Valleton, and Wunpost quadrangles. Seventeen species listed in the CNDDB, Southwestern pond turtle (*Actinemys marmorata pallida*), tricolored blackbird (*Agelaius tricolor*), pallid bat (*Antrozous pallidus*), golden eagle (*Aquila chrysaetos*), great blue heron (*Ardea herodias*), burrowing owl (*Athene cunicularia*), yellow warbler (*Dendroica petechia*), California horned lark (*Eremophila alpestris*), prairie falcon (*Falco mexicanus*), hoary bat (*Lasiurus cinereus*), Monterey dusky-footed woodrat (*Neotoma macrotis*), San Joaquin pocket mouse (*Perognathus inornatus inornatus*), Salinas pocket mouse (*Perognathus inornatus*), American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Western spadefoot (*Scaphiopus hammondii*), and least Bell's vireo (*Vireo bellii pusillus*) were determined to have a potential to occur on the property based on proximity to known sightings and potential habitat. Eleven other species that were not listed in the CNDDB, however, but were evaluated for the potential to occupy habitat within the Subject Property are the Cooper's hawk (*Accipiter cooperii*), long-eared owl (*Asio otus*), ferruginous hawk *(Buteo regalis*), Northern harrier *(Circus cyaneus)*, yellow-breasted chat (*Icteria virens*), Small-footed myotis (Myotis ciliolabrum melanorhinus), Long-eared myotis (*Myotis evotis*), Yuma myotis (*Myotis yumanensis saturatus*), Coast horned lizard (*Phrynosoma coronatum frontale),* yellow-billed magpie (*Pica nuttalli*) and Coast range newt (*Taricha torosa torosa*). The willow flycatcher (*Empidonax traillii*), arroyo toad (*Bufo californicus*), South/Central California Coast ESU steelhead trout (*Oncorhynchus mykiss irideus*), and California red-legged frog (*Rana aurora draytonii*) were added at the request of the County. The habitat requirements of these thirty-two species and the measures that were developed for avoiding, minimizing, and mitigating potential impacts to these species and associated habitat are discussed in detail in the following sections.

The remaining four species that were listed in CNDDB as occurring on one of the nine quadrangles were not considered to have the potential to utilize the Subject Property following the site visits. Vernal pools were not found during site visits nor were they listed in the CNDDB to occur in any nearby quadrangles, therefore species associated with this habitat type were not considered to occur within the Subject Property, such as the vernal pool fairy shrimp (*Branchinecta lynchi)*. The Lompoc grasshopper (*Trimerotropis occulens*) and the Atascadero June beetle (*Polyphylla nubile*) are not listed as threatened or endangered with state or federal governments, but are a special species of concern with the CDFG. The last occurrence for the Lompoc grasshopper within Santa Barbara and San Luis Obispo counties was in 1901 and the last occurrence of the Atascadero June beetle was in Paso Robles in 1956. Due to the date these species were last identified within the area and that they were not identified during site visits, they were not described further in the following sections. The bald eagle (*Haliaeetus leucocephalus*) would be an unlikely visitor to the Subject Property due to habitat requirements (i.e. prominent trees to afford unobstructed views of surrounding habitat). The Salinas River corridor is fairly narrow along the main channel. The arroyo toad, least Bell's vireo, willow flycatcher, burrowing owl, San Joaquin kit fox and the California red-legged frog were scrutinized more closely and were surveyed for independently of this BA (Appendix F-I). During the least Bell's vireo surveys, other avian species were targeted and included the following: brown-headed cowbird, yellow warbler, yellow-breasted chat, northern harrier, yellow-billed cuckoo and the willow flycatcher. The yellow warbler and brown-headed cowbird were observed on the Subject Property during these focused surveys. For a complete list of species identified see Appendix F.

BIRDS

Cooper's hawk (*Accipiter cooperii*)

The Cooper's hawk is listed by the State of California as Species of Special Concern. The Cooper's hawk inhabits mature forests, open woodlands, wood edges and riparian areas over most of North America. The Cooper's hawk has declined throughout California as a breeding bird. Habitat destruction, mainly in lowland riparian areas, is probably the main threat, although direct or indirect human disturbance at nest sites can be equally detrimental (CDFG2007). Locally it is uncommon, however it is a permanent resident. Potential foraging and nesting habitat exists on the Subject Property in the area of the riparian woodland along the Salinas River. No Cooper's hawks were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Tricolored blackbird (*Aqelaius tricolor*)

The tricolored blackbird is listed by the State of California as Species of Special Concern. The tricolored blackbird inhabits wetlands, riparian woodlands and ponds. Potential foraging and nesting habitat exists on the Subject Property for this species in the area of the freshwater marshes and ponds during non-drought years when these elements would be most likely present. No tricolored blackbirds were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Golden eagle (*Aquila chrysaetos*)

The Golden eagle is listed by the State of California as Species of Special Concern. The Golden eagle inhabits mountainous or hilly terrain, hunting over open country for small mammals, snakes, birds, and carrion. This species was once a common permanent resident throughout the open areas of California; numbers are now reduced near human population centers, but in general, populations seem stable (CDFG 2007). Potential foraging habitat exists on the Subject Property for this species in the area of the agricultural field. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species. No golden eagles were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Great blue heron (*Ardea herodias*)

This species is not afforded protection under Federal or State ESA but is listed under California Department of Forestry and Fire Protection as a Sensitive species. This species is a common permanent resident and inhabits streams, ponds, meadows and upland fields. Potential forage and nesting habitat exists on the Subject Property in the area of the freshwater marshes and ponds during non-drought years when these elements would be most likely present. No great blue heron’s were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Long-eared owl (*Asio otus*)

The Long-eared owl is listed by the State of California as Species of Special Concern. The long-eared owl inhabits desert oases, riparian thickets and coniferous woodlands. Once a common to abundant permanent resident in many parts of California, this species had begun to decline by the 1940's (CDFG 2007), and decline has continued through the present. Destruction of lowland riparian woodland has played a role in the decline, but the absence of this species from existing riparian areas and its disappearance from many areas before the habitat was destroyed indicates that other factors are involved. Potential roosting habitat exists in the riparian woodland area, while foraging habitat exists in the agricultural field on the Subject Property.

Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species. No long-eared owls were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits. Nor were they identified during surveys conducted for the Arroyo toad and California red-legged frog.

Burrowing owl (*Athene cunicularia*)

Burrowing owls are Federal and California species of concern found in western North America from Canada to Mexico, and east to Texas and Louisiana. Predominantly, burrowing owls are non-migratory within central and southern California; however, in northern California they are thought to migrate (Haug et al. 1993).

To determine potential usage of the project area by burrowing owls, transects along the Subject Property were walked 50 feet apart searching for any signs of burrowing activity, burrowing owl individuals and pellets on July 21, 2005. No burrowing owl activity was observed. Ms. Jennifer Moonjian completed a Burrowing Owl Phase 1 and 11 Habitat Assessment and Burrow Survey on May 18 & 28, 2007. Her conclusion states: "The Subject Property is within burrowing owl range, and has some habitat qualities (i.e. ground squirrel burrows) that have the potential to be used by burrowing owls. Although the extraction area will disturb 47.75 acres, the soil composition in the river and creek does not support earthen dens suitable for burrowing owls. As proposed, the project will affect 9.18 acres of potential burrowing owl habitat"(Appendix E).

Ferruginous hawk (*Buteo regalis*)

The Ferruginous hawk is listed by the State of California as Species of Special Concern. The ferruginous hawk is a winter migrant. It inhabits arid grasslands and treeless areas and breeds in open country, including prairie grasslands. Potential foraging habitat exists on the Subject Property in the area of the agricultural field. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species. No Ferruginous hawks were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Northern harrier (*Circus cyaneus*)

The Northern harrier is listed by the State of California as Species of Special Concern. This species has greatly declined in California as a breeding bird, the decline being already conspicuous by the 1940's. It used to be a common resident in the southern coastal area (CDFG 2007). Inhabits grasslands, coastal ponds/sloughs, coastal marshes, coastal wetlands, salt marshes and sagebrush areas. It is a common winter resident. Potential foraging habitat exists on the eastern terrace of the Subject Property. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species. No Northern harriers were identified

during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Yellow warbler (Dendroica petechia brewsteri)

The yellow warbler is listed by the State of California as Species of Special Concern. The Yellow Warbler was once a common to locally abundant summer resident in riparian areas virtually throughout California (Grinnell and Miller 1944), but today populations are much reduced and even extirpated in some areas. The subspecies D. p. brewsteri, the breeding form throughout the remainder of most of California, has not fared so badly as *D. p. sonorana*, but is having problems. Destruction of riparian habitat has contributed to the decline, especially in the San Joaquin Valley and Colorado River Valley, but the absence of this species from many areas of suitable habitat and its susceptibility to cowbird parasitism indicates the population explosion of the Brown-headed Cowbird may be the key factor (Gaines 1974) (CDFG 2007).

Shares similar habitat requirements with the least Bell's vireo. Following paragraphs are reproduced from the least Bell's vireo report. Several isolated areas at this location could be considered marginally suitable nesting habitat. In most sections little understory was present. From commencement of survey, April 13, the river and floodplains were dry. No least Bell's vireos were detected. Several yellow warblers were detected in the southern section during the first two surveys, April 13 and 27. One brown-headed cowbird was observed in the northern section on June 29. No yellow-breasted chats were observed or heard calling during surveys.

Although the Salinas River and its tributaries are located in the historic breeding range for LBVI, the river system and its associated riparian vegetation have changed considerably over the past several decades as a result of water development projects, agriculture, off-road vehicles and urban development. Notably the longest underground river in America (Monterey County California
2007), the shallow Salinas River, at this proposed project site, lacks the annual flow and resultant scouring that would promote suitable breeding habitat for the least Bell's vireo (Hancock and Woodbury 2007) (Appendix F).

Willow flycatcher (*Empidonax traillii*)

The California Department of Fish and Game has designated this species as Endangered. The willow flycatcher has been divided into four subspecies. The sub-species whose potential breeding range includes San Luis Obispo County is *E.t. brewsteri* which breeds west of the Sierra/Cascade crestline (Phillips 1948), and is currently limited to montane and north coast locations. The southernmost documented sighting of *E.t. brewsteri* occurred in Madera (1986)

and Fresno (1992) Counties over 100 miles away. *E.t. brewsteri* has never been documented to occur in San Luis Obispo County. All subspecies breed in North America, but winter in Central and South America. Extensive loss, fragmentation and modification of riparian breeding habitat are the greatest historical factor in the decline of the willow flycatcher. Habitat losses and changes have occurred because of urban, recreational, and agricultural development, water diversion and impoundment, channelization, livestock grazing, and the introduction of exotic species (Klebenow and Oakleaf 1984, Dull 1999). Brood parasitism by the brown-headed cowbird is another threat to willow flycatchers, especially in the lowland parts of their range (Friedman 1963, Whittfield and Enos 1996).

Andrew Forde conducted presence/absence surveys for the willow flycatcher and least Bell's vireo on June 18 and July 7, 2007. He states "As previously discussed, not all the riparian habitat within the boundary of the project site is suitable for the occurrence of nesting *E. traillii* and *V. b. pusillus.* There are small patches of habitat that appear to have vegetation characteristics similar to those where *Empidonax traillii* and *V.b. pusillus* occur; however, a major component of suitable nesting habitat for both species is lacking; water. This said; it is not surprising that *Empidonax traillii* and *V.b. pusillus* were not detected during the surveys. Although none were detected, *Empidonax traillii* may occur periodically as a migrant; however, it is unlikely that *V.b. pusillus* will occur due to the fact that the site is located outside the current known range of the species. Darlene Woodbury and Jackie Hancock conducted surveys for *V.b. pusillus* during 2006 and again in 2007 at the site. These surveys failed to detect *V.b. pusillus* and incidental detections of *Empidonax traillii"* (Appendix I).

California horned lark (*Eremophila alpestris actis*)

The California horned lark is listed by the State of California Department of Fish and Game as a Species of Concern. The California horned lark is a widespread occupant of open habitats across North America. Horned larks prefer areas with sparse vegetation and exposed soil.

No California horned larks were identified within the area of the project site within the Subject Property boundaries during multiple site visits. There is potential that horned larks could occupy the eastern terrace for foraging; however, none were observed during multiple site visits. The area of the terrace proposed for stockpiling operations has been disked regularly throughout the years, therefore it is unlikely that California horned larks have used this terrace area for breeding due to the high levels of disturbance. Stockpiles may exist on the property during the California horned lark breeding season which may result in a loss of foraging area for this species.

Prairie falcon (*Falco mexicanus*)

The Prairie falcon is listed by the State of California as Species of Special Concern. The prairie falcon is a permanent resident. At one time the Prairie Falcon was a common permanent resident throughout California except for the humid northwest coast and higher mountains. Populations in the California deserts are still very high and probably close to carrying capacity, but will be negatively affected if recreational use of these lands increases at its current rate (CDFG 2007). This species inhabits deserts, grasslands and agricultural lands. Potential foraging habitat exists on the Subject Property in the area of the agricultural field. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species. No Prairie falcons were identified within the area of the project site within the Subject Property boundaries during multiple site visits.

Yellow-breasted chat (*Icteria virens*)

This is a CDFG Species of Special Concern. The yellow-breasted chat is an uncommon summer migrant that inhabits primarily riparian habitats. This species is found in low, dense vegetation without a closed tree canopy, including shrubby habitat along stream, swamp, and pond margins; forest edges, regenerating burned-over forest, and logged areas; and fencerows and upland thickets of recently abandoned farmland (The Birds of North America, 2007). Potential patches of nesting habitat exist on the Subject Property in the area of the riparian woodland. No yellow-breasted chats were identified during the LBVI surveys which included the entire length of the Salinas River corridor from River Road Bridge to the northern property boundary and from the west bank to the east bank of the floodplain including Vineyard Creek corridor during multiple site visits.

Yellow-billed magpie (*Pica nuttalli*)

This species in not afforded protection by the Federal or State ESA. The yellow-billed magpie inhabits grasslands, fields and agricultural areas and oak woodlands. This species is a locally common resident. Potential foraging habitat exists on the Subject Property in the area of the agricultural field. Stockpiles in the area of the agricultural field may result in a loss of foraging area for this species. No yellow-billed magpies were identified within the area of the project site within the Subject Property boundaries during multiple site visits.

Least Bell's vireo (*Vireo bellii pusillus*)

The United States Fish and Wildlife Service and the California Department of Fish and Game list the least Bell's vireo as an endangered species. The breeding range of the subspecies consists of the southwestern coastline of the United States in California below Santa Barbara, extending inland approximately to the edge of the Imperial Valley. Other occurrences of least Bell's vireo have been recorded to the north of the given range, including along the Salinas River in the vicinity of the Monterey / San Luis Obispo county line.

Listed in CNDDB are two least Bell's vireos sightings in the vicinity of the Bradley Bridge to the northwest of the project site from 1983 and 1985. Another sighting occurred in the area of the Wellsona Road crossing southwest of the Subject Property in 2005. Ms. Jennifer Moonjian, a biologist with Camp Roberts National Guard, supplied information on this sighting to Ms. Seay. Mr. Peter Bloom of ESA, Inc. conducted USFWS Protocol Surveys during May 22, 2005 thru July 2, 2005 and observed a pair of least Bell's vireos. The male was observed on the first five visits and the female was observed on the fifth visit only. Neither of the birds was observed on three subsequent visits suggesting to Mr. Bloom that the breeding attempt was unsuccessful.

Although the patchy understory habitat in the project area appeared marginal for least Bell's vireo, due to the proximity of the project site to the most recent least Bell's vireo sighting in 2005, protocol surveys were subcontracted to Ms. Jackie Hancock. Protocol surveys for least Bell's vireo were completed from April 13 thru July 27, 2007.

Andrew Forde conducted presence/absence surveys for the willow flycatcher and least Bell's vireo. He states, "As previously discussed, not all the riparian habitat within the boundary of the project site is suitable for the occurrence of nesting *E. traillii* and *V. b. pusillus.* There are small patches of habitat that appear to have vegetation characteristics similar to those where *Empidonax traillii* and *V.b. pusillus* occur; however, a major component of suitable nesting habitat for both species is lacking; water. This said; it is not surprising that *Empidonax traillii* and *V.b. pusillus* were not detected during the surveys. Although none were detected, *Empidonax traillii* may occur periodically as a migrant; however, it is unlikely that *V.b. pusillus* will occur due to the fact that the site is located outside the current known range of the species (Appendix I).

Several isolated areas at this location could be considered marginally suitable nesting habitat. In most sections little understory was present. From commencement of survey, April 13, the river and floodplains were dry. No least Bell's vireos were detected. Several yellow warblers were detected in the southern section during the first two surveys, April 13 and 27. One brown-headed cowbird was observed in the northern section on June 29. No yellow-breasted chats were observed or heard calling during surveys.

Although the Salinas River and its tributaries are located in the historic breeding range for LBVI, the river system and its associated riparian vegetation have changed considerably over the past several decades as a result of water development projects, agriculture, off-road vehicles and

urban development. Notably the longest underground river in America (Monterey County California
2007), the shallow Salinas River, at this proposed project site, lacks the annual flow and resultant scouring that would promote suitable breeding habitat for the least Bell's vireo (Hancock and Woodbury, 2007) (Appendix F).

Mammals

Pallid bat (*Antrozous pallidus*)

The Pallid bat is listed by the State of California as Species of Special Concern. The pallid bat is primarily a crevice roosting species. Pallid bats can be found in oak woodland, where they roost in tree cavities (Rainey and Pierson, 1996). They have also been found roosting in fire-scarred redwoods (Orr, 1954, Rainey et al., 1992) and giant sequoias (Pierson and Heady, 1996). This species is height sensitive to disturbance at the roost site. Colonies stay together until October. This species is not known to migrate and are presumed to spend the winter hibernating close to their summer roosts (Pierson et al., 2002).

Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. On July 31, 2001 a biologist found a dead juvenile pallid bat on the ground near a support of the existing bridge. They concluded that there was potential for a maternity colony to be occupying the bridge at that time (Garcia and Associates, 2001).

The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

Hoary bat (*Lasiurus cinereus*)

The Hoary bat is listed by the State of California as Species of Special Concern. The hoary bat roosts in cottonwood riparian habitat and forested areas. Loss of roosting habitat due to timber harvest is likely the biggest threat to this species. Use of pesticides on public forestlands may also be a potential source of mortality to roosting bats and their insect prey. In suburban settings, where jays thrive in association with humans, this bird may pose a major threat to sleeping or hibernating hoary bats (Pierson, E.D. et al, 2002). Potential roosting and foraging habitat exists on the Subject Property in the area of the riparian woodland.

The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

Small-footed myotis (*Myotis ciliolabrum melanorhinus*)

This species is not afforded protection by the Federal or State ESA. The Small-footed myotis is a common bat of arid uplands in the Upper Sonoran and Transition life zones of California. It occurs along the southern half of the California coast and the west and east sides of the Sierra Nevada to about 8,900 feet (2700 meters). They seem to prefer open stands in forests, woodlands and brushy habitats.

The small-footed bat can be found roosting in caves, buildings, crevices and sometimes under bark and bridges, preferring more humid areas (CDFG, 2007).

Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. No small-footed myotis bats were netted as a result of their survey effort. However, they concluded, "potential for occurrence is high for the genus and unknown for the species" (Garcia and Associates, 2001).

The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

Long-eared myotis (*Myotis evotis*)

This species is not afforded protection by the Federal or State ESA. The long-eared myotis is found throughout California except in the hot central valley and the dry hot deserts of southern California. This bat can be found in brush, woodland and forests habitats up to 9,000 feet (2700 meters), possibly preferring coniferous woodlands and forests, yet is uncommon in most of its range (Zeiner, 1990).

The long-eared myotis can be found roosting in buildings, rock crevices, under bark and in snags and may use caves as night roosts. Usually roosts singly or in small groups of 12-30 animals, including maternity colonies (CDFG, 2007).

Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. They concluded that "Acoustic and physical evidence was indeterminate. Occurrence is high for the genus and unknown for this species" (Garcia and Associates, 2001).

The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

Yuma myotis (*Myotis yumanensis*)

This species is not afforded protection by the Federal or State ESA. The Yuma myotis is predominantly a crevice dwelling species, although it is also frequently found roosting on open surfaces. It is one of the species most commonly associated with anthropogenic structures, including barns and bridges, although it will also roost in caves, mines, abandoned swallow nests, and under flaking bark of large snags (Barbour and David, 1969, Dalquest, 1947b, Rainey and Pierson, 1996).

M. yumanensis is more highly associated with water than any other species. It is also known to forage over fields (Pierson et al., 2002).

Heather Johnson, Julie Schneider and Tom Olson conducted bat surveys in 2001 for the River Road Bridge Replacement Project. They concluded "Structural habitat exists, but potential occurrence is low due to lack of water. No direct observations were made during surveys" (Garcia and Associates, 2001).

The River Road Bridge is the southern boundary of the Site. However, the southern end of the extraction area in the Salinas River will end approximately 2000 feet north of the bridge. The potential for this species to occur within the project boundary is high during foraging, however potential impact is low due to the extraction area limits and timing of excavation activities being restricted to daylight hours.

Monterey dusky-footed woodrat (*Neotoma macrotis luciana*)

The Monterey dusky-footed woodrat is listed by the State of California as Species of Special Concern. The woodrat utilizes dense chaparral, coastal sage-scrub, pinyon-juniper, oak and riparian woodlands, and mixed coniferous forest habitat with well-developed understory in which to make it's nest. Potential nesting habitat exists on the Subject Property in the area of the riparian woodland. Woodrat nests were observed on the Subject Property in the area of the project site in the Salinas River riparian corridor.

San Joaquin pocket mouse (*Perognathus inornatus inornatus*)

This species is not afforded protection by the Federal or State ESA. It inhabits grasslands and oak savannahs and needs friable soils to burrow. The only occurrence as reported on the CNDDB was in 1918 two miles south of San Miguel. Potential habitat exists on the Subject Property in the area of the agricultural field and grasslands east of Indian Valley Road. Stockpiles in the area of the agricultural field may result in a loss of burrow and foraging area for this species.

Salinas pocket mouse (*Perognathus inornatus psammophilus*)

The Salinas pocket mouse is listed by the State of California as a Species of Special Concern. It inhabits grasslands and shrub communities and needs fine-textured, sandy and friable soils to burrow. According to von Bloeker (1937), Salinas Pocket Mice occur on fine-textured, sandy soils. They may also occur on a variety of other substrates in annual grassland and desert shrub communities, especially where plant cover is not dense and soils are friable (CDFG-2007). Six occurrences have been reported on the CNDDB with the most recent in 1995 on Camp Roberts. Potential habitat exists on the Subject Property in the area of the agricultural field and grasslands east of Indian Valley Road. Stockpiles in the area of the agricultural field may result in a loss of burrow and foraging area for this species.

American badger (*Taxidea taxus*)

The American badger is listed by the State of California as a Species of Special Concern since it appears that there has been a substantial reduction in range and abundance in several areas where it was formerly common (CDFG 2005). Historically, the badger was known to occur throughout the State of California except for the humid forested region in the extreme northwestern corner.

To assess presence of badgers on the Subject Property, walking transects were conducted searching for any signs of badger, including burrows, tracks or scat. No badger activity was identified within the proposed project boundaries and surrounding areas. The eastern terrace of the Subject Property where two of the operations sites will be located is considered very marginal habitat due to the nature of the current land use. The field is farmed regularly each year, disked and turned under after harvest. The sand substrate of the creek bed and the terrace are also not stable enough to support any burrowing activity and no mammal burrows were observed within the river or creek bed where removal of material is proposed. The majority of burrows observed on the eastern terrace were smaller than 3 inches in diameter and many had collapsed due to the unstable nature of the sandy soil.

However, potential habitat exists on the Subject Property in the area of the agricultural field and grasslands east of Indian Valley Road. Stockpiles in the area of the agricultural field may result in a loss of habitat for this species.

San Joaquin kit fox (*Vulpes macrotis mutica*)

The San Joaquin kit fox is listed as a Federally Endangered Species and a California State Threatened Species. The kit fox (*Vulpes macrotis*) is the smallest canid species in North America. San Joaquin kit foxes have an average body length of 20 inches, an average tail length of 12 inches and stand about nine to 12 inches at the shoulder. Relatively long legs and large, conspicuous ears characterize these slender-built mammals.

In order to determine potential impacts to the species, Mr. Mike McGovern completed a San Joaquin kit fox evaluation on October 3, 2005. In addition, Ms. Jennifer Moonjian completed a San Joaquin Kit Fox Early Evaluation Report on May 18 and 28, 2007 (Appendix D). “San

Joaquin kit foxes have not been documented on the Subject Property, and the nearest, most recent documented occurrence recorded was approximately 1.1 miles away 7 years ago. Further, although potential foraging (i.e. ground squirrels) and denning habitat is present on the uplands portion of the property, the loss of this type of habitat is of lower value because of the current agricultural practices that involve regular ground disturbing activities. In addition, only 7.96 acres of these agricultural lands will be impacted. The areas adjacent to Vineyard Creek are also potential foraging and denning habitat for kit fox, particularly because cattle grazing is a more compatible land use with foxes than the soil disturbance associated with farming. However, only 1.1 acres of upland habitat will be disturbed outside of the creek bed, all within an area that is currently used heavily for residential and agricultural purposes. Therefore, the adverse effects to kit fox as a result of the denning and foraging habitat loss associated with this project are minimal" (Appendix D).

Reptiles

Southwestern pond turtle (*Actinemys marmorata pallida*)

The Southwestern pond turtle is listed by the State of California as Species of Special Concern. *Clemmys marmorata* is an aquatic turtle that usually leaves the aquatic site to reproduce, to aestivate, and to over winter. Recent fieldwork has demonstrated that western pond turtles may over winter on land or in water, or may remain active in water during the winter season; this pattern may vary considerably with latitude and habitat type and remains poorly understood (Holland 1985a, 1991a; Rathbun et al. 1993). Western pond turtles markedly increase their level of activity when water temperatures near the surface consistently reach at least 15OC (D. Holland, pers. comm.). Thus, along the central and southern coast of California, western pond turtles may be active year-round (Holland 1985a, 1991a; Zeiner et al. 1988; Rathbun et al. 1993), whereas at interior localities or at higher latitudes in California, *C. marmorata* typically become active in March or April, and disappear to over wintering sites in October or November (Holland 1991a). Western pond turtles require some slack- or slow-water aquatic habitat. Western pond turtles are uncommon in high gradient streams probably because water temperatures, current velocity, food resources, or any combination thereof may limit their local distribution (Holland 1991a). Habitat quality seems to vary with the availability of aerial and aquatic basking sites (Holland 1991a); western pond turtles often reach higher densities where many aerial and aquatic basking sites are available. Nests are typically dug in a substrate with a high clay or silt fraction since the female moistens the site where she will excavate the nest prior to nesting (Holland 1991b). Nests also are typically located on a slope that is unshaded (Rathbun et al. 1993) that may be at least in part south-facing, probably to ensure that substrate temperatures will be high enough to incubate the eggs (pers. observ.). How close the aquatic site is to the nesting site probably depends largely on the availability of suitable nesting sites adjacent to aquatic sites where western pond turtles are known to occur because the array of features that make a nesting site suitable may significantly limit the availability of such sites. The nesting site can be up to 402 m from the aquatic site (Storer 1930), but the majority of nests located to date are within 200 m (D. Holland, pers. comm.) (CDFG, 2007).

Potential habitat, pools, exist in the project boundaries within the Salinas Riverbed during non-drought years. Surface water on the Subject Property was gone by April 2007. However, the adjacent property to the south of River Road Bridge did retain water later into the year. This area is where a beaver pond was located.

Coast horned lizard (*Phrynosoma coronatum frontale*)

This is a CDFG Species of Special Concern. This species inhabits open areas of sandy soil and low vegetation; frequently found near ant colonies. No Coast horned lizards where observed during multiple site visits. This species has potential to exist in the Salinas River primarily along the sandbars as well as along the banks of Vineyard creek. No Coast horned lizards were observed within the project site on the Subject Property.

Amphibians

Arroyo toad (*Bufo californicus*)

The United States Fish and Wildlife Service has designated this species as Endangered and the California Department of Fish and Game list the species as a Species of Special Concern. *Bufo microscaphus californicus* historically extended from the upper Salinas River system in the vicinity of Santa Margarita (San Luis Obispo County), California southward to the Rio Santo Domingo system in Baja California, Mexico. In California, its distribution extended from the Salinas River system south through the Los Angeles Basin and the coastal drainages of Orange and Riverside counties to the San Diego River system. Arroyo toads have perhaps the most specialized habitat requirements of any amphibian found in California. Adults require overflow pools adjacent to the inflow channel of 3rd- to greater-order streams that are free of predatory fishes in which to breed. Exposed pools (i.e., with little marginal woody vegetation) that are shallow, sand- or gravel-based and have a low current velocity are strongly favored (CDFG 2007).

The Salinas River is a dynamic river that floods during winter storms, slows to a braided channel during the spring and summer and runs predominantly underground through the fall. The Salinas River on the Indian Valley Sand and Gravel site is wide and flat, which promotes highly braided and shallow flow (evident by depressions in sand), yet sand bars, vegetated islands and features that punctuate the property offer potential for pooling water adequate for arroyo toad breeding. The river banks and flood zone terrace are sandy and sparsely to moderately vegetated, which are ideal for foraging and burrowing
activities. Vineyard Creek conversely does not have the structure or adequate flow (even in non-drought conditions) to support arroyo toad breeding. However, it may still be used for foraging activities. Because the creek is not vegetated, it is unlikely that arroyo toads would burrow into its banks or surrounding agricultural fields.

Although arroyo toad breeding was not detected, nor were conditions suitable for breeding in 2007, the property contains appropriate habitat for all life stages of the arroyo toad. It is our opinion that if arroyo toads were to colonize the Salinas River, breeding may occur on this property during years of non-drought conditions. To reduce any potential negative impact to the species, it is our recommendation that all proposed activities are restricted to dry portions of the river channel, be conducted during daylight hours and vegetation removal be avoided (Hancock and Woodbury, 2007) (Appendix H). The closest occurrence as reported on the CNDDB occurs approximately 22 miles to the northwest of the Site in the vicinity of Camp Roberts.

California red-legged frog (*Rana aurora draytonii*)

The United States Fish and Wildlife Service has designated this species as Threatened and is listed by the State of California as Species of Special Concern. Habitat of California red-legged frogs is characterized by dense, shrubby riparian vegetation associated with deep (0.7 m), still or slow-moving water (Jennings 1988b, Hayes and Jennings 1988). The shrubby riparian vegetation that structurally seems to be most suitable for California red-legged frogs is that provided by arroyo willow (*Salix lasiolepis*); cattails (*Typha sp.*) and bulrushes (*Scirpus sp.*) also provide suitable habitat (Jennings 1988b). Although California red-legged frogs can occur in ephemeral or permanent streams or ponds, populations probably cannot be maintained in ephemeral streams in which surface water disappears (CDFG 2007).

Vince Semonsen conducted USFWS Protocol Surveys for this species. He concludes: "Ca red-legged frogs were not found during protocol surveys and are not expected to occur along this section of the Salinas River watershed. A number of factors were identified that contribute to this conclusion and they are; a lack of water, the absence of deep breeding ponds, the number of native and non-native predators and finally off-road vehicle disturbances" (Appendix G).

Western spadefoot (*Spea hammondii*)

The Western spadefoot is listed by the State of California as a Species of Special Concern. Scaphiopus hammondii is almost completely terrestrial, entering water only to breed (see Dimmitt and Ruibal 1980a). Western spadefoots become surface active following relatively warm (10.0-12.8OC) rains in late winter-spring and fall, emerging from burrows in loose soil to a depth of at least 1 m (Stebbins 1972; A. McCready, pers. comm.), but surface activity may occur in any month between October and April if enough rain has fallen (Morey and Guinn 1992; S. Morey, pers. comm.). Amount of rain may be a better predictor of surface activity than temperature (S. Morey, pers. comm.), but the cue or combination of cues that induces emergence in S. hammondii remains poorly understood.

Western spadefoots require temporary rain pools with water temperatures of 9° and < 30°C (Brown 1966, 1967) in which to reproduce and that last 3 weeks (Feaver 1971) in order to metamorphose successfully. Rainpools in which western spadefoots reproduce and from which they are able to metamorphose successfully lack fishes, bullfrogs, and crayfishes; many

indications exist that S. hammondii cannot recruit successfully in the presence of exotic predators, primarily introduced fishes, but also bullfrogs and crayfishes (K. Baldwin, S. Morey, B. Shaffer, pers. comm.; pers. observ.). Soil characteristics of burrow refuge sites that western spadefoots use have not been studied, but if they are similar to those of S. multiplicatus, the soil may become fairly compact and hard during the season of summer aestivation (Ruibal et al. 1969) (CDFG 2007).

Several occurrences were reported on the CNDDB associated with vernal pools and artificial wetlands on Camp Roberts. All surface water surveyed during the CRLF Protocol Surveys identified all the above exotic predators inhabiting the primary channel of the Salinas River in the area of the beaver pond, which was located south of the Subject Property boundary, south of River Road Bridge. Potential habitat, primarily foraging and dispersal habitat exists on the Subject Property in the area of the eastern terrace.

Coast Range newt (*Taricha torosa torosa*)

This is a CDFG Species of Special Concern. No coast range newts were observed on the Subject Property. Occurs along creeks and streams close to water, especially in rocky areas. Requires cool waters in ponds, reservoirs, or slow moving waters for breeding purposes. Potential habitat exists along the primary channel on the Subject Property during non-drought years.

<u>Fish</u>

Steelhead – South/Central California Coast E.S.U.
(*Oncorhynchus mykiss irideus*)

Steelhead are a sea-run rainbow trout that have large mouths with well-developed teeth. Steelhead of the south/central California coast ecologically significant unit are currently listed by the Federal government as a threatened run of steelhead that have specific genetic differences that separate them from other runs of steelhead in northern California. Southern steelhead are considered a winter run of steelhead that takes advantage of the high winter storm flows of southern California creeks to spawn.

It is very unlikely that steelhead will be impacted by the proposed project. The project proposes to skim sand to a maximum depth of five (5) feet below the existing elevation of the riverbed with an annual extraction depth of two (2) feet, which would create shallow depressions along the Salinas river channel with up and downstream slopes of 12 degrees or less. The concern would be the potential for steelhead to become entrapped in the excavated area. The proposed project will take place during the late summer while the project area of the Salinas River is completely dry. To ensure that no fish entrapment or stranding occurs, a qualified biologist shall observe the pit when static water is present after a pluvial event. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California

Department of Fish and Game will also be contacted. A consultation with Mr. William Stevens, NMFS to review potential impacts to Steelhead from the proposed project and to determine what the specific concerns and comments the agency may have in regards to the proposed project is currently underway.

4.3 MOVEMENT CORRIDOR

The Salinas riverbed bisects the Subject Property generally in a north to south line along the western boundary of the Subject Property. The Salinas River may be considered a wildlife corridor because it supports the movements and migration of many species of wildlife. During the dry season (approx. 5 months of the year), the Salinas riverbed is available as a movement corridor for terrestrial wildlife. Many species of birds also have the potential to utilize the Salinas River corridor for habitat with seasonal migrants utilizing the riparian trees and shrubs as nesting habitat during the breeding season. "The Riparian Woodland along the Salinas River in San Luis Obispo County, including the project site, is mostly composed of tall, dense riparian trees that form a continuous forest-like community along the river's broad floodplain. The riparian woodland areas along Vineyard Creek are similar to those along the Salinas but not nearly as dense and well developed. The Red willows and Fremont cottonwoods are more scattered forming open woodland. Much of the creek's banks are highly disturbed and do not have any trees at all, especially the section that traverses the agricultural field. In these areas, the vegetation along the creek banks consists of the weedy herbaceous vegetation similar to that found in the anthropogenic communities along roadsides. Several shrubs are also common along the creek banks in these areas, such as those listed below" (Holland, 2007).

Although the Riparian Woodland is well developed along this segment of the Salinas River, it lacks the denser thickets that several bird species require for nesting (i.e. yellow warbler, willow flycatcher and least Bell's vireo). With the construction of dams and levees both on the Salinas River and it's tributaries, storm flows no longer scour the channel as they have in the past and siltation has most likely increased. Along with siltation comes an increase in riparian vegetation, which means less water is available for pooling due to uptake by the vegetation. Species of wildlife that require quiet streams, backwater pools and lakes for foraging, breeding and/or nesting include: California red-legged frog, arroyo toad, coast range newt, and southwestern pond turtle. Species of wildlife that require the vegetation associated with freshwater marsh and pond habitats for foraging, breeding and/or nesting are: Tricolored blackbird, great blue heron and northern harrier.

5.0 GENERAL AVOIDANCE AND MINIMIZATION MEASURES

This section describes procedures that are incorporated into the general design of the project operation and layout that avoids or minimizes the potential for impacts to water quality, biological, and geomorphic resources.

Table 9. Project Areas and Disturbance in Acres.

Proposed Project Area Descriptions	Disturbance Area (acres)
Stockpiling and Operations	**7.5**
Northern yard	3.1
Southern yard	3.3
East of Indian Valley Road	(.55 + .55) = 1.1
(current horse arena)	
Ingress/egress Roads	**0.70**
Northern (riverbed to yard)	0.18
Southern (riverbed to yard)	0.40
East of Indian Valley Road	(0.05 + 0.07) = 0.12
(riverbed to yard/arena)	
Haul Roads	**0.98**
Northern	0.95
(yard to Indian Valley Rd)	
Southern	0.03
(yard to Indian Valley Road)	
Extraction Areas	**47.75**
Vineyard Creek	7.0
Salinas River (northern portion)	12.25
Salinas River (southern portion)	28.5
Total Disturbance	**56.93**

5.1 PROJECT BOUNDARIES AND SETBACKS

Several boundaries and setbacks were included in the project design as measures to protect sensitive resources on-site, primarily; water quality, biological resources, and geomorphic processes. The boundaries and setbacks included herein were derived from information provided to Sierra Delta Corporation in the technical reports filed for this application and from typical conditions required in Streambed Alteration Agreements from the California Department of Fish and Game that have undergone CEQA review.

All project operations will maintain a minimum setback of 20 feet from property boundaries. The operations area will be setback 50 feet from the top of the riverbank. The extraction area will be setback 10 feet from the dripline of all riparian vegetation or 20 feet from the riverbank. In cases where canopy coverage extends over the riverbed, both bank and canopy offsets will

be considered, and the greater offset will be implemented. These setbacks will be staked, flagged, or otherwise delineated so that they are clearly visible throughout the material extraction phase of the operation. The slope of the head and toe of the extraction area will not exceed 4:1, and the slope along the sidewalls of the extraction area will not exceed 3:1. The slope away from riparian vegetation setbacks will also not exceed 3:1. A vertical setback of 1 foot will be maintained above the level of the groundwater. A summary of all setbacks incorporated in the design of this operation is included herein as Table 10.

Table 10. Measures to Avoid and Minimize Impacts to Sensitive Resources.

Condition	Measurement	Benefit
Vertical Setback	1' above groundwater	Water Quality
Bank Setback (Extraction Area)	20'	Bank Stability
Bank Setback (Operations Area)	50'	Water Quality
Riparian Vegetation Setback	10' from dripline	Habitat
Longitudinal Gradient	4:1 slopes at head and toe	Hydrologic Connectivity
Lateral Gradient	3:1 slopes on sidewalls	River Form and Process
Maximum Depths of Extraction in the Salinas River	2' annual and 5'cumulative	Sustainable Harvest
Maximum Depths of Extraction in Vineyard Creek	3' annual and 4'cumulative	Maintain creek channel and bridge integrity

6.0 MITIGATION MEASURES

In order to reduce the likelihood and magnitude of adverse temporary and permanent impacts associated with the activities of the Indian Valley Sand and Gravel project, this BA recommends measures to be incorporated into the design of the project. Adverse impacts are expected to occur where proposed construction or development activities would result in temporary or permanent modification to sensitive habitats, or to habitats occupied by sensitive species. Where potential project-related impacts (either direct or indirect) to sensitive resources have been identified, measures were developed to avoid, minimize, or mitigate adverse effects to biological resources, and are described below.

Further general recommendations are included below to reduce the likelihood that any species of plant or wildlife or the associated habitats are impacted by said development.

6.0.1 PRECONSTRUCTION

1. Work should occur after the typical nesting season (March 1 to July 31). A biological monitor will survey the area for bird nests immediately prior to disturbance if work is proposed within the nesting season. The Migratory Bird Treaty Act protects active nests, eggs, nestlings, and adults on the nests of nearly all bird species. If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest shall be estimated. No additional measures shall be implemented if active nests are more than the following distances from the nearest work site: (a) 100 yards for raptors; or (b) 50 yards for bird species other than least Bell's

vireo (for least Bell's vireo, see Measure 2). If active nests are closer than those distances to the nearest work site, a plan to monitor the behavior of the nesting birds during work shall be prepared and submitted to USFWS and CDFG for review and approval.

2. If Least Bell's vireo or other sensitive birds are detected in or near construction, USFWS and CDFG shall be notified. In consultation with the agencies, a plan shall be developed to avoid impacts. If American badger dens are detected, the same agencies shall be contacted. Consultation would address removing the individuals from the work area. Protective measures for San Joaquin kit fox, including contacts with agencies, are described below. See Measures 9, 16-19, and 23-28.
3. On-site environmental training by a qualified biologist should be conducted to aid workers in recognizing sensitive species that may occur in the project area including the endangered San Joaquin kit fox. The program should educate personnel at the project site of the potential for kit fox presence and aware them of all avoidance and minimization measures (9, 16-19, 23-28). Workers will be told to stop work and notify the biological monitor if they see a burrowing rodent, toad, or other animal.
4. Access roads through the riparian woodlands will require trimming of riparian vegetation and removal of some trees. Signage and/or fencing should be used to restrict all equipment to the designated routes and operations areas. A restoration ecologist or botanist approved by the County of San Luis Obispo should be present during vegetation trimming and tree removal to evaluate the impacts and suggest methods to reduce damage to the riparian vegetation. A revegetation and monitoring plan shall be prepared to mitigate these impacts after they are determined. As mitigation for this potential loss, it is recommended that riparian trees be planted in open areas along the river and Vineyard Creek. Suggested trees include the following: *Quercus lobata* (Valley oak), *Quercus agrifolia* (Coast live oak), *Salix laevigata* (Red willow), *Populus fremontii* (Fremont cottonwood), and *Platanus racemosa* (Sycamore). See Appendix J for further information.
5. There may be some islands of well-developed riparian vegetation in the broad river channel proposed for mining activities. It is recommended that these be retained if possible, and mining occur in the channel areas around these islands.
6. No equipment or disturbances shall take place outside of the designated routes and operations areas. The same mitigation measures shall be enacted for the prime agricultural lands around the operations site as recommended in the Botanical Report (Appendix J).
7. Best Management Practices (BMP) for erosion control during grading, excavation, and stockpiling should be followed to minimize erosion and avoid the potential for impacts to sensitive species.

6.0.2 DURING CONSTRUCTION

8. Work hours should be limited to 8:00a.m. to 5:00p.m.

9. Project vehicles and equipment should observe a 20 mph speed limit throughout the property to reduce the potential for impacting kit fox and other wildlife.

10. No pets or firearms shall be allowed on the Project Site.

11. Avoid inadvertent disturbance to existing woodland or riparian vegetation or damage to associated root systems of trees.

12. No vehicles should be parked or otherwise stored under any riparian tree canopy. Vehicles should be parked in staging areas only.

13. A qualified biologist will conduct surveys and inspect the project areas prior to and during any work that may adversely affect burrowing animals such as excavating and grading of ingress/egress and haul routes. The biologist will monitor initial earth disturbing activities to relocate any unearthed wildlife, which includes excavation of raised sand bars in the Salinas Riverbed.
14. If the biologist determines that a sensitive species is present in the area of direct impact, work will be delayed until the individual(s) are relocated or relocate from the area on their own. Any potential sensitive species sightings will be reported to the biological monitor immediately and the appropriate agency will be notified if any federally or state-listed species enter the work site.
15. Vegetation requiring trimming/removal shall be conducted between October and January to reduce the impacts to nesting birds. If vegetation must be removed outside of the October-January period, a biologist shall conduct pre-activity surveys for nests. Avoidance of active nests shall follow conditions described in Measure 1 above.
16. Limit the work area to the minimum needed to conduct proposed project to reduce the amount of disturbance to potential habitat for kit fox and other burrowing wildlife.
17. Cover excavations deeper than 2 feet at the end of each working day or provide escape ramps constructed on wooden planks for kit fox. The sidewalls of the extraction area should have slopes no more steep than 3:1 slopes.
18. Thoroughly inspect trenches, pipes, culverts or similar structures for kit fox and other wildlife before burying, capping, moving or filling.
19. Fuel and maintain equipment in an appropriate staging area removed from any drainage or utilize a designated fueling area with secondary containment.
20. Take appropriate measures to prevent, contain, and clean up hazardous material spills.

21. Wash trucks or other equipment in a designated containment area away from the riverbed, bank or associated drainages.
22. To avoid attracting kit foxes or predators to the project site, adequate and appropriate closed trash receptacles should be located on site. All food-related trash should be removed from the project site.
23. To avoid or minimize potential effects to the San Joaquin kit fox, use of rodenticides and herbicides, if necessary, should be limited to chemicals and techniques that pose a low risk to kit foxes (i.e. zinc phosphide) (USFWS 1999).
24. During all construction activities and throughout the use of the proposed facility signs should be posted around the proposed Indian Valley Sand and Gravel facility to educate and aware employees of the potential for San Joaquin kit fox.
25. To avoid obstruction of a potential movement corridor for the San Joaquin kit fox in the Salinas River and Vineyard Creek, earthen berms or stockpiles within the riverbed should be at a 2:1 slope or less.
26. If outdoor lighting of the proposed project is necessary, all outdoor lighting should minimize spillover to adjacent lands. This may include low wattage bulbs, utilizing recessed or down fixtures, and/or fitting the lights with hoods or shields.
27. If fencing of the proposed project site is necessary, fencing should allow for movement of San Joaquin kit fox through the area.
28. Prior to or during project activities, if any observations are made of San Joaquin kit fox, or any known or potential dens are discovered within the project limits, immediately notify the qualified biologist (Bob Stafford, CDFG Biologist at (805) 528-8670) and the County (Julie Eliason, Department of Planning and Building-Environmental and Resource Management at (805) 781-5029 or 781-5010).

6.0.3 POST CONSTRUCTION

29. Upon completion of the project, all temporarily disturbed areas shall be returned to original contours, including stream banks.
30. Remove all equipment, waste, and other debris from the site.

6.1 MITIGATION MEASURES FOR PLANT COMMUNITIES AND WILDLIFE

The Fremont cottonwood-Red willow series occupying the riverbanks within the Subject Property was the only sensitive community identified. Within the community, large mature Fremont cottonwoods (*Populus fremontii*) and Red willows (*Salix laevigata*) will be preserved and impacts will be minimal. As illustrated on the site plans, the planned ingress/egress roads are positioned at areas on the banks that required the least amount of vegetation removal and

where trees associated with the Fremont cottonwood-Red willow series would not be impacted or impacts would be minimal. Other avoidance measures to protect habitat are described bellow:

- All operations in the riverbed will maintain a minimum set back of 10 feet from the dripline of all riparian vegetation or 20 feet from the riverbank (whichever is greater), with a 3:1 maximum slope on the edge of the excavation pit, to protect bank stability and the Fremont cottonwood-Red willow series vegetation.

- The stockpiling within the operations area will be set back at least 50 feet from the bank ensuring a sufficient buffer between project activities and the riparian habitat. The setbacks will be staked, flagged, or otherwise delineated so that they are clearly visible throughout the material extraction phase of the operation.

- To avoid and minimize potential disturbance to nocturnal wildlife, operations will occur from 8:00 am to 5:00 pm so movement thru the site remains possible.

- To avoid any potential disturbance to least Bell's vireo, other avian species, as well as listed plant species habitat, the proposed project's operations will be limited to the agricultural field (eastern terrace), the pasture areas on the south side of Vineyard Creek, the open riverbed channel, and specific ingress/egress roads along the bank that will not significantly impact vegetation and do not require removal of any willows. Ingress/egress routes and haul roads will be located in areas where the terrain will require a minimum of disturbance in order to be utilized, occupying a relatively small area of 1.68 acres within the 1,225-acre Site.

- To minimize any potential disturbance to habitat outside of the project areas appropriate signage and/fencing shall be provided to restrict all disturbances to the 47.75-acre mining areas and the 9.18 acres of the operations sites and roads designated on the site plan. No equipment or disturbances shall take place outside these boundaries, especially in the riparian woodlands. The same mitigation measures shall be enacted for the prime agricultural lands around the operations site (Appendix J).

- The operations sites where stockpiling of gravel will take place was positioned on the property to minimize the disturbance to biota, particularly burrowing wildlife and other species that forage in non-native grassland habitat. To minimize impacts to the vegetative communities and to wildlife within the Subject Property, the operations sites, ingress/egress routes and access routes for trucks were limited to a total of 9.18 acres on the eastern terrace in the area of highly disturbed, disked, agricultural field, arena and riverbank where a minimal amount of vegetation (1.18 acres) will be required to be removed.

- Potential San Joaquin kit fox, burrowing owl, American badger, and horned lark foraging and movement corridor habitat on the field terrace will be impacted each year by stockpiling of material. This portion of the field will still be available as a movement corridor for mammals and a foraging area for birds and mammals during the night. These operation areas were selected because they are not suitable for burrowing or nesting due to the sandy soils and historic land use as described in the applicable protocol surveys and documented during site visits.

Timing of project activities will protect sensitive migratory birds.

- Extraction activities in the riverbed (and therefore near the riparian habitat) will not commence prior to August 1, unless appropriate surveys for nesting birds find no evidence of sensitive species presence. Nests of birds other than least Bell's vireo (except invasive species such as English sparrows and European starlings) will be afforded 50-yard buffer zones until young have fledged; raptors will be afforded 100-yard buffer zones (see Measure 1 above).

6.2 MITIGATION FOR VEGETATION REMOVAL

Within the Subject Property boundaries, proposed revegetation consists of a 3:1 replacement of any shrubs removed. The ingress and egress routes will require removal of approximately 0.70 acres of non-native annual grassland and riparian vegetation. The extraction area in the channel of the riverbed will require removal of approximately 0.48 acres of riparian vegetation. Vegetation will be replaced based on the aerial extent of shrub canopy removed. Mitigation plantings will be completed in areas where connectivity of the patchy understory can be enhanced. All operation areas will be reclaimed to existing conditions at the end of the project and no permanent structures are proposed.

7.0 ALTERNATIVES TO PROPOSED PROJECT DESCRIPTION

Throughout the course of reviewing this site for potential impacts that the project may produce, many alternatives to the proposed project design were considered. The current proposed project was designed to have the least amount of impact. Alternatives that were considered and not proposed are described below.

One alternative to the proposed project would be to avoid vegetation removal in the proposed extraction area. Which includes removal of the non-native annual grassland habitat from the ingress/egress road from the northern operations site to the extraction area in the north end of the extraction area and removal of riparian scrub habitat in the south end of the extraction area and ingress/egress road from the southern operations site to the extraction area. This alternative would have the least amount of impact to the proposed project site and would limit the disturbance to a small segment of the Salinas River channel (see Appendix A – Vegetation Removal Plan).

No-action alternative would be to not conduct the sand and gravel mining operation as proposed by the project applicant. This would obviously allow the project site to remain in its current state and no impacts would occur to the project site.

8.0 REFERENCES

Alsop, Fred J., III. 2001. Smithsonian Handbooks Birds of North America Western Region. First American edition. DK Publishing, Inc.

Behler, J.L. 2000. National Audubon Society Field Guide to Reptiles and Amphibians. Seventeenth printing. Alfred A. Knopf, Inc., New York

Bombay, H.L. 1999. Scale perspectives in habitat selection and reproductive success for willow flycatchers (Empidonax traillii) in the central Sierra Nevada, California. Masters thesis, California State University, Sacramento.

Burt, William H. and Richard P. Grossenheider, 1976. A Field Guide to the Mammals of America North of Mexico. Houghton Mifflin Company, Boston.

California Native Plant Society (CNPS). 2007. Inventory of Rare and Endangered Plants (online edition, v7-07c). California Native Plant Society. Sacramento, CA. Accessed on Sat, Sep. 22, 2007 from http://www.cnps.org/inventory

Carrawy L.N. and Verts, B.J. 1991. Neotoma fuscipes. Mammalian Species 386: 1-10. American Society of Mammalogists.

CDFG, 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. December 9, 2003, Revised May 8, 2000.

CDFG, 2007. California Department of Fish and Game, California Natural Diversity Database.

CDFG, 2007. California Department of Fish and Game [Online]. Habitat Conservation Branch: Sensitive Species Accounts. Available at: http://www.dfg.ca.gov/hcpb/cgi-bin/read_one.asp?specy=birds&idNum=95

CDFG, 2007. California Department of Fish and Game [Online]. Habitat Conservation Branch: Sensitive Species Accounts. Available at: http://www.dfg.ca.gov/hcpb/cgi-bin/read_one.asp?specy=birds&idNum=92

CNPS. 2001. Inventory of Rare and Endangered Plants of California (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA. x+ 388pp.

Delorme Incorporated. 3-D TopoQuads. California South Region 2 [CD-Rom Computer File]. ASA, Yarmouth, ME (1999).

DeSante, D.F., E.D. Ruhlen, S.L. Adamany, K.M. Burton, and S. Amin. 1997. A census of burrowing owls in central California in 1991. Pages 38-48 in Lincer, J.L. and K. Steenhof (editors). The Burrowing Owl-its biology and management: including the Proceedings of the First International Burrowing Owl Symposium. Raptor Research Report Number 9.

Dull, R. A. 1999. Palynological evidence for 19th century grazing-induced vegetation change in the southern Sierra Nevada, California, U.S.A. Journal of Biogeography 26:899-912.

Eckerle, K.P., and C.F. Thompson. 2001. Yellow-breasted Chat (*Icteri virens*). In The Birds of North America, No. 575 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Edell, Tom. 2006. The Birds of San Luis Obispo County, California. Morro Coast Audubon Society. Fourth Edition. Booklet.

Friedmann, H. 1963. Host relations of the parasitic cowbirds. U.S. National Museum Bulletin. 223:1-276.

Garcia and Associates. 2002. Natural Environment Study for the River Road Bridge Replacement Project on the Salinas River at San Miguel, San Luis Obispo County, California.

Grinnell, J. and A.H. Miller. 1944. The distribution of the birds of California. Pacific Coast Avifauna. 27:1-608.

Haug, E.A., B.A. Millsap, and M.S. Martell. 1993. Burrowing owl (Speotyto cunicularia). In The Birds of North America, no. 61 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences

Hickman, James C. 1996. The Jepson Manual Higher Plants of California. University of California Press, Berkeley and Los Angeles, California

Holland, R.F. 1986. Preliminary Description of Terrestrial Natural Communities of California. State of California, The resources Agency, Department of Fish and Game.

Hoover, Robert F. 1970. The Vascular Plants of San Luis Obispo County, California. University of California Press: Berkeley, California.

Keeler-Wolf, T., D. R. Elam, K. Lewis, and S. A. Flint. 1998. California vernal pool assessment preliminary report. California Department of Fish and Game, Sacramento, California.

Klebenow, and R.J. Oakleaf. 1984. Historical avifaunal changes in the riparian zone of the Truckee River, Nevada. In "California riparian systems, ecology, conservation, and productive management". Eds. R.E Warner, K.M. Hendrix. University of California Press.

Milne, L. and M. 1992. The Audubon Society Field Guide to North American Insects & Spiders. Ninth printing. Alfred A. Knopf, New York.

Munz, Philip A. and David D. Keck. 1968. A California Flora. University of California Press: Berkeley and Los Angeles.

National Resource Conservation Service (NRCS). [Online]. National Cooperative Soil Survey Available at: http://ortho.ftw.nrcs.usda.gov

Phillips, A. R. 1948. Geographic variation in *Empidonax traillii*. Auk 65:507-514.

Peterson, Roger Tory. 1961. A Field Guide to Western Birds. Houghton Mifflin Company, Boston.

Pierson, E. D., P. W. Collins, W. E. Rainey, P.A. Heady, and C. J. Corben. 2002. Distribution, Status and Habitat Associations of Bat Species on Vandenberg Air Force Base, Santa Barbara County, California. Santa Barbara Museum of Natural History Technical Reports – No. 1.

Rich, T. 1984. Monitoring burrowing owl populations: Implications of burrow re-use. Wildlife Society Bulletin 12: 178- 180.

Rosenberg, D.K. and K.L. Haley. In press. The ecology of Burrowing Owls in the agroecosystem of the Imperial Valley, California. Studies in Avian Biology.

Sibley, David A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, Inc.

Smith, D. W., and W. L. Verrill. 1998. Vernal pool-soil-landform relationships in the Central Valley, California. Pages 15-23 *in* C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren, Jr., and R. Ornduff, editors. Ecology, conservation, and management of vernal pool ecosystems. California Native Plant Society, Sacramento, California.

Stafford, M.D. and B.E. Valentine. 1985. A preliminary report on the biology of the willow flycatcher in the central Sierra Nevada. California-Nevada Wildlife Transactions, 66-67.

United States Department of Agriculture (USDA), Soil Conservation Service. 1971. Soil Survey of San Luis Obispo County, California.

USFWS, 2005. Endangered Species Information. [Online]. Available at: http://ecos.fws.gov/species_profile/servlet/gov.doi.species_profile.servlets.SpeciesProfile?spcode=A006#status

U.S. Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legg Frog.

Whitfield, M. J., and K. Enos. 1996. A Brown-headed cowbird control program and monitoring for the Southwestern willow flycatcher, South Fork Kern River, California, 1996. Prepared for U.S. Army Corps of Engineers, Sacramento District, and the California Department of Fish and Game.

Zarn, M 1974. Burrowing Owl, *Speotyto cunicularia hypugaea*. Report No. 11. Habitat management series for unique or endangered species. Bureau of Land Management, Denver, Colorado.