

Habitat Assessment
The Calico Water Treatment Project
Community of Calico, County of San Bernardino, California

Yermo, CA. USGS 7.5-minute Topographic Quadrangle Map
Township 10 North, Range 1 East, Section 22
20-Acre Study Area

Government Lot 49 section of APN#0517-101-33

Prepared for:
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TABLE OF CONTENTS

Section 1: Summary1

Section 2: Introduction2

 2.1 - Project Site Location.....2

 2.2 - Project Description.....2

Section 3: Methodology7

 3.1 - Literature Review.....7

 3.1.1 - Existing Environmental Documentation7

 3.1.2 - Topographic Maps and Aerial Photographs.....7

 3.1.3 - Soil Surveys7

 3.1.4 - Sensitive Species Database Search.....8

 3.2 - Reconnaissance-Level Field Survey8

 3.2.1 - Plant Community Mapping8

 3.2.2 - Plant Species8

 3.2.3 - Wildlife Species9

 3.2.4 - Jurisdictional Waters and Wetlands.....9

 3.2.5 - Wildlife Movement Corridors9

 3.3 - Problems and Limitations10

Section 4: Existing Conditions.....11

 4.1 - Environmental Setting.....11

 4.1.1 - Soils11

 4.2 - Plant Communities.....13

 4.2.1 - Creosote Bush Scrub (19.5 Acres)13

 4.2.2 - Sewage Treatment Pond (1.0 Acres)13

 4.3 - Wildlife.....15

 4.3.1 - Reptiles15

 4.3.2 - Birds.....15

 4.3.3 - Mammals15

Section 5: Sensitive Biological Resources.....16

 5.1 - Sensitive Plant Communities16

 5.2 - Sensitive Wildlife Species16

 5.2.1 - Threatened or Endangered Species.....16

 5.2.2 - California Species of Special Concern17

 5.3 - Other Sensitive Biological Resources21

 5.3.1 - California Desert Native Plants Act (CDNPA)21

 5.4 - Nesting Birds22

 5.5 - Wildlife Movement Corridors.....22

 5.6 - Jurisdictional Waters and Wetlands23

Section 6: Recommendations25

 6.1 - Sensitive Plant Communities25

 6.2 - Sensitive Plant Species25

 6.3 - Sensitive Wildlife Species25

 6.3.1 - Threatened and Endangered Species25

 6.3.2 - Threatened and Endangered Species25

 6.4 - Nesting Birds25

 6.5 - Wildlife Movement Corridors.....26

 6.6 - Jurisdictional Waters and Wetlands26

Section 7: Certification27
Section 8: References28
Section 9: Project Responsibility30

LIST OF APPENDICES

- Appendix A: Floral and Faunal Compendia**
- Appendix B: Site Photographs**
- Appendix C: Regulatory Framework**

LIST OF TABLES

Table 1: Plant Community Acreages 13
Table 2: Sensitive Plant Species 18
Table 3: Sensitive Wildlife Species 19

LIST OF EXHIBITS

Exhibit 1: Regional Location Map 4
Exhibit 2: Local Vicinity Map, Topographic Base 5
Exhibit 3: Local Vicinity Map - Aerial Base 6
Exhibit 4: USDA Soils Map 12
Exhibit 5: Plant Communities Map 14

SECTION 1: SUMMARY

A biological resources study and habitat assessment was conducted to document the existing biological conditions within a 20-acre project area located south of Calico Ghost Town in San Bernardino County, California.

The habitat assessment is required to determine the extent of sensitive habitats present onsite and the potential for these habitats to support sensitive species.

No sensitive species or sensitive habitat was observed within the project area.

The project site contains suitable nesting habitat for several migratory bird species. Ground disturbing and vegetation removal activities should be conducted outside of the nesting season. If these activities must occur during the nesting season, a nesting bird survey should be conducted within 7 days prior to any ground disturbing activities to determine if any nesting birds occur within the project site. If nesting birds are not found within the project site, no further actions are required. If nesting birds are observed on site, no impacts shall occur within 250 feet (500 feet for raptors) of any active nests. Construction activity may only occur within 250 feet of an active nest at the discretion of a biological monitor.

The proposed project would not create a substantial adverse effect on any wildlife corridors or sensitive habitat.

SECTION 2: INTRODUCTION

At the request of the proponent, County of San Bernardino Special Districts Department, MBA has conducted a biological resource assessment of the proposed Calico Water Treatment Project, which is located on a portion of a single parcel located south of the intersection of Ghost Town Road and Calico Road in the County of San Bernardino. This report provides a detailed description of existing conditions. The information contained herein includes a literature review and general biological site assessment that identifies the potential biological constraints related to the proposed development of the property. This report provides a baseline for review under the California Environmental Quality Act (CEQA), the Clean Water Act (CWA), the Federal Endangered Species Act (FESA), and the California Endangered Species Act (CESA).

Currently the property contains a small sewer pond complex and otherwise vacant land. The northern portion of the project area has been impacted by road and sewer pond development and the southern portion is relatively unimpacted desert. The project area totals about 20 acres and is located in Section 22, Township 10 North Range 1 East on Government Lot 49 within APN 0517-101-33. The parcels in this area are either managed by the BLM or the County, with portions of parcels deeded to the County as needed.

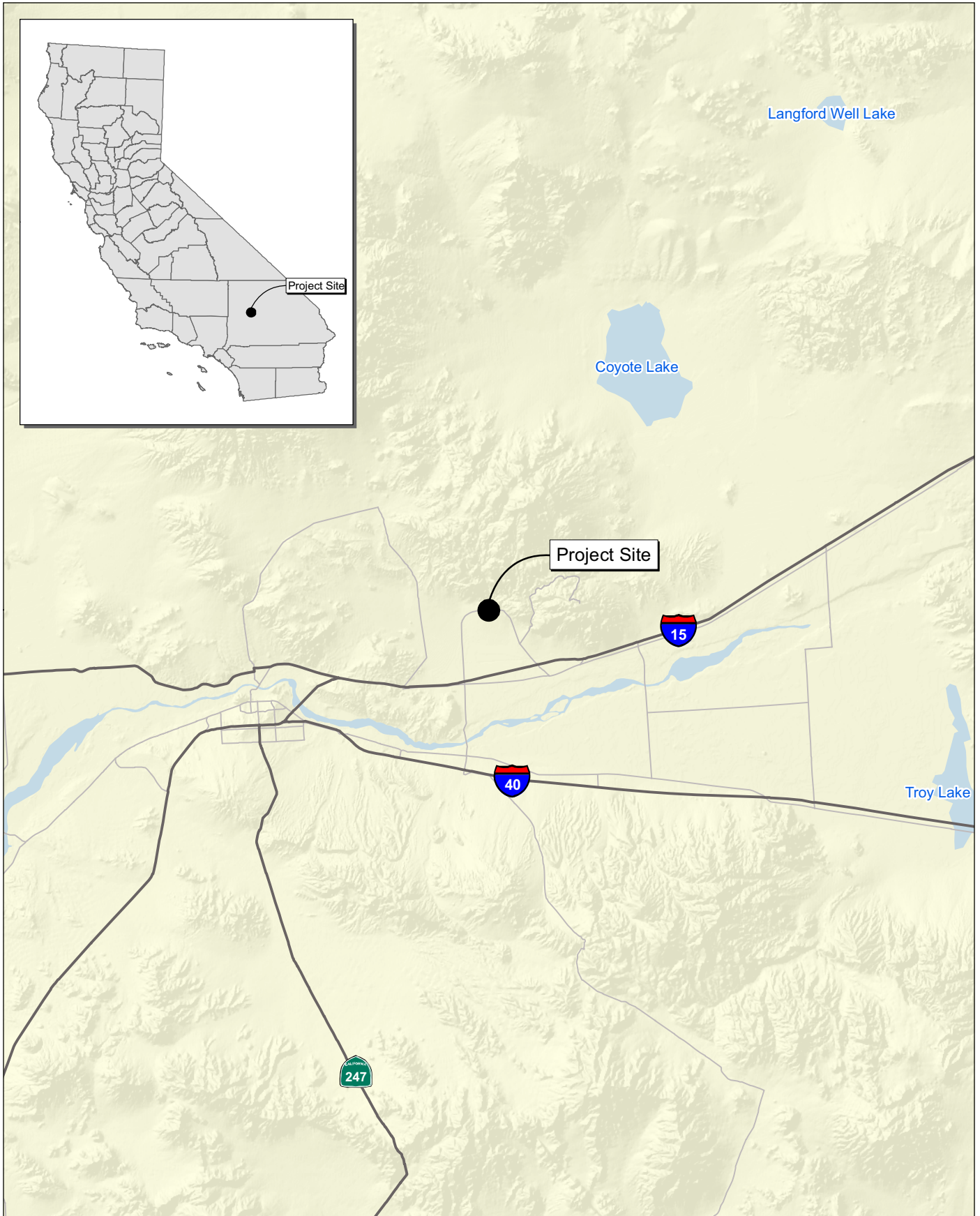
2.1 - Project Site Location

Situated northeast of Barstow (Exhibit 1), the project area is located south of Ghost Town Road on land associated with Calico Ghost Town Regional Park. The property is rectangular and is located in the southwestern portion of Section 22, Township 10 North Range 1 East (Exhibit 2), as shown on the Yermo, CA. United States Geological Survey (USGS) 7.5-minute topographic quadrangle map. The property is divided into several Lots, and the Park's well is located in the southeast corner of Lot 49. The drying basins are proposed for land located south of the existing sewer ponds.

2.2 - Project Description

The proposed project involves improvements to the existing water system that serves the Calico Ghost Town Regional Park, which is operated by the Regional Parks Department of San Bernardino County. The main components of the current system include two small water wells located south of the Ghost Town and two small reservoirs located at the extreme north end of the Ghost Town. Water from the two wells is pumped up to the reservoirs and is then distributed to the various operations within the Ghost Town. However, due to water quality problems with the well water, it is now necessary to provide for water treatment to remove various contaminants from the water. In order to address this issue a small reverse osmosis water treatment unit will be installed at a location proximate to and generally south of the existing sewer treatment ponds located south of the park entrance. The raw water from the two wells would then be pumped to the water treatment unit and the treated water would then be pumped to the two existing reservoirs.

Waste brine resulting from the treatment of the water would then drain to new evaporation ponds to for disposal. These ponds would be at a depth of approximately 6 feet, and will be lined to prevent contaminants from re-entering the water table. Although the design of the evaporation ponds and water treatment plant has not been completed as of the date of this report, all improvements and land disturbances related to their construction would be confined to the area within Government lot 49. For purposes of analysis, this study conservatively assumes that all of lot 49 would be affected by the proposed project.



Source: Census 2000 Data, The CaSIL, MBA GIS 2009.

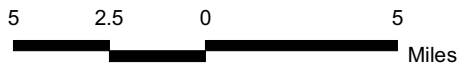
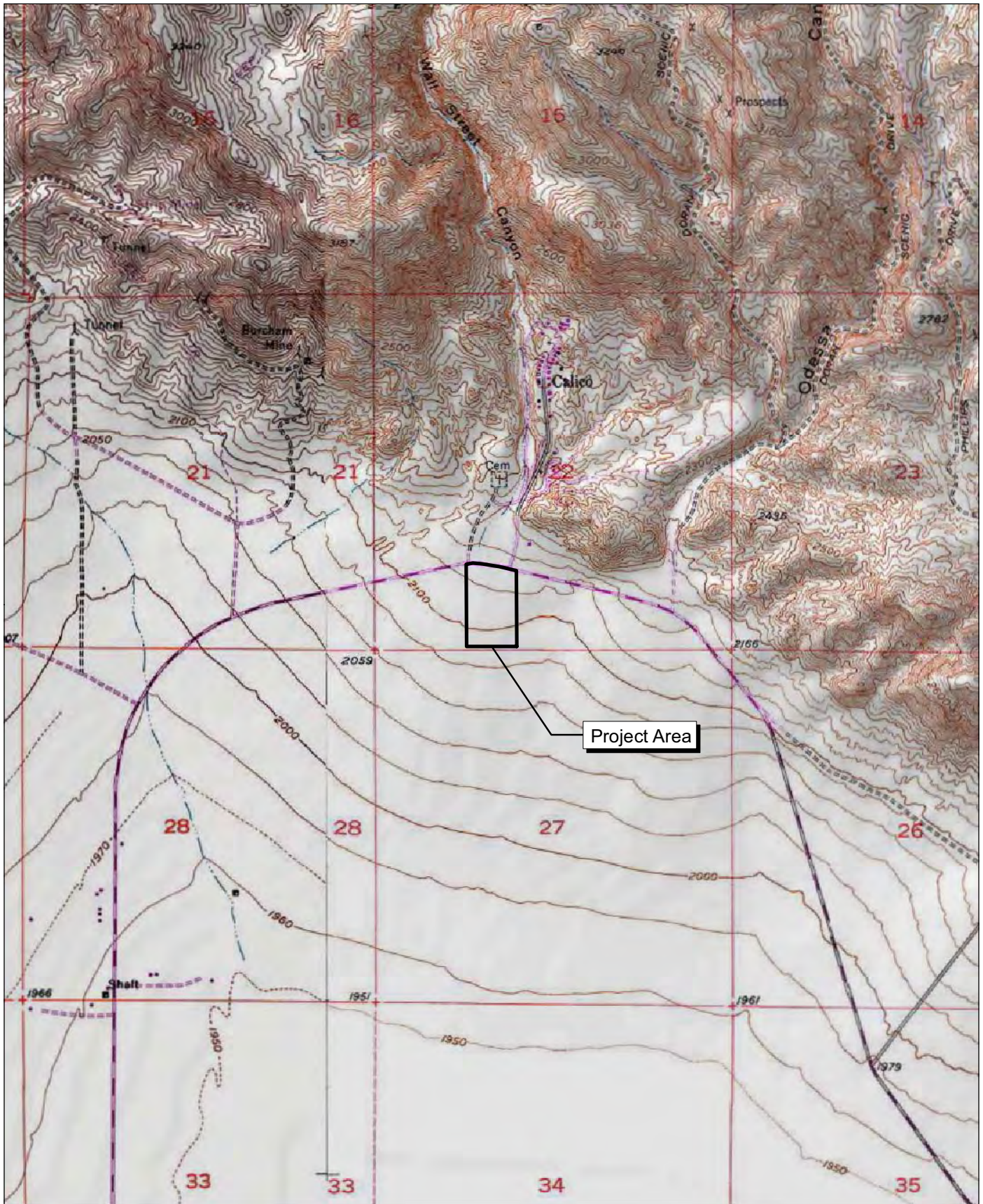


Exhibit 1 Regional Location Map

COMMUNITY OF CALICO, COUNTY OF SAN BERNARDINO
THE CALICO WATER TREATMENT PROJECT
HABITAT ASSESSMENT



Source: TOPO! USGS Yermo, CA (1970) 7.5' DRG.



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Exhibit 2 Local Vicinity Map

COMMUNITY OF CALICO, COUNTY OF SAN BERNARDINO
THE CALICO WATER TREATMENT PROJECT
HABITAT ASSESSMENT



Source: BING Maps, (c) 2010 Microsoft Corporation and its data suppliers.



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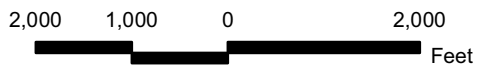


Exhibit 3 Local Vicinity Map - Aerial Base

COMMUNITY OF CALICO, COUNTY OF SAN BERNARDINO
THE CALICO WATER TREATMENT PROJECT
HABITAT ASSESSMENT

SECTION 3: METHODOLOGY

Analysis of the biological resources associated with the project site began with a thorough review of relevant literature followed by a reconnaissance-level field survey. The primary objective of the survey is to document existing site conditions and determine the potential presence of sensitive biological resources.

For the purpose of this report, sensitive species refers to all species formally listed as threatened and/or endangered under the FESA and CESA, California Species of Special Concern, designated as Fully Protected by CDFG; given a status of 1A, 1B, or 2 by the California Native Plant Society (CNPS); or designated as sensitive by City, County, or other regional planning documents. Federal and state listed threatened and/or endangered species are legally protected under the FESA. The remaining species mentioned above have no direct legal protection, but require a significance analysis under CEQA guidelines.

3.1 - Literature Review

The literature review provides a baseline from which to evaluate the biological resources potentially occurring on the project site, as well as the surrounding area.

3.1.1 - Existing Environmental Documentation

As part of the literature review, MBA examined existing environmental documentation for the project site and local vicinity. Examples: biological studies for the area, literature pertaining to habitat requirements of special status species potentially occurring in the vicinity of the site, as well as federal register listings, protocols, and species data provided by the USFWS and CDFG. These and other documents are listed in Section 8, References, below.

3.1.2 - Topographic Maps and Aerial Photographs

MBA reviewed current USGS 7.5-minute topographic quadrangle map(s) and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity (approximately a 500-foot buffer). Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations. Aerial photographs provide an aerial perspective of the most current site conditions with regard to on-site and off-site land-use, plant community locations, and potential locations of wildlife movement corridors.

3.1.3 - Soil Surveys

Many sensitive plant species have a limited distribution based exclusively on soil type (such as alkaline, serpentine, and clay soils). The United States Department of Agriculture (USDA) has published soil surveys that describe the soil series that occur within a particular area. A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness,

arrangement, and other important characteristics. These series are further subdivided into soil mapping units, which provide specific information regarding soil characteristics. Pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to establish if soil conditions onsite are suitable for any sensitive plant species.

3.1.4 - Sensitive Species Database Search

MBA compiled a list of threatened, endangered, and otherwise sensitive species previously recorded to occur near the project site. The list was based on a search of the CDFG's California Natural Diversity Database (CNDDDB), a sensitive species and plant community account database and the CNPS's Electronic Inventory of Rare and Endangered Vascular Plants of California database for the USGS 7.5-minute topographic quadrangle maps containing the project site. Additional topographic quadrangles may be reviewed if the project site is near the edge of a topographic quadrangle map.

MBA uses the CNDDDB GIS database along with ArcGIS software to determine the distance between known recorded occurrences of sensitive species and the project site. In addition, ArcGIS is used to determine if the project site occurs within any USFWS designated critical habitat areas.

3.2 - Reconnaissance-Level Field Survey

MBA biologist Dale Hameister conducted the reconnaissance-level field survey on October 28, 2010 from 10:00am to 3:30pm.

The reconnaissance-level survey was conducted on foot during daylight hours. The object of the survey was not to extensively search for every species occurring within the project site, but to ascertain general site conditions and identify potentially suitable habitat areas for various sensitive plant and wildlife species.

3.2.1 - Plant Community Mapping

Plant communities were mapped using 7.5-minute USGS topographic base maps and recent aerial photography (NAIP 2009). Sensitive or unusual biological resources identified during the literature review were ground-truthed during the reconnaissance-level survey for mapping accuracy. The plant communities within the project site were classified according to Holland's "Preliminary Descriptions of the Terrestrial Natural Communities of California" (1986 and 1996 update) and cross-referenced with CDFG's List of Terrestrial Natural Communities (2003). Modifications were made by MBA's biologists where appropriate.

3.2.2 - Plant Species

Common plant species observed during the reconnaissance-level survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Uncommon and less familiar plants were identified offsite using taxonomical guides. A list of all species observed on the project site was compiled from the survey data, shown in Appendix A. Taxonomic nomenclature

used in this study follows Hickman (1993). Common plant names, when not available from Hickman (1993), were taken from other regionally specific references. In this report, scientific names are provided immediately following common names of plant species for the first reference only.

3.2.3 - Wildlife Species

Wildlife species detected during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs were recorded in a field notebook. Notations were made regarding suitable habitat for those sensitive species determined to potentially occur within the project site. Appropriate field guides were used to assist with species identification during surveys. Common names of wildlife species are standard; however, scientific names are provided immediately following common names for the first reference only. Appendix A lists all wildlife species observed or detected on the site during the survey.

3.2.4 - Jurisdictional Waters and Wetlands

Prior to conducting the site visit, MBA's biologists reviewed USGS topographic maps and aerial photography to identify any potential natural drainage features and water bodies. In general, all surface drainage features indicated as blue-line streams on USGS maps and linear patches of vegetation expected to exhibit evidence of flows are considered potentially subject to state and federal regulatory authority as "waters of the US and/or state." The assessment was not intended as a formal delineation of waters of the U.S. or State but rather to identify areas that may require a formal delineation.

3.2.5 - Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat, separating different populations of a single species. Corridors effectively act as links between these populations.

The project site was evaluated for evidence of a wildlife movement corridor. However, the scope of the biological resources study did not include a formal wildlife movement corridor study utilizing track plates, camera stations, scent stations, or snares. The focus of this study was to determine if the alteration of current land use on the site will have significant impacts on the regional movement of wildlife. These conclusions are based on the information compiled from the literature review, including, aerial photographs, USGS topographic maps, and resource maps for the vicinity, the field survey, and knowledge of desired topography and resource requirements for wildlife potentially utilizing the project site and vicinity.

3.3 - Problems and Limitations

The reconnaissance-level survey was conducted in the fall. The survey was conducted at time that would most spring annuals would not be identifiable. The surveys were conducted in the morning and into the afternoon. Many desert wildlife species are nocturnal or crepuscular and would not be active during the surveys.

SECTION 4: EXISTING CONDITIONS

The reconnaissance-level field survey was conducted on October 28, 2010 from 10:00am to 3:30pm. Weather conditions during the field survey included temperatures ranging from 64 to 72 degrees Fahrenheit, with clear skies, and winds between 2 and 5 miles per hour in the morning and gusts up to 20 miles per hour in the afternoon.

4.1 - Environmental Setting

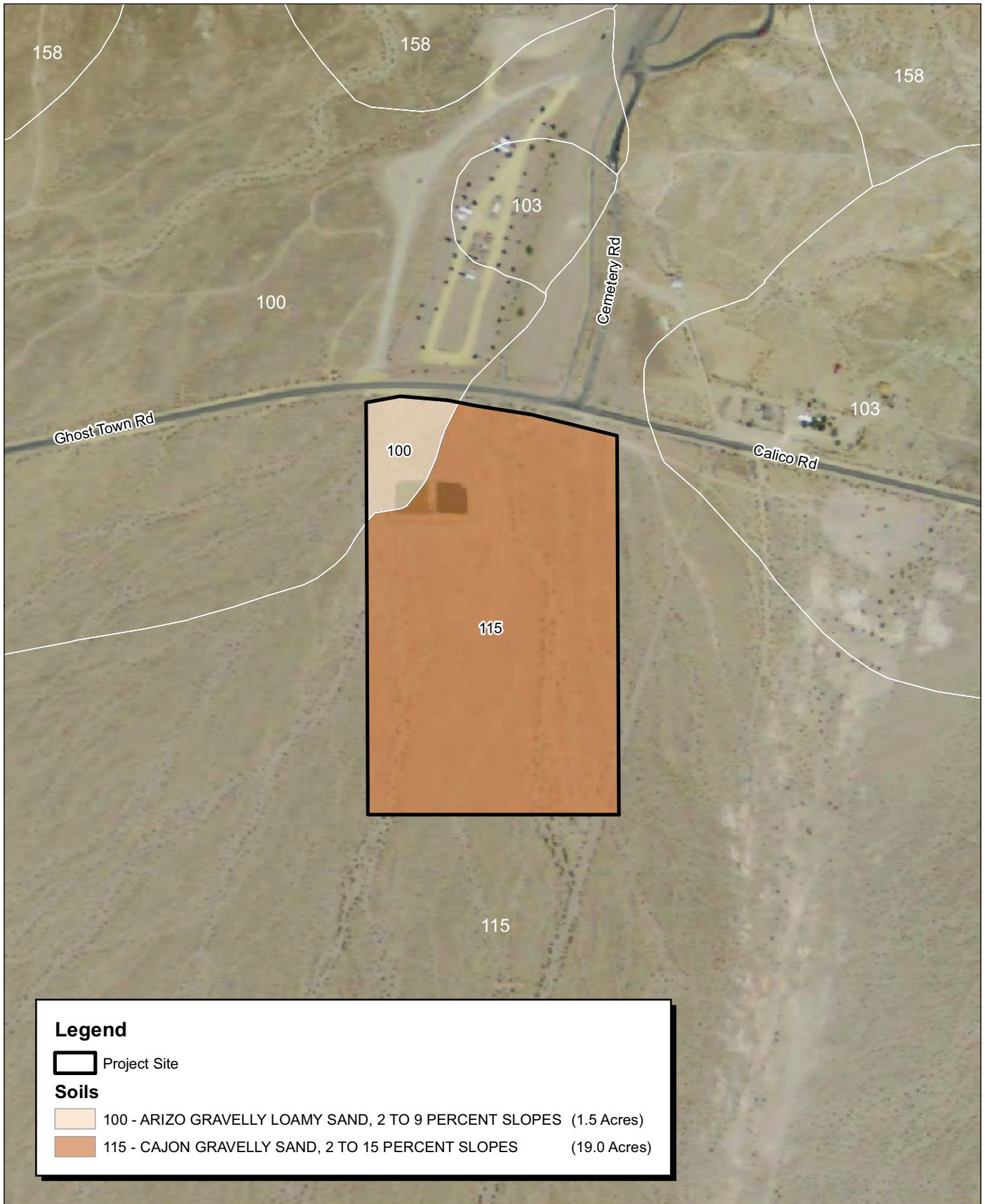
The project site is located south of Ghost Town Road on land associated with Calico Ghost Town Regional Park. The elevation on the project site ranges from approximately 2,133 to 2,085 feet above mean sea level (AMSL) and gently slopes from north to south.

The project area consists of creosote bush scrub and contains existing sewage treatment ponds.

Land use surrounding the site includes Calico Ghost Town Regional Park to the north, and open space to the south, east and west.

4.1.1 - Soils

The project site contains two soil series; Arizo gravelly loamy sand and Cajon gravelly sand (Exhibit 4). These soils are from alluvial granitic sources, well drained, and typical on alluvial fans, fan aprons, fan skirts, inset fans and river terraces.



Source: NAIP San Bernardino County (2009), USDA Soils Data.

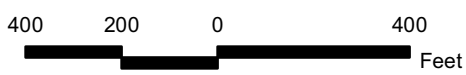


Exhibit 4 USDA Soils Map

4.2 - Plant Communities

A single plant community occurs within the project site: creosote bush scrub. Although not considered plant communities, the site also contains sewage treatment ponds (Exhibit 5). Table 1 below provides a summary of the plant community acreages. Representative photos of the communities can be found in Appendix B. Sensitive plant communities are those communities that are recorded in the CNDDDB as sensitive or rare by the CDFG.

Table 1: Plant Community Acreages

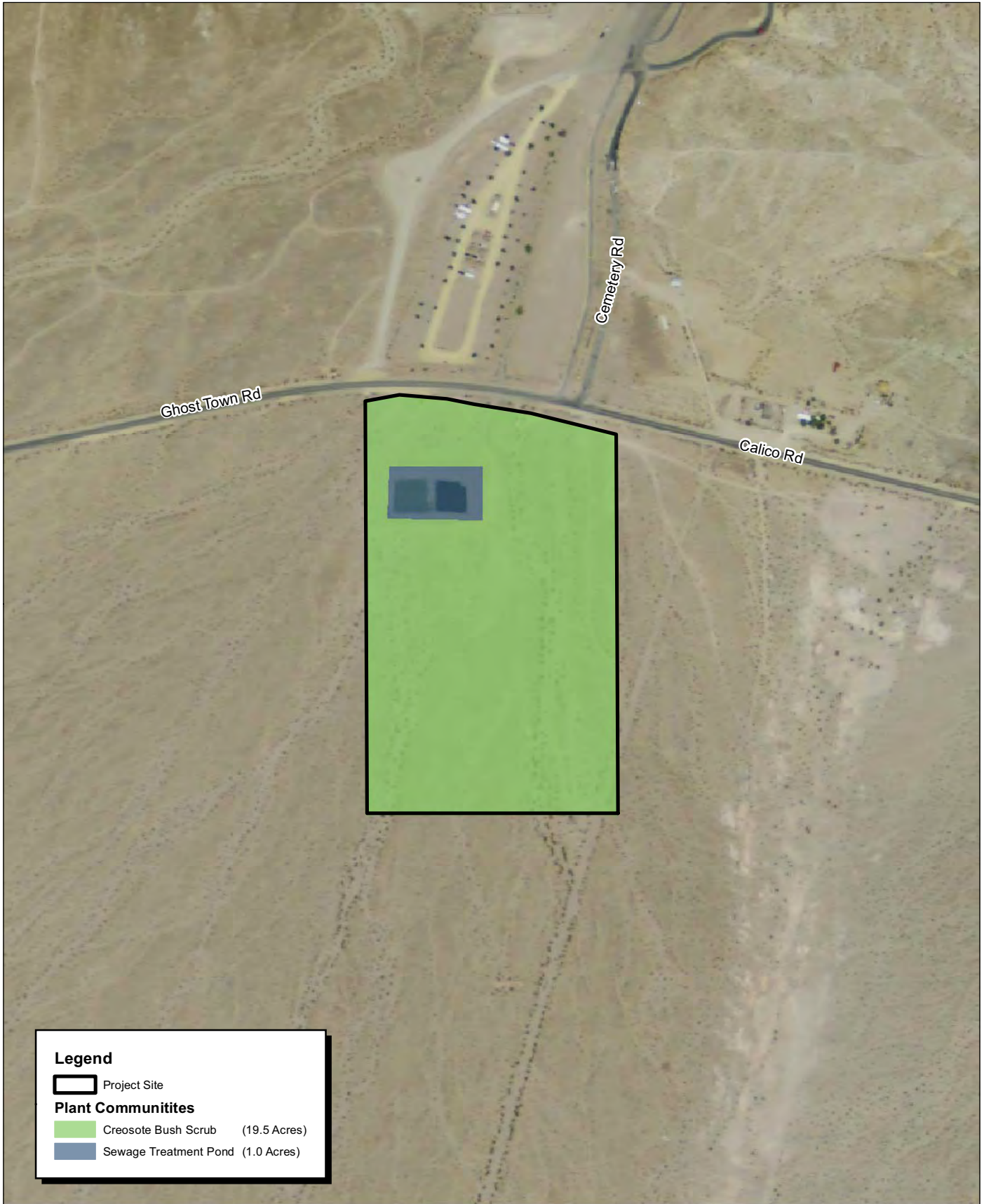
Plant Community	Approximate Area (acres)
Creosote Bush Scrub	19.5
Sewage Treatment Pond	1.0
Total	20.5

4.2.1 - Creosote Bush Scrub (19.5 Acres)

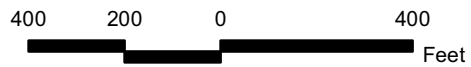
The majority of the project site contains creosote bush scrub. This community is an open plant community with shrubs widely spaced, usually with bare ground in between each shrub. Creosote bush scrub grows on well-drained secondary soils of slopes, fans, and valley floors with saline soils. The dominant plant species of this community is creosote bush (*Larrea tridentata*). Additional shrub species observed include cheese bush (*Hymenoclea salsola*), burrobrush (*Ambrosia dumosa*), Mojave rabbitbrush (*Ericameria paniculata*), brittlebush (*Encelia farinosa*), and sweet bush (*Bebbia juncea*). Dominant annual species within the project site include cheat-grass (*Bromus tectorum*), red-stemmed stork's bill (*Plantago ovata*), and Sahara mustard (*Brassica tournefortii*).

4.2.2 - Sewage Treatment Pond (1.0 Acres)

There is a sewage treatment pond facility within the project site. The two ponds were constructed with raised levees and are fenced with chain link. Shrubs and small trees growing on the banks of the ponds include burrobrush, cheesebush, and palo verde (*Parkinsonia florida*). During the survey, the ponds were full.



Source: NAIP San Bernardino County (2009).



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Exhibit 5 Plant Communities Map

COMMUNITY OF CALICO, COUNTY OF SAN BERNARDINO
THE CALICO WATER TREATMENT PROJECT
HABITAT ASSESSMENT

4.3 - Wildlife

The plant communities discussed above provide habitat for a number of local wildlife species. The following are brief discussions of wildlife species observed within the project site during the field survey, separated into taxonomic groups. Each discussion contains representative examples of a particular taxonomic group either observed onsite or expected to occur. A complete list of wildlife species observed within the site during the field survey is presented in Appendix A.

4.3.1 - Reptiles

Common desert reptile species observed within the project area include Great Basin whiptail (*Aspidoscelis tigris tigris*), side-blotch lizard (*Uta stansburiana*) and Mojave desert sidewinder (*Crotalus cerastes cerastes*). No evidence of desert tortoise, tortoise scat, or tortoise burrows were observed within the project area.

4.3.2 - Birds

The habitats on the property provide foraging, cover, and nesting habitat for year-round residents, seasonal resident, and migrating bird species. Common species observed include mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), American goldfinch (*Carduelis tristis*), northern mockingbird (*Mimus polyglottos*), northern flicker (*Colaptes auratus*), and mallard (*Anas platyrhynchos*). Most bird activity was centered around the sewage treatment ponds.

4.3.3 - Mammals

No mammals were observed during the survey.

SECTION 5: SENSITIVE BIOLOGICAL RESOURCES

Based on the results of the literature review and reconnaissance-level field survey, MBA documented existing site conditions and determined if sensitive biological resources occur or potentially occur within the project site.

5.1 - Sensitive Plant Communities

The project area contains no sensitive plant communities. Table 2 lists sensitive plant species with a high, moderate, or low potential to occur in the area.

5.2 - Sensitive Wildlife Species

The sensitive wildlife species table (Table 3) identifies the federal and state listed threatened, endangered wildlife species, and species of special concern that have a high, moderate, or low potential to occur within the project site. The table also includes the species' status and required habitat. It is important to note that all sensitive wildlife species that have been determined not likely to occur onsite, primarily based on the absence of suitable habitat and a lack of any recorded occurrence on the project site, have been excluded from further analysis within this study.

Based on MBA's literature review, nine sensitive wildlife species have been previously recorded within the vicinity of the site. One sensitive wildlife species was observed during the reconnaissance-level survey. The project site contains suitable habitat for:

- Desert tortoise;
- Prairie Falcon;
- Le Conte's thrasher; and
- Mohave ground squirrel.

A discussion of each sensitive wildlife species recognized by the CNDDDB and MBA as potentially present on the site is presented in Table 3.

5.2.1 - Threatened or Endangered Species

Of the sensitive plant species that have a high or moderate potential to occur on the project site, none are federally or state listed as endangered or threatened.

Additionally, of the sensitive wildlife species that have a potential to occur onsite, two are federally or state listed as endangered or threatened. The project area has suitable habitat for desert tortoise and Mohave ground squirrel.

- Desert tortoise

The desert tortoise is widely distributed through an exceptionally broad array of habitats that span 680 miles from northern Mexico, across the Sonoran and Mojave Deserts, to the edge of the Colorado Plateau in arid southwestern Utah (Ernst et al. 1994, Germano et al. 1994).

The desert tortoise was formally listed by the USFWS as threatened in 1990. The USFWS has adopted a Recovery Plan and Critical Habitat for the species. Neither the Critical Habitat nor the designated Recovery Units, however, extend into the Planning Area.

The desert tortoise is generally found in association with creosote bush shrub plant community. Desert tortoises are primarily associated with flats and bajadas with soils ranging from sand to sandy-gravel, but firm enough for the tortoise to construct burrows. Tortoises can occupy a surprising range of habitat types. Range-wide, occupied habitats include desert alluvial fans, washes, canyon bottoms, rocky hillsides, and other steep terrain.

The desert tortoise is active from mid-March or April to November, and during the winter months, they are dormant in underground burrows. Desert tortoises typically feed on a wide variety of herbaceous plants, particularly grasses and annual flowering plants.

There is suitable habitat onsite for this species within the project area. A protocol survey for desert tortoise was conducted concurrent to the habitat assessment survey and no evidence of tortoise, tortoise scat, or tortoise burrows were observed within the project area.

- Mohave ground squirrel.

Mohave ground squirrel is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo Counties. This species is rare throughout its range. Optimal habitats are open desert scrub, alkali desert scrub, and Joshua tree. It also feeds in annual grasslands. It has been found from 1800-5000 ft in elevation. Mohave ground squirrels are active during the spring and early summer. They are dormant during the remainder of the year when fresh leaves and herbaceous plants (the main food source) are not available.

The closest Mohave ground squirrel occurrence was recorded 5.5 miles from the project area. There is suitable habitat within the project area, however no burrows that could potentially be Mohave ground squirrel were observed within the project area.

5.2.2 - California Species of Special Concern

- Le Conte's thrasher

A desert resident, this species is primarily found in open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Le Conte's thrasher commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground. No Le Conte's thrashers or potential nests were observed within the project area.

Table 2: Sensitive Plant Species

Species		Status			Preferred Habitat	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	ESA	CESA	CNPS			
Herbaceous Annuals							
<i>Castela emoryi</i>	crucifixion thorn	-	-	2.3	Creosote Bush Scrub	Apr-Jun	Moderate. Suitable habitat is found onsite but it was not present within the project site
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	-	-	1B.2	Creosote Bush Scrub, Shadscale Scrub, Alkali Sink	Apr-Jun	Low. Suitable habitat is found onsite but it was not present within the project site.
<i>Mentzelia tridentate</i>	Creamy blazing star	-	-	1B.3	Creosote Bush Scrub	Apr-Jun	Moderate. Suitable habitat is found onsite but it was not present within the project site.
ESA FE Federally listed endangered FT Federally listed threatened FPE Federally proposed endangered FPT Federally proposed threatened FC Federal candidate		CESA SE State listed endangered ST State listed threatened SR State listed rare			CNPS 1B Rare, threatened, or endangered in California and elsewhere. 2 Rare, threatened, or endangered in California, but more common elsewhere.		
<p>Species Present - The species was observed on the project site at the time of the survey or during a previous biological survey.</p> <p>High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the project site, within 3 miles.</p> <p>Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the project site, but there is not a recorded occurrence of the species within the immediate vicinity, within 3 miles. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.</p> <p>Low Potential to Occur - There is a historical record of the species in the vicinity of the project site and potentially suitable habitat onsite, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The site is above or below the recognized elevation limits for this species.</p>							

Table 3: Sensitive Wildlife Species

Species		Status			Preferred Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	ESA	CESA	Other		
Reptiles						
<i>Actinemys marmorata pallida</i>	Southwestern pond turtle	—	CDFG: CSC		The southwestern pond turtle inhabits permanent or nearly permanent bodies of water in many habitat types below 6,000 feet. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. Needs suitable nesting sites.	Low. No suitable habitat onsite.
<i>Gopherus agassizii</i>	Desert tortoise	FT	ST		Desert tortoise is found in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Requires friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Moderate. Suitable habitat is present onsite. Protocol surveys were conducted and were negative.
<i>Uma scoparia</i>	Mojave fringe-toed lizard	—	CDFG: CSC		This lizard inhabits fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet.	Low. No suitable habitat onsite.
Birds						
<i>Athene cunicularia</i>	Burrowing owl	—	CSC		Open dry grasslands, agriculture and range land, shrubland.	Low. No suitable burrows were observed onsite.
<i>Falco mexicanus</i>	Prairie Falcon	—	WL		Open fields where they can fly near to the ground in search of prey. Nesting on the ground, in tall dense vegetation, with a preference for wet areas to avoid nest predation	Moderate. Foraging habitat is present. Not likely to nest within the project area.
<i>Toxostoma lecontei</i>	Le Conte's thrasher	—	CSC		A desert resident, this species is primarily found in open desert wash, desert scrub, alkali desert scrub, and desert succulent	Moderate. Suitable habitat is present onsite.

Table 3 (cont.): Sensitive Wildlife Species

Species		Status			Preferred Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	ESA	CESA	Other		
					scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	
Mammals						
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	—	ST		Restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo Counties. This species is rare throughout its range. Populations in southwestern San Bernardino County appear to be extirpated. Optimal habitats are open desert scrub, alkali desert scrub, and Joshua tree. Also feeds in annual grasslands. Has been found from 1,800-5,000 ft in elevation.	Low. Suitable habitat is present. Closest known occurrence is 5.5 miles to the northwest. No potential burrows were observed onsite.
ESA FT Federally listed threatened		CESA ST State listed threatened			Other CDFG:CSC California Species of Concern CDFG:WL Watch List	
<p>Species Present - The species was observed on the project site at the time of the survey or during a previous biological survey.</p> <p>High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the project site, within 3 miles.</p> <p>Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the project site, but there is not a recorded occurrence of the species within the immediate vicinity, within 3 miles. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.</p> <p>Low Potential to Occur - There is a historical record of the species in the vicinity of the project site and potentially suitable habitat onsite, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The site is above or below the recognized elevation limits for this species.</p>						

5.3 - Other Sensitive Biological Resources

5.3.1 - California Desert Native Plants Act (CDNPA)

The CDNPA was created to protect specific naturally occurring native desert plant species growing in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. The act has two principal sections, and different levels of protection are provided for the various plants listed in each section. Species listed in Section 80072 of the act are afforded a greater level of protection than those listed in Section 80073.

CDNPA Section 80072 Plants

The plant species listed in Section 80072 of the CDNPA can only be harvested or impacted under a scientific or educational permit as issued by the appropriate County Agricultural Commissioner. These plant species include saguaro cactus, (*Carnegiea gigantea*), barrel cactus (*Ferocactus cylindraceus*), crucifixion thorn (*Castela emoryi*), panamint dudleya (*Dudleya saxosa*), bristlecone pine (*Pinus longaeva*), fan palm (*Washingtonia filifera*), and all species of elephant tree (*Burseraceae* family).

CDNPA Section 80073 Plants

The plant species listed in Section 80073 of the CDNPA may be harvested or impacted by a much broader range of activities, including construction activities, but a permit from the appropriate County Agricultural Commissioner or Sheriff's Department must be obtained prior to impacts. These plant species include all species of the Agavaceae (agave) and Fouquieriaceae (ocotillo) families, all species of the *Prosopis* (mesquite) and *Parkinsonia* (palo verde) genus, catclaw acacia (*Acacia greggii*), desert-holly (*Atriplex hymenelytra*), smoke tree (*Psoralea spinosa*) and desert ironwood (*Olneya tesota*). All the plant species of the cactus (Cactaceae) family are also included, with the exception of those listed in Section 80072.

The following species within the project site considered are Section CDNPA 80073 plants and a permit from the San Bernardino County Agricultural Commissioner or Sheriff's Department must be obtained prior to impacts.

Cactaceae	Cactus Family
<i>Cylindropuntia echinocarpa</i>	silver cholla
Chenopodiaceae	Goosefoot Family
<i>Atriplex hymenelytra</i>	desert holly
Fabaceae	Legume Family
<i>Acacia greggii</i>	Catclaw acacia
<i>Parkinsonia florida</i>	blue palo verde

5.4 - Nesting Birds

The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States (U.S.) except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

The CDFG administers the California Fish and Game Code (CFG Code). There are particular sections of the CFG Code that are applicable to natural resource management. For example, § 3503 of the CFG Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. CFG Code § 3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests from any form of take. CFG Code § 3511 lists fully protected bird species where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

The project site contains creosote bush scrub, which could provide nesting areas for several bird species including ground nesting birds. There are no large trees within the project area and therefore does not provide suitable nesting habitat for raptors and other tree nesting birds.

5.5 - Wildlife Movement Corridors

Information compiled from the literature review, input from wildlife agency personnel, analysis of aerial photographs and topographic maps, and direct observations during the reconnaissance-level survey provide the basis of a wildlife movement corridor assessment.

Little quantitative data exists on the movements of animals through regional wildlife movement corridors. A literature review was conducted that included documents on island biogeography (studies of fragmented and isolated habitat “islands”), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were reviewed. The relationship of the site to large open space areas in the immediate vicinity evaluated connectivity and habitat linkages. Relative to corridor issues, the discussions in this report intended to focus on wildlife movement associated with the site and immediate vicinity.

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as “wildlife corridor,” “travel route,” “habitat linkage,” and “wildlife crossing” to refer to areas in which wildlife move from one area to another. To clarify the meaning of

these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Wildlife corridor: A piece of habitat, usually linear in nature that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Urban land areas or other areas unsuitable for wildlife usually bound wildlife corridors. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species. Impacts to wildlife corridors may be considered significant if the proposed project significantly limits the function of the corridor.

Travel route: A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relative direct link between target habitat areas. These areas commonly contain worn paths from frequent daily use. Travel routes are not generally considered significant wildlife movement corridors unless they are part of a much larger regional wildlife corridor complex.

Wildlife crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along open space areas and individually would not be considered a significant impact. However, if the wildlife crossings are the only means of travel within an active wildlife movement corridor, then these crossing would be considered significant if the proposed project significantly limits the function of the corridor.

The proposed project is not within a significant wildlife movement corridor or nursery site. There is open space on three sides of the project area. Development of the proposed project will not have a substantially adverse impact on wildlife movement corridors or nursery sites.

5.6 - Jurisdictional Waters and Wetlands

The Project Site contains two drainage resources with bed and bank and evidence of recent flow and scour that evidence a clear and definable ordinary high water mark (OHWM). Both features generally flow south to Calico Dry Lake, which has surface connectivity to the Mojave River via the Yermo Channel. However, the northern reaches of the Mojave River, a non-navigable waterway have not yet been determined by the United States Army Corps of Engineers (USACE). Though undetermined (and therefore inconclusive), it is likely that the on-site drainage systems are not subject

to federal Clean Water Act (CWA, USACE) jurisdiction because no navigable water receiving water is present downstream.

Notwithstanding the potential absence of federal jurisdiction, Both drainage systems will be considered CDFG jurisdictional streambed, and will also be subject to the Jurisdiction of the Regional Water Quality Control Board (RWQCB) under state water quality statutes (Porter-Cologne, §13050).

The site also contained a number of features, which are not subject to federal or state jurisdiction. These features include two (existing) wastewater treatment ponds and a number of erosional features, which cross the alluvial slope and the generally lack clear or consistent bed and bank.

If project design were to impact these resources, then a Jurisdictional Delineation (JD) will need to be prepared. The JD will quantify the Jurisdictional Areas on Site and also quantify impacts to Jurisdictional Resources. Assuming no federal CWA jurisdiction, any impacts to state jurisdictional resources will require preparation and submittal of a Fish and Game §1602 Lake and Streambed Alteration Agreement (LSAA) and a Report of Waste Discharge (ROWD) to the CDFG and RWQB (respectively).

SECTION 6: RECOMMENDATIONS

This report was prepared to document the existing conditions within the project site and to provide a baseline to further analyze a proposed project under CEQA guidelines. The recommendations below are to minimize impacts to biological resources.

6.1 - Sensitive Plant Communities

The project area contains no sensitive plant communities.

6.2 - Sensitive Plant Species

No additional surveys are recommended from any sensitive plant species.

6.3 - Sensitive Wildlife Species

Focused surveys are typically recommended for sensitive wildlife species that are federally or state-listed as endangered or threatened and have moderate to high potential to occur on the project site. There are three sensitive wildlife species that have a moderate potential to occur onsite, one of which are federally or state listed as threatened or endangered.

6.3.1 - Threatened and Endangered Species

Desert Tortoise

No special status species were observed within the project area. A USFWS protocol survey was conducted on the project site on October 28, 2010 by MBA Biologist Dale Hameister. Based on the results of focused surveys, no further recommendations are required for desert tortoise.

6.3.2 - Threatened and Endangered Species

Mohave Ground Squirrel

No potential Mohave ground squirrel burrows were observed. The closest recorded occurrence of Mohave ground squirrel is 5.5 miles to the northwest. No further recommendation are required for Mohave ground squirrel.

6.4 - Nesting Birds

The project site contains suitable nesting habitat for several shrub and ground-dwelling avian species. Therefore, pursuant to the MBTA and CFG Code, removal of any trees, shrubs, or any other potential nesting habitat should be conducted outside the avian nesting season. The nesting season generally extends from early February through August, but can vary slightly from year to year based upon seasonal weather conditions.

If suitable nesting habitat must be removed during the nesting season, a qualified biologist should conduct a nesting bird survey to identify any potential nesting activity. If active nests are observed, construction activity must be prohibited within a buffer around the nest, as determined by a biologist, until the nestlings have fledged.

6.5 - Wildlife Movement Corridors

The project site does not provide for significant regional wildlife movement.

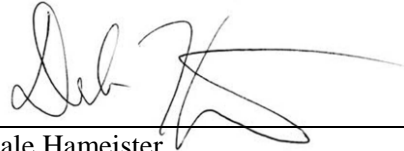
6.6 - Jurisdictional Waters and Wetlands

If project design were to impact the two drainage resources, then a Jurisdictional Delineation (JD) will need to be prepared. The JD will quantify the Jurisdictional Areas on Site and also quantify impacts to Jurisdictional Resources. Assuming no federal CWA jurisdiction, any impacts to state jurisdictional resources will require preparation and submittal of a Fish and Game §1602 Lake and Streambed Alteration Agreement (LSAA) and a Report of Waste Discharge (ROWD) to the CDFG and RWQB (respectively).

SECTION 7: CERTIFICATION

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

Date: November 22, 2010 Signed:



Dale Hameister
Michael Brandman Associates
San Bernardino, CA

SECTION 8: REFERENCES

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SECTION 9: PROJECT RESPONSIBILITY

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Appendix A: Floral and Faunal Compendia

Flora Compendia

Asteraceae		Sunflower Family
<i>Ambrosia</i>	<i>dumosa</i>	burrow-weed
<i>Ambrosia</i>	<i>salsola</i>	burrobush
<i>Bebbia</i>	<i>juncea</i>	sweet bush
<i>Encelia</i>	<i>farinosa</i>	brittlebush
<i>Ericameria</i>	<i>paniculata</i>	Mojave rabbitbrush
<i>Stephanomeria</i>	<i>pauciflora</i>	brown plume wirelettuce
Boraginaceae		Borage Family
<i>Cryptantha</i>	<i>angustifolia</i>	Panamint cryptantha
Brassicaceae		Mustard Family
<i>Brassica</i>	<i>tournefortii</i>	Asian mustard
Cactaceae		Cactus Family
<i>Cylindropuntia</i>	<i>echinocarpa</i>	silver cholla
Chenopodiaceae		Goosefoot Family
<i>Atriplex</i>	<i>hymenelytra</i>	desert holly
Euphorbiaceae		Spurge Family
<i>Chamaesyce</i>	<i>albomarginata</i>	rattlesnake weed
Fabaceae		Legume Family
<i>Parkinsonia</i>	<i>florida</i>	blue palo verde
Geraniaceae		Geranium Family
<i>Erodium</i>	<i>cicutarium</i>	red-stemmed stork's bill
Plantaginaceae		Plantain Family
<i>Plantago</i>	<i>ovata</i>	desert Indian wheat
Polygonaceae		Buckwheat Family
<i>Chorizanthe</i>	<i>rigida</i>	deveil's spineflower
<i>Eriogonum</i>	<i>davidsonii</i>	Davidson's buckwheat
<i>Eriogonum</i>	<i>inflatum</i>	desert trumpet
Zygophyllaceae		Caltrop Family
<i>Larrea</i>	<i>tridentata</i>	creosote bush
Poaceae		Grass Family
<i>Bromus</i>	<i>tectorum</i>	cheat grass
<i>Schismus</i>	<i>barbatus</i>	common Mediterranean grass

Fauna Compendia

Teiidae		Whiptails
<i>Aspidoscelis</i>	<i>tigris</i>	western whiptail
Phrynosomatidae		Lizards
<i>Uta</i>	<i>stansburiana</i>	side-blotched lizard
Viperidae		Vipers
<i>Crotalus</i>	<i>cerastes cerastes</i>	Mojave desert sidewinder
Anatidae		Waterfowl
<i>Anas</i>	<i>platyrhynchos</i>	mallard
Charadriidae		Plovers
<i>Charadrius</i>	<i>vociferus</i>	killdeer
Columbidae		Pigeons/Doves
<i>Zenaida</i>	<i>macroura</i>	mourning dove
Picidae		Woodpeckers
<i>Colaptes</i>	<i>auratus</i>	northern flicker
Parulidae		New world warblers
<i>Dendroica</i>	<i>coronata</i>	yellow-rumped warbler
Fringillidae		Finches
<i>Carpodacus</i>	<i>mexicanus</i>	house finch
<i>Carduelis</i>	<i>tristis</i>	American goldfinch

Appendix B: Site Photographs



Photograph 1: Looking north showing creosote bush scrub.



Photograph 2: Looking southwest showing sewage treatment ponds.

Source: Michael Brandman Associates, 2010



Michael Brandman Associates

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Appendix B Site Photographs

COUNTY OF SAN BERNARDINO – CALICO PROJECT
HABITAT ASSESSMENT

Appendix C: Regulatory Framework

REGULATORY FRAMEWORK

Sensitive Plant and Wildlife Species

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (ESA). The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A “threatened” species is a species that is likely to become endangered. A “proposed” species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Per § 9 of the ESA, “take” of threatened or endangered species is prohibited. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in “take” of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

California Endangered Species Act

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA). The State of California considers an “endangered” species one whose prospects of survival and reproduction are in immediate jeopardy. A “threatened” species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A “rare” species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term “species of special concern” is an informal designation used by CDFG for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

California Native Plant Society

The California Native Plant Society (CNPS) is a California resource conservation organization that has developed and inventory of California's sensitive plant species. This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States (U.S.) except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

California Fish and Game Code - § 3503 and § 3511

The CDFG administers the California Fish and Game Code (CFG Code). There are particular sections of the CFG Code that are applicable to natural resource management. For example, § 3503 of the CFG Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. CFG Code § 3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests from any form of take. CFG Code § 3511 lists fully protected bird species where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

Jurisdictional Waters and Wetlands

Impacts to natural drainage features and wetland areas are regulated by the United States Army Corp of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFG based upon the policies and regulations discussed below.

United States Army Corp of Engineers Regulations

Federal Clean Water Act - § 404

The USACE administers § 404 of the federal Clean Water Act (CWA). This section regulates the discharge of dredge and fill material into waters of the U.S. USACE has established a series of nationwide permits that authorize certain activities in waters of the U.S., if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the U.S. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area

between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Waters of the United States

Waters of the U.S., as defined in the Code of Federal Regulations (CFR) § 328.3, include all waters or tributaries to waters such as lakes, rivers, intermittent and perennial streams, mudflats, sand-flats, natural ponds, wetlands, wet meadows, and other aquatic habitats. Frequently, waters of the U.S., with at least intermittently flowing water or tidal influences, are demarcated by an ordinary high water mark (OHWM). The OHWM is defined in CFR § 328.3(e) as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. In this region, the OHWM is typically indicated by the presence of an incised streambed with defined bank shelving.

In June 2001 the USACE South Pacific Division has issued “Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest.” The purpose of this document was to provide background information concerning physical characteristics of dryland drainage systems. These guidelines were reviewed and used to identify jurisdictional drainage features within the project site.

Wetlands

According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation)
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils)
3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology)

Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands. As a result of the 2001 Solid Waste Agency of North Cook County (SWANCC) case, a wetland must show connectivity to a stream course in order for such a feature to be considered jurisdictional. Although wetland criteria was used to identify if areas were considered wetlands, the exact limits of jurisdiction were not measured based on the standard wetland delineation protocol as described in the 1987 USACE manual.

United States Army Corp of Engineers Regulated Activities

The USACE regulates the discharge of dredged or fill material including, but not limited to, grading, placing of rip-rap for erosion control, pouring concrete, laying sod, and stockpiling excavated

material. Activities that generally do not involve a regulated discharge, if performed specifically in a manner to avoid discharges, include driving pilings, drainage channel maintenance, temporary mining and farm/forest roads, and excavating without stockpiling.

Regional Water Quality Control Board Regulations

Clean Water Act - § 401

Per § 401 of the CWA, “any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.” Therefore, before the USACE will issue a § 404 permit, applicants must apply for and receive a § 401 water quality certification from the RWQCB.

Porter-Cologne Water Quality Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (water code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (water code § 13050 (e)).

Regional Water Quality Control Board Regulated Activities

Under § 401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

California Department of Fish and Game Regulations

California Fish and Game Code - § 1600 to § 1603

The CFG Code mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.” CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdiction. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

California Department of Fish and Game Regulated Activities

The CDFG regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources.