APPENDIX T

Biological Assessment, Updated April 2012

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825

MAY 15 2012

Memorandum

To: Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service

From: Regional Director, Bureau of Indian Affairs, Pacific Regional Office

Subject: Request for Concurrence for the Los Coyotes Fee-to-Trust Project

The Bureau of Indian Affairs (BIA), Pacific Regional Office, respectfully requests your concurrence of our findings pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for the proposed fee-to-trust acquisition of approximately 23.1 acres and the subsequent development of the Los Coyotes Casino-Hotel Project (Proposed Project) in the City of Barstow, California, for the Los Coyotes Band of Cahuilla and Cupeño Indians (Tribe).

Enclosed for your review are two copies of the Biological Assessment (BA) for the Proposed Project (Analytical Environmental Services, 2012). As stated in the BA, the Proposed Action involves (1) placement of Assessor's Parcel Numbers 0428-171-66, 0428-171-67, and 0428-171-68 into federal trust on the behalf of the Tribe, (2) a Two-Part Secretarial Determination to allow gaming, (3) approval of a gaming management contract by the National Indian Gaming Commission, and (4) development of a casino and hotel with related amenities on the project site.

The potential for each of the regionally occurring federally listed species to occur on the project site was evaluated based on the results of the biological surveys, review of applicable literature, review of previously reported occurrences, and informal consultation with the USFWS in 2007. The Mojave desert tortoise is the only federally listed species with a potential to occur within the project site. All other regionally occurring federally listed species were eliminated due to the lack of suitable habitat within the project site. A protocol level presence/absence survey for desert tortoise survey was conducted on March 30, 2012, in accordance with USFWS' 2010 Field Survey Protocol, *Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise.* No Mohave desert tortoise or their signs were observed within the action area for the Proposed Project.

The attached BA provides a description of the Proposed Project and federally listed species identified on a recent USFWS list, dated February 8, 2012, the results of the desert tortoise survey conducted in accordance within the 2010 Field Survey Protocol, and a discussion of Mojave desert tortoise impacts and mitigation measures based on the recommendations obtained from USFWS and BLM in 2007, and USFWS' 2009 *Desert Tortoise Field Manual.* Although the project site provides marginal habitat within the creosote bush scrub for the Mojave desert tortoise, the habitat is of low quality given the urban land uses and barriers to overland movement surrounding the project site including Lenwood Road, an outlet mall, developed areas within the City of Barstow to the west and north, and the OHV area, which is heavily used

by off-road vehicle traffic, to the south and east. Given that the land uses surrounding the project site consist of OHV use, paved roads, and commercial development, and that no Mojave desert tortoise or their sign was observed during the biological surveys, this species is unlikely to occur within the project site.

The project site is not located within designated Desert Wildlife Management Areas (DWMA) or Areas of Critical Environmental Concern (ACEC), as identified within the 2011 Recovery Plan (USFWS, 2011). The project site does not occur within USFWS designated critical habitat for any federally listed species, including the Mojave desert tortoise.

In conclusion, the BIA is requesting concurrence that the Proposed Project **may affect, but is not likely to adversely affect** the Mojave desert tortoise based on the protective mitigation measures that are proposed within the attached Biological Assessment. The BIA has determined that the Proposed Action would have **no effect** on designated critical habitat because none occurs within the project site.

Should you have any questions or need additional information, please contact Chad Broussard, Environmental Protection Specialist, at (916) 978-6165.

Amy L. Dutschke

Attachment: Los Coyotes Casino-Hotel Biological Assessment (AES, 2012)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
08EVEN00-2012-I-0422

July 6, 2012

Memorandum

To: Regional Director, Bureau of Indian Affairs, Pacific Regional Office, Sacramento, California

From: Assistant Field Supervisor, Ventura Fish and Wildlife Office, Ventura, California

Subject: Fee-to-Trust Acquisition and Subsequent Development of the Los Coyotes Casino-Hotel, City of Barstow, California, for the Los Coyotes Band of Cahuilla and Cupeno Indians.

This memorandum is in response to your request, dated March 15, 2012, and received by our office on March 18, 2012, for our concurrence that the proposed project may affect, but is not likely to adversely affect the federally threatened desert tortoise (*Gopherus agassizii*). The Bureau of Indian Affairs proposes the fee-to-trust acquisition of approximately 23.1 acres and the subsequent development of the Los Coyotes Casino-Hotel. Your request and our response are made pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended.

The project site is located just east of Interstate 15, east of Lenwood Road and south of Mercantile Way. The site is bordered by privately owned vacant land on the south and east side. The Stoddard Valley Off-Highway Vehicle area (under the jurisdiction of the Bureau of Land Management) surrounds the private land. A graded pad and an outlet mall border the north side of the action area. While the proposed project site is within the Western Mojave Recovery Unit, the biological assessment states that the habitat is considered low quality due to the surrounding land uses. A survey conducted by Sundance Biology, Incorporated on March 30, 2012, found no sign of desert tortoise in the project area. However, an active burrow and recent scat were found approximately 900 meters northeast of the site. The proposed project site is not within desert tortoise critical habitat.

Your biological assessment recommends mitigation measures to be implemented prior to, during, and post-construction including, but not limited to, desert tortoise surveys, installation of desert tortoise exclusion fence, and measures to minimize attracting ravens. We consider all the recommended measures to be part of the project description, as they were identified as the basis for your determination.

We concur with your determination that the proposed action is not likely to adversely affect the desert tortoise. We have reached this conclusion because of: (1) the poor habitat quality of the

action area, (2) the low probability of desert tortoise occurring there, (3) the disturbed nature of the surrounding lands, and (4) the mitigation measures described in your biological assessment.

Further consultation, pursuant to section 7(a)(2) of the Endangered Species Act, is not required. This concurrence does not, in any way, allow for the killing, injury, or capture of desert tortoises. If the proposed action changes in any manner that may affect desert tortoises in a way that we have not considered, the Bureau of Indian Affairs should contact us as soon as possible to determine whether additional consultation, pursuant to section 7(a)(2) of the Endangered Species Act, would be appropriate.

If you have any questions regarding this matter, please contact Jenna Castle of the Ventura Fish and Wildlife Office at (805) 644-1766, extension 320.

BIOLOGICAL ASSESSMENT

LOS COYOTES BAND OF CAHUILLA AND CUPEÑO INDIANS

FEE-TO-TRUST AND CASINO-HOTEL PROJECT

APRIL 2012

NEPA Lead Agency:
U.S. Department of the Interior, Bureau of Indian Affairs
Pacific Region, 2800 Cottage Way, Room W-2820
Sacramento, CA 95825-1846

BIOLOGICAL ASSESSMENT

LOS COYOTES BAND OF CAHUILLA AND CUPEÑO INDIANS

FEE-TO-TRUST AND CASINO-HOTEL PROJECT

APRIL 2012

NEPA Lead Agency:
U.S. Department of the Interior, Bureau of Indian Affairs
Pacific Region, 2800 Cottage Way, Room W-2820
Sacramento, CA 95825-1846

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BIOLOGICAL ASSESSMENT FOR THE LOS COYOTES CASINO-HOTEL PROJECT

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1.0 INTRODUCTION

This Biological Assessment (BA) has been prepared in support of an application to the Bureau of Indian Affairs (BIA) to place the approximately 23.1-acre project site into federal trust land on the behalf of the Los Coyotes Band of Cahuilla and Cupeño Indians (Tribe) for the development of a Class III gaming facility and hotel, a Two-Part Secretarial Determination, and an application to the National Indian Gaming Commission (NIGC) to approve a gaming management contract. This BA has been prepared to facilitate consultation with the U.S. Fish and Wildlife Service (USFWS), in accordance with the legal requirements set forth under Section 7 of the federal Endangered Species Act (FESA) (16 U.S.C. 1536 [c]).

The purpose of this BA is to review the Proposed Project in sufficient detail to determine the extent to which the Proposed Project may affect any federally listed species. For the purposes of this BA, federally listed species include those plant and animal species that are listed as endangered or threatened, formally proposed for listing, or candidates for listing under the FESA.

To fulfill its purpose, this BA:

- Characterizes the habitat types present within the project site;
- Evaluates the potential for the occurrence of federally listed endangered, threatened, proposed, or candidate species within the project site;
- Assesses the potential for the Proposed Project to adversely impact federally listed endangered, threatened, proposed, or candidate species; and
- Recommends mitigation measures designed to avoid or minimize project-related impacts.

1.1 THREATENED, ENDANGERED, PROPOSED THREATENED, AND PROPOSED ENDANGERED SPECIES

The following listed species may be affected by the Proposed Action:

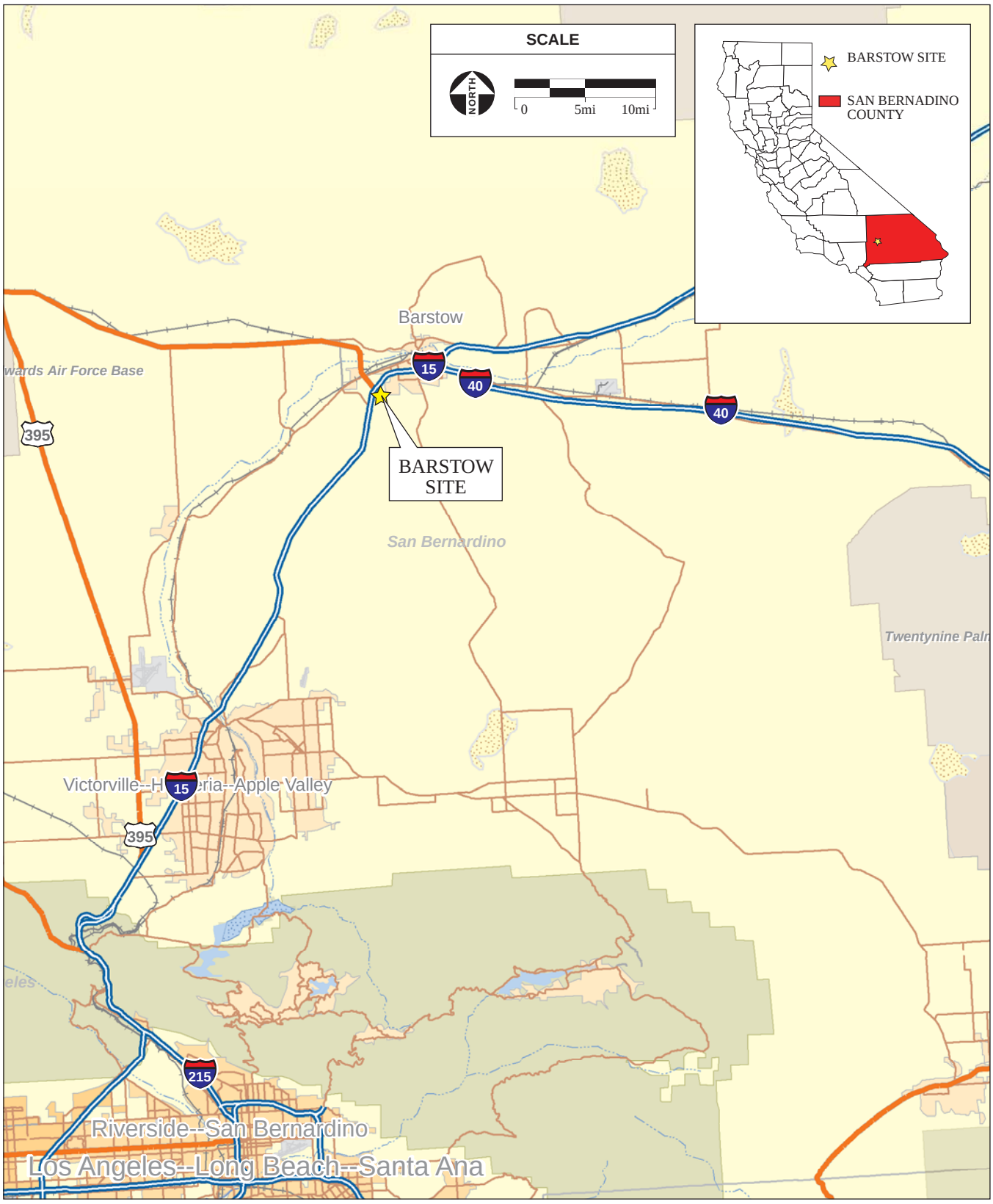
- Federally threatened Mojave desert tortoise (*Gopherus agassizii*).

1.2 CRITICAL HABITAT

The project site is not located in USFWS designated critical habitat for the Mojave desert tortoise. The nearest designated critical habitat for the Mojave desert tortoise occurs approximately four miles east of the project site.

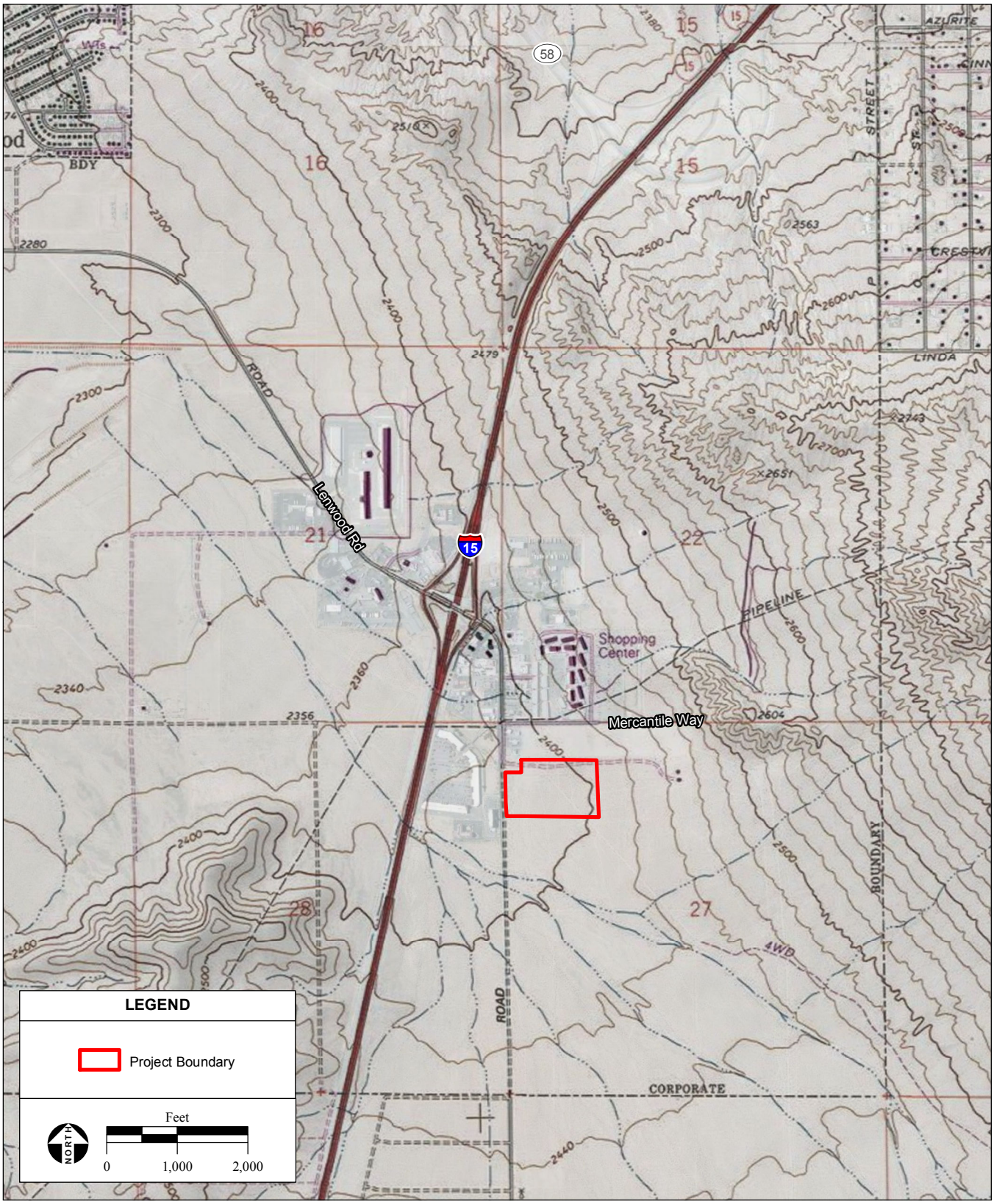
2.0 PROJECT LOCATION/ACTION AREA

The approximately 23.1-acre project site is located within the incorporated boundaries of the City of Barstow, San Bernardino County, California, just east of Interstate 15. State Highways 58 and 247 and Interstate 40 are located nearby (**Figures 1** and **2**). Lenwood Road and commercial/light industrial development border the west side of the project site. Developed land including a graded pad, Mercantile



SOURCE: ESRI Data, 2006; AES, 2009

Figure 1
Regional Location Map



SOURCE: "Barstow, CA" USGS 7.5 Minute Topographic Quadrangle,
Section 27, T9N, R2W, San Bernadino Baseline & Meridian; AES, 2012

Figure 2
Site and Vicinity

Way, and an outlet mall border the north side of the project site. Privately owned vacant land borders the south and east sides of the project site. Stoddard Valley Off-Highway Vehicle (OHV) area, which is under the jurisdiction of the Bureau of Land Management (BLM), surrounds the privately owned vacant land located to the south and east of the project site (**Figure 3**).

Table 1 lists the Assessor's Parcel Numbers (APN) for the project site. The project site is located in the northeast and northwest quarters of Section 27, Township 9N, Range 2W, of the Barstow SE, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad), within the San Bernardino Baseline and Meridian.

TABLE 1
ASSESSOR'S PARCEL NUMBERS

Tribe for Which Land Would Be Taken Into Trust	Assessor's Parcel Numbers (APN)	Size (Acres)
Los Coyotes Band of Cahuilla and Cupeño Indians	0428-171-66, 0428-171-67, 0428-171-68	23.1

SOURCE: AES, 2010

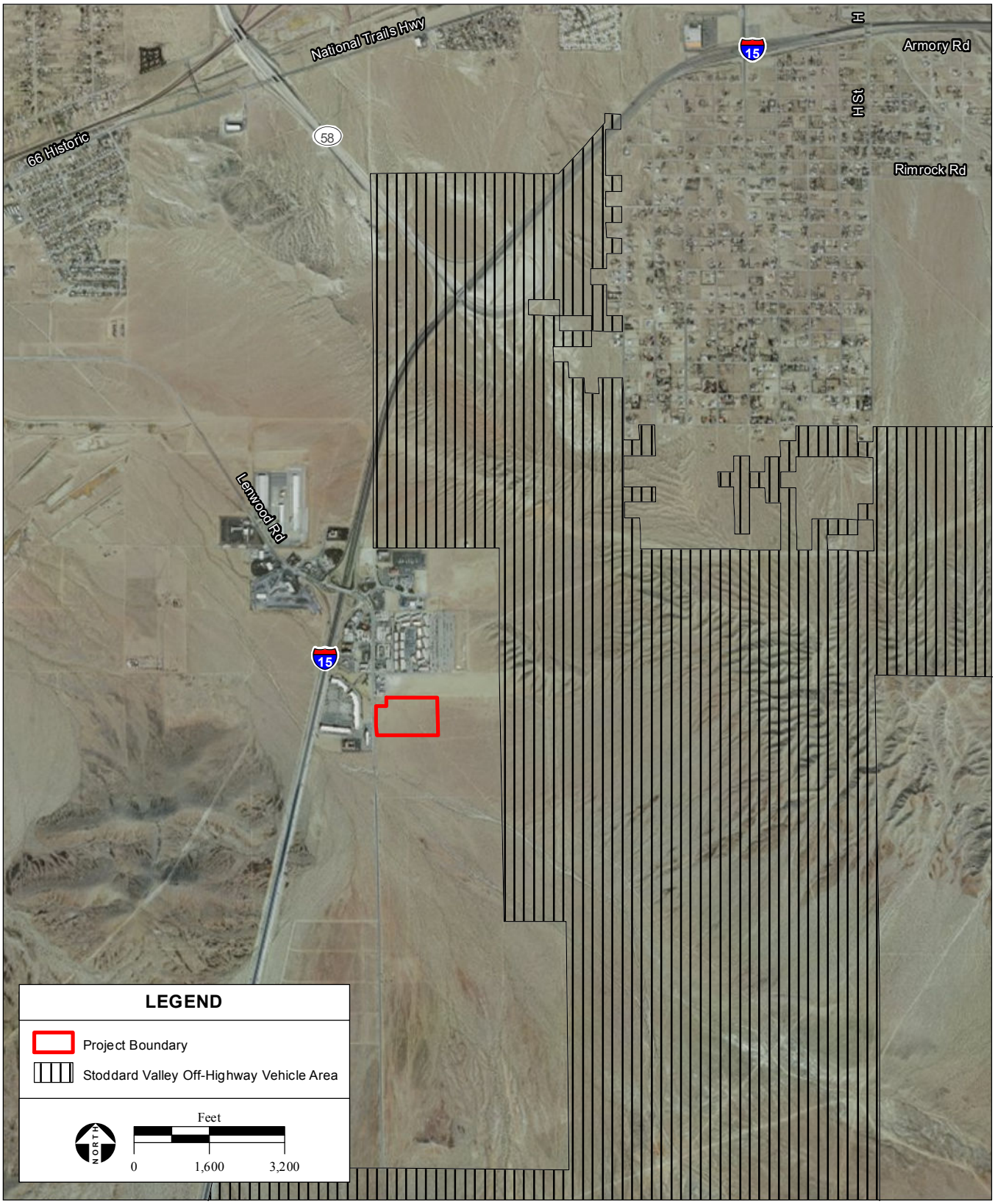
3.0 PROJECT DESCRIPTION

3.1 PROJECT COMPONENTS

The Proposed Project consists of the following components: (1) placement of three parcels totaling approximately 23.1 acres into federal trust on behalf of the Tribe; (2) issuance of a Two-Part Secretarial Determination; (3) approval of a management contract by the NIGC; and (4) development of a casino and hotel with related amenities on the entire project site (**Figure 4**). The casino development will receive municipal water, sewer, and stormwater drainage services from the City of Barstow under a municipal services agreement (MSA).

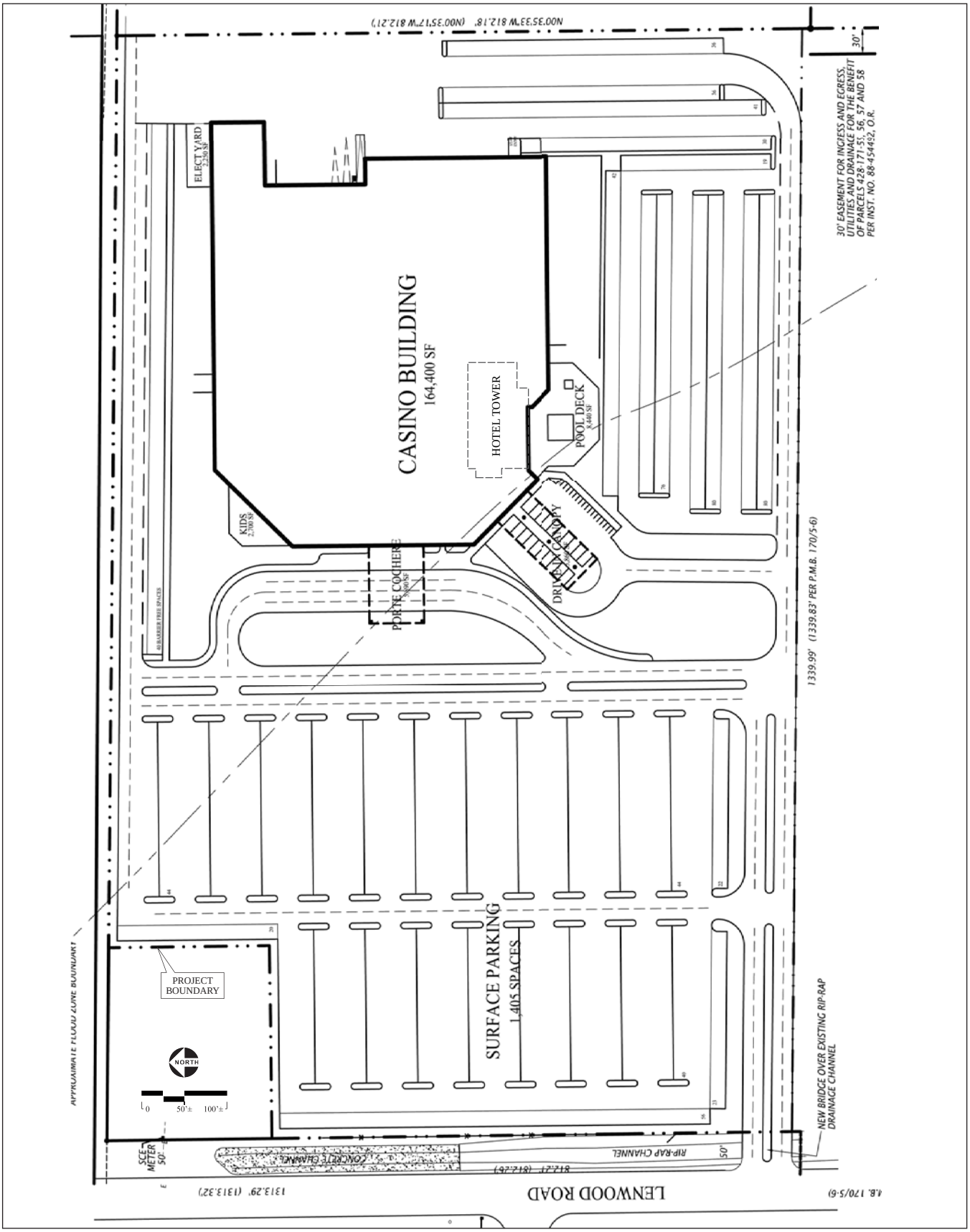
Construction and operation of the Proposed Project would incorporate a variety of industry-standard Best Management Practices (BMPs). A Storm Water Pollution and Prevention Plan (SWPPP) prepared under U.S. Environmental Protection Agency (EPA) requirements of the National Pollutant Discharge Elimination System (NPDES) general construction permit and additional site specific controls and BMPs from the Environmental Impact Statement (EIS) prepared for the Proposed Project are requisite conditions of project approval.

Impacts associated with the Proposed Project would be mitigated through improvements to the surrounding roadway network, including additional turn lanes and a traffic signal adjacent to the access point to the project site. The improvements would occur within the existing right-of-way or in highly disturbed habitat adjacent to the project site. Public utilities would be upgraded and extended to the project site, with the longest distance being the extension of the ten-inch diameter wastewater and water lines that currently terminate at the intersection of Lenwood Road and Mercantile Way. This extension would require the construction of approximately 800 feet of trench adjacent to Lenwood Road. Upgrades to utility systems include the expansion of the line system and corresponding lift station capacities. The Tribe has agreed in Section 4 of the MSA to dedicate land for fire and police station use. These public service structures would proceed through the City of Barstow's review and approval process and would be constructed by the City of Barstow. No other interrelated or interdependent activities are anticipated.



SOURCE: Aerial Express Aerial Photograph, 2/2010; AES, 2012

Figure 3
Aerial Site Map Barstow Site



SOURCE: Bergman Walls & Associates, 2/24/2010; AES, 2010

Figure 4
Proposed Project Site Plan

3.2 PURPOSE AND NEED

The purpose of the Proposed Action is to help provide for the economic development of the Tribe and stability and self-sufficiency of the Tribal government, resulting in economic, social, and other benefits for the Tribe. Implementation of the Proposed Action would assist the Tribe in meeting the following objectives:

- Improve the socioeconomic status of the Tribe by providing a reliable, significant revenue source that would be used to: strengthen the Tribal government; fund a variety of social, housing, governmental, administrative, educational, health, and welfare services to improve the quality of life of Tribal members; and provide capital for other economic development and investment opportunities.
- Provide employment opportunities for the Tribal and non-tribal community.
- Make donations to charitable organizations and governmental operations, including local educational institutions.
- Fund local governmental agencies, programs, and services.
- Establish economic self-sufficiency and achieve Tribal self-determination.

The Proposed Action would provide the Tribe with a long-term, viable, and sustainable revenue base. Each of the objectives listed above is consistent with the limited allowable uses for gaming revenues, as required by the Indian Gaming Regulatory Act (IGRA). The hotel and casino complex would also provide employment opportunities for Tribal members, as well as local non-tribal residents. Operation of the casino, hotel, and related facilities would require the purchase of goods and services, increasing opportunities for local businesses and stimulating the local economy.

4.0 BACKGROUND AND SUMMARY OF CONSULTATION TO DATE

Prior to conducting biological surveys on May 3 and 4, 2006, AES obtained a USFWS list of federally listed threatened and endangered species which may occur in San Bernardino County. Following review of the USFWS list and biological surveys of the project site, AES contacted the USFWS for clarification regarding the Mojave desert tortoise. The USFWS advised, during an informal phone consultation, that while the project site is not ideal habitat for the Mojave desert tortoise, precautions should be taken to protect Mojave desert tortoises during construction and conveyed recommendations as to where any Mojave desert tortoises found on the project site could be relocated (Bransfield, 2007). AES subsequently contacted BLM, which agreed to accept a small number of Mojave desert tortoises if necessary. The BLM also suggested that measures be taken to prevent tortoises from entering the project site to ensure that the Proposed Project would not adversely affect the Mojave desert tortoise (Sullivan, 2007). Since this time, the Proposed Project has been redesigned and the project site reduced in size from 48 acres to 23.1 acres. The refined site plan eliminates a previously proposed fountain to reduce bird attractants, including the common raven (*Corvus corax*), that pose a threat to the Mohave desert tortoise. A Draft Environmental Impact Statement (EIS) was prepared in accordance with the National Environmental Policy Act (NEPA) for the project and was circulated for public review in July 2011 (AES, 2011). On March 27, 2012, AES notified USFWS representative Ray Bransfield that a pre-survey

was to be conducted for Mojave desert tortoise, in accordance with the 2010 Field Survey Protocol, *Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise* (*Gopherus agassizii*) (2010 Field Survey Protocol; USFWS, 2010), and requested guidance with regards to the dates that surveys could be conducted for desert tortoises on the project site. Because the project site is less than 40 acres, AES inquired as to whether surveys could begin before the first of April, which is the earliest date suggested by the 2010 Field Survey Protocol guidance. The USFWS responded via email on March 27, 2012 that beginning surveys would not appreciably alter the results of the surveys given the short time between March 27 and April 1 (Bransfield, 2012). Phone and email communication documentation are provided in **Appendix 1**.

This BA reflects the updated Proposed Project footprint identified within the 2011 Draft EIS, the federally listed species identified on a more recent USFWS list, updated February 8, 2012, and the results of the March 30, 2012 Mohave desert tortoise survey conducted in accordance with the 2010 Field Survey Protocol. The project site is surrounded by disturbed/developed areas and is not located within designated Desert Wildlife Management Areas (DWMA), Areas of Critical Environmental Concern (ACEC), or USFWS designated critical habitat for Mojave desert tortoise. The mitigation measure identified within the 2011 Draft EIS regarding relocating Mojave desert tortoise was removed from this BA because the requirements to install exclusionary fencing and to terminate construction activities if the species is found within the project site would ensure that Mojave desert tortoise would not be adversely affected by the Proposed Project.

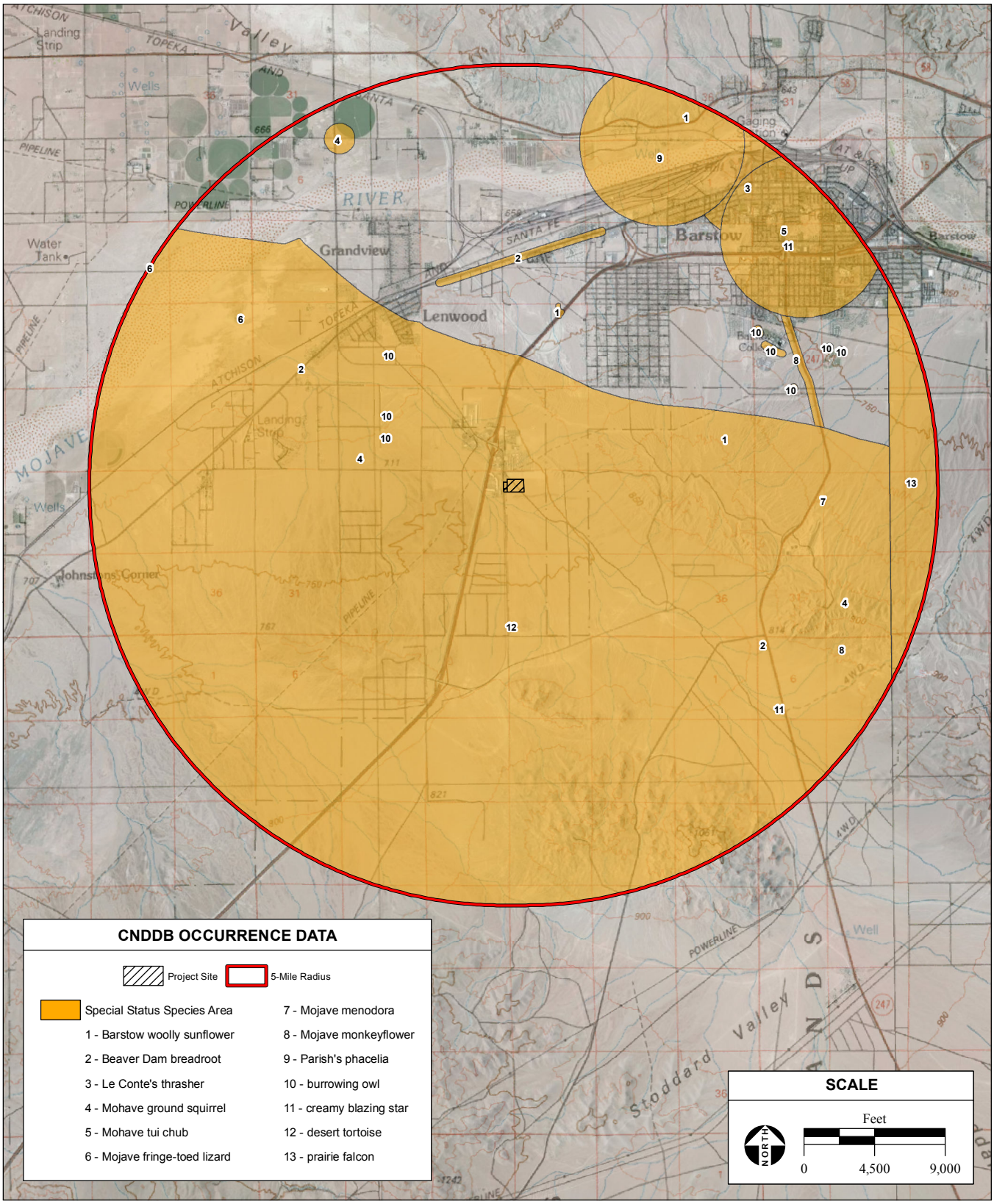
5.0 STUDY METHODS

For the purposes of this BA, the Action Area is considered to be the entire 23.1-acre project site. The Action Area includes the location of any construction activity anticipated to occur within the project site.

5.1 PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting biological surveys of the project site, the following information was reviewed:

- Barstow SE 7.5-minute quad. USGS topographical map.
- Color aerial photography of the project site and vicinity.
- *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2001); *The Jepson Manual, Higher Plants of California* (Hickman, 1993); and various Federal Registers containing proposed and final rules for listing species as endangered or threatened or listing critical habitat.
- California Natural Diversity DataBase (CNDDB) list of reported occurrences of special-status species within a five-mile radius of the project site on the Victorville 100K quad (CNDDB, 2012) (**Figure 5**).
- CNDDB list of reported occurrences of special-status species within the Barstow SE quad and the eight surrounding quads. These include the Hinkley, Barstow, Nebo, Daggett, West Ord Mountain, Stoddard Well, Turtle Valley, and Hodge quads (CDFG, 2003) (**Appendix 2**).
- Ventura USFWS list of federally listed species based on the location of the project site (**Appendix 3**).



SOURCE: California Natural Diversity Database, 1/2012; "Victorville, CA" USGS 100K Topographic Quadrangle, San Bernadino Baseline & Meridian; AES, 2012

Figure 5

Special Status Species Within 5-Miles of the Barstow Site

5.2 BIOLOGICAL SURVEYS

AES biologists conducted biological surveys of the project site on May 3 and 4, 2006. The biological surveys were conducted by walking transects 10 to 20 meters apart in order to view and evaluate all areas within the project site. All visible fauna and flora were noted and identified to the lowest possible taxon (**Appendix 4**). Habitat types were characterized and evaluated for their potential to support regionally occurring federally listed species. The project site was assessed for the presence of potentially jurisdictional waters of the U.S., isolated wetlands, and other biologically sensitive features.

AES senior biologist Kelly Bayne, M.S. conducted a reconnaissance level survey of the project site on March 29, 2012 to confirm that the information regarding habitat types and federally listed species documented in 2006 is similar to current conditions. Stephen Boland, a USFWS authorized desert tortoise specialist, conducted a protocol level presence/absence survey for desert tortoise survey on March 30, 2012, in accordance with the 2010 Field Survey Protocol guidelines. Ms. Bayne assisted Mr. Boland with the desert tortoise survey on March 30, 2012 under his direct supervision. The results of the desert tortoise survey are documented in the *Desert Tortoise Survey for the Proposed Los Coyotes Casino Project Site, Barstow, San Bernardino County, California* (Desert Tortoise Survey Report) (Sundance Biology, Inc., 2012), which is provided as **Appendix 5**.

5.3 ANALYSES AND SYNTHESIS

Locations of habitat boundaries within the project site were recorded in the field on color aerial photographs and subsequently digitized to produce the final habitat map. Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors) were classified using the Holland System (Holland, 1986).

As documented in the Desert Tortoise Survey Report (**Appendix 5**), the focused presence/absence survey for Mojave desert tortoise survey was conducted within the entire project site, in accordance with the *Pre-Project Survey Protocol for Potential Desert Tortoise Habitats* identified within the 2010 Field Survey Protocol (USFWS, 2010). A variance to conduct the survey on March 30, 2012 was obtained from USFWS representative Ray Bransfield (Bransfield, 2012). Additionally, in accordance with the protocol, zone of influence transects were conducted at 200, 400, and 600 meters south and east of the project site. Transects were not conducted to the west and north of the project site because these areas are already developed, as discussed above, A set of Universal Transverse Mercator (UTM) coordinates for transect endpoints paralleling the project corridor centerline was calculated to obtain a set of 24 east-to-west transects, with transect spacing approximately ten meters between transect centerlines, in order to cover the project site. A Garmin handheld global positioning system (GPS) was used for navigation of transects. For reference purposes, the survey extended onto Stoddard OHV land to the southeast, beyond the 600-meter zone-of-influence, in areas where there was more suitable habitat for desert tortoise, which is beyond the scope of the protocol.

For the purposes of this assessment, federally listed species include those plant and animal species that are listed as endangered or threatened under the FESA, formally proposed for listing, or candidates for listing. A list of regionally occurring federally listed species was compiled based on the USFWS and CNDDB lists and the reported occurrences of special-status species within five miles of the project site. The potential for each of the regionally occurring federally listed species to occur on the project site was

subsequently evaluated based on the results of the biological surveys, review of applicable literature, review of previously reported occurrences, and informal consultation with the USFWS in 2007 and 2012. A discussion of the distribution and required habitat types for each regionally occurring federally listed species, as well as an evaluation of the potential for each species to occur on the project site is included in **Appendix 6**. Several federally listed species were eliminated due to the lack of suitable habitat or site location occurring outside the known elevation or geographic ranges for the species. Species without the potential to occur on the project site are not discussed further in this BA. The Mojave desert tortoise is the only federally listed species with a potential to occur within the project site.

6.0 RESULTS

6.1 ENVIRONMENTAL SETTING

The project site is located within the western Mojave Desert, approximately 3.5 miles from the Mojave River. The western Mojave Desert is characterized by sparsely vegetated flatland with interspersed mountain ranges and dry lakes. Dominant plant communities are Mojave creosote bush scrub and saltbush scrub. Temperature is generally below freezing for only a few days in the winter, while summer temperatures regularly exceed 100 degrees Fahrenheit. Annual rainfall for the entire Mojave Desert averages approximately 5.4 inches. In the western Mojave Desert, rainfall occurs primarily during the winter (USGS, 2004). The project site exhibits characteristics typical of the western Mojave Desert. The project site is comprised of a low-gradient, sparsely vegetated area in the vicinity of a transitional Mojave creosote bush scrub-saltbush scrub vegetation community.

6.2 VEGETATION COMMUNITIES

Vegetation communities occurring within the project site include Mojave creosote bush scrub and ruderal/developed areas. These habitat types are discussed below. A vegetation map of the project site is presented in **Figure 6**. Representative photographs of the habitat types are provided in **Figure 7**.

MOJAVE CREOSOTE BUSH SCRUB

Mojave creosote bush scrub is the dominant habitat on the project site (Holland, 1986). Mojave creosote bush scrub occupies approximately 16.51 acres within the project site (**Figure 6**; **Figure 7**: **Photographs 1** and **2**). The dominant shrub is creosote bush (*Larrea tridentata*), which occupies approximately ten percent groundcover. The subdominant shrub is saltbush (*Atriplex polycarpa*), which occupies approximately two percent groundcover. A scattering of white bur-sage (*Ambrosia dumosa*) also occurs at the project site. The dominant herbaceous plant species is Mediterranean grass (*Schismus barbatus*), which occupies approximately 50 percent groundcover. Creosote bush individuals onsite average approximately five feet tall and saltbush individuals average approximately two feet tall. The total shrub cover is approximately 12 percent and the total herbaceous vegetation cover is approximately 60 percent.

SOURCE: GoogleEarth/DigitalGlobe 2006; AES, 2009

Figure 6
Habitat Map

PHOTO 1: Mojave creosote bush scrub on the Barstow site. View from east to west.

PHOTO 2: Mojave creosote bush scrub on the Barstow site. View from north to southeast.

PHOTO 3: View of Ruderal/Developed habitat. A house had been built and later torn down in this area.

SOURCE: AES, 2009

Figure 7
Site Photographs

The Mojave creosote bush scrub within the project site is highly disturbed and the soil is compacted due to high levels of off-road vehicle activity from the Stoddard Valley OHV area located to the south and east of the project site.

RUDERAL/DEVELOPED

Approximately 6.60 acres of ruderal/developed habitat exists within the project site (**Figure 6**; **Figure 7**: **Photograph 3**). Ruderal/developed habitat includes an area where a house and associated infrastructure had once existed and had been removed prior to the May 3 and 4, 2006 biological surveys as well as several dirt roads that crisscross the project site. Several small horticultural trees, including pine (*Pinus* sp.) and cottonwood (*Populus* sp.), and a small amount of herbaceous vegetation remain within the project site.

6.3 WILDLIFE

The Mojave creosote bush scrub within the project site provides habitat for a variety of wildlife. Bird species observed during the May 3-4, 2006 and/or March 29-30, 2012 biological surveys include mourning dove (*Zenaida macroura*), common raven, horned lark (*Eremophila alpestris*), loggerhead shrike (*Lanius ludovicianus*), barn swallow (*Hirundo rustica*), Gambel's quail (*Callipepla gambelii*), and western tanager (*Piranga ludoviciana*). Mammal species observed include coyote (*Canis latrans*), antelope ground squirrel (*Ammospermophilus leucurus*), and black-tailed jackrabbit (*Lepus californicus*). The one reptile species observed was western whiptail (*Cnemidophorus tigris*). **Appendix 4** contains a complete list of wildlife observed.

6.4 WATERS OF THE U.S.

A delineation of waters of the U.S. was conducted by AES biologists during the May 3 and 4, 2006 biological surveys. Several small (one-to-two feet wide) washes were identified that flow from points east of the project site. The small washes terminate within the eastern third of the project site, where water percolates into the ground. The small washes are not hydrologically connected to any jurisdictional waters of the U.S. and are, therefore, not likely to be jurisdictional features. The project site contains no wetlands or other waters of the U.S.

6.5 FEDERALLY LISTED SPECIES

MOJAVE DESERT TORTOISE (*GOPHERUS AGASSIZII*)

Federal Status – Threatened

The Mojave desert tortoise is a medium-sized, terrestrial reptile. It is a long-lived animal (maximum age in the wild is likely about 50 to 70 years) that begins reproducing at approximately 12 to 15 years of age. Mojave desert tortoise activity patterns are primarily determined by ambient temperature and precipitation. They lay most of their eggs in the spring and, to a lesser extent, in the fall. Most precipitation in the western Mojave Desert occurs during the winter; therefore, most vegetation grows in the spring, and dries up by late May or June. Mojave desert tortoises in the western Mojave Desert are primarily active between May and June, with a secondary activity period between September and October. Mojave desert tortoises are less active outside of these periods. Within the western Mojave

Desert, the highest Mojave desert tortoise population densities are found in Mojave creosote bush scrub, with lower densities occurring in Joshua tree woodland and saltbush scrub (BLM, 2006).

The USFWS published a final recovery plan for desert tortoise in May 2011 (2011 Recovery Plan; USFWS, 2011). The 2011 Recovery Plan replaces the 1994 Recovery Plan and divided Mojave desert tortoise into five recovery units: Upper Virgin River Recovery Unit, Northeastern Mojave Recovery Unit, Eastern Mojave Recovery Unit, Colorado Desert Recovery Unit, and Western Mojave Recovery Unit.

Recovery actions implemented pursuant to the former 1994 Recovery Plan included formalizing DWMAs through federal land use planning processes. DWMAs had no specific legal boundaries in the 1994 Recovery Plan. The BLM formalized the general DWMAs from the 1994 Recovery Plan through its planning process and administers them as ACECs, as identified within the 2011 Recovery Plan. ACECs are specific, legally defined, BLM designations where special management is needed to protect and prevent irreparable damage to important historical, cultural, scenic values, fish and wildlife, and natural resources (in this case, the Mojave desert tortoise) or to protect life and safety from natural hazards. The ACECs define specific management areas based on the general recommendations for DWMAs in the 1994 Recovery Plan. The BLM DWMAs/ACECs, together with National Park Service lands, designated wilderness areas, other lands allocated for resource conservation, and restricted access military lands provide an extensive network of habitats that are managed directly or indirectly for Mohave desert tortoise conservation (USFWS, 2011).

The project site does not occur within a designated ACEC or DWMA, USFWS designated critical habitat (59 FR 5820-5866), or other area managed directly or indirectly for Mojave desert tortoise conservation, as defined within the 2011 Recovery Plan. The nearest designated critical habitat for the Mojave desert tortoise is the Ord-Rodman DWMA, which occurs approximately four miles east of the project site. The Stoddard Valley OHV area is situated between the Ord-Rodman DWMA and the project site. The second nearest designated critical habitat for the Mojave desert tortoise is Superior-Cronese Lakes DWMA, which occurs approximately six miles north of the project site. Urban/developed areas within the City of Barstow are situated between the Superior-Cronese Lakes DWMA and the project site. The project site is within the Western Mojave Recovery Unit for the Mojave desert tortoise (USFWS, 2011). The Western Mojave Recovery Unit includes Fremont-Kramer, Superior-Cronese, and Ord-Rodman critical habitat units and the western half of Death Valley National Park, Marine Corps Air Ground Combat Center, Fort Irwin National Training Center, China Lake Naval Weapons Center, and Edwards Air Force Base.

There are two CNDDB records documented for this species within five miles of the project site (**Figure 5**). One record is from 2004 (CNDDB occurrence number 1) and the coordinates documenting the centroid of the record are located approximately 20 miles northwest of the project site. The record states that four primary populations were observed within 1,700 square miles comprised of several vegetation communities at elevations from 2,000 to 4,000 feet. The other record is from 2006 (CNDDB occurrence number 110) and occurs approximately two miles northeast of the project site. The record states that five adults and eight carcasses were observed on an approximately 75-acre property comprised of rocky hills, gravel soils, and sandy washes with creosote bush and white bur-sage vegetation.

Potential to Occur in the Action Area: The Action Area is dominated by Mojave creosote bush scrub with evidence of a transition to saltbush scrub. Although Mojave creosote bush scrub provides habitat for the Mojave desert tortoise, the habitat is of low quality on-site because of multiple dirt roads crisscrossing the site, compacted soil due to high levels of off-road vehicle activity, and the urban land uses and barriers to overland movement surrounding the project site including Lenwood Road, an outlet mall, developed areas within the City of Barstow to the west and north, and the Stoddard Valley OHV area, which is heavily used by off-road vehicle traffic, to the south and east. The highways located to the north and west of the project site are likely barriers to Mojave desert tortoise movement. No Mojave desert tortoises or their signs were observed during the March 30, 2012 protocol survey conducted within the project site. An old burrow and a recent scat were observed southeast of the project site during surveys of the 400 meter "zone-of-influence" in accordance with the 2010 Field Survey Protocol (**Appendix 5**). Given that the site is highly disturbed and the land uses surrounding the project site consist of OHV use, paved roads, and commercial development, and that no Mojave desert tortoise or their sign was observed within the project site during the biological surveys, this species is unlikely to occur within the boundaries of the project site.

Potential Impacts: Construction activities associated with vehicle movement, ground disturbance, or other project-related activities could adversely affect Mojave desert tortoise through mortality or injury in the unlikely event that this species enters into the Action Area. The Proposed Project will result in an increase in human activity in the vicinity of the Action Area. This could result in an increase in trash and food waste, which can be an attractant to the common raven. Increased raven populations could adversely affect the Mojave desert tortoise because ravens prey on juvenile desert tortoises. With incorporation of the mitigation measures, the Proposed Action may affect, but is not likely to adversely affect the Mojave desert tortoise.

Mitigation Measures: The following mitigation measures are recommended to minimize project-related impacts to the Mojave desert tortoise:

Develop and implement a biological monitoring plan in consultation with the USFWS. The plan will identify all measures to be implemented prior to, during and post-construction. The plan shall include but will not be limited to the following measures:

1. The Tribe shall designate a "biological representative" (BR) for the Proposed Project. The BR will administer and manage the Tribe's compliance with the mitigation measures identified herein and any other required terms and/or conditions recommended by the USFWS through the Section 7 process regarding Mojave desert tortoise.
2. The Tribe shall provide the USFWS with the name(s) and qualifications of the BR(s) and the USFWS-approved desert tortoise biological monitor(s) for review/approval.
3. Within two days prior to the installation of a "tortoise-proof" exclusion fence, a USFWS-approved biological monitor shall conduct two clearance surveys in accordance with the 2009 Desert Tortoise Field Manual (USFWS, 2009) to ensure no Mojave desert tortoise or their sign are detected. The clearance surveys shall be conducted at 15-foot intervals and be comprised of two complete coverages without finding any Mojave desert tortoises or new sign before declaring the site clear. Any potential burrow sites that are confirmed to be unoccupied and are within the construction footprint shall be excavated during the first clearance survey to prevent occupancy

where the Mojave desert tortoise would be at risk. Should Mojave desert tortoise be detected, the USFWS-approved biological monitor shall halt the anticipated installation of the exclusion fencing in that area until the tortoise exits the project site on its own accord. The USFWS-approved biological monitor will notify the BR immediately. The BR will contact the USFWS within 24 hours to report the findings and request guidance in the event that the Mojave desert tortoise does not exit the project site.

4. If no Mojave desert tortoise or its sign is detected during the preconstruction clearance surveys, USFWS-approved desert tortoise exclusionary fencing (one-inch by 2-inch mesh hardware cloth) (USFWS, 2009; **Appendix 7**) shall be installed around the perimeter of the entire project site prior to the onset of construction activities. The USFWS-approved biological monitor will supervise installation of the exclusionary fencing in order to ensure proper installation and adequacy. The exclusionary fencing must remain intact and must surround the entire project site until all construction activities are completed.
5. After installation of the exclusionary fence and prior to the onset of construction activities, the USFWS-approved biological monitor shall conduct a follow-up preconstruction Mojave desert tortoise clearance survey within the project site. This survey shall be conducted to ensure that there are no Mojave desert tortoise and/or occupied burrows within the project site. After the tortoise-proof fence is erected and the follow-up clearance survey is conducted, the USFWS-approved biologist shall remain onsite until all vegetation is cleared. The biologist shall survey the area for Mojave desert tortoises immediately in front of vegetation clearance activities in the event that a tortoise was inadvertently missed during the clearance surveys.
6. The BR or the USFWS-approved biological monitor shall be present at least once a week throughout the duration of construction activities to ensure the integrity of the exclusionary fencing is maintained.
7. The BR or the USFWS-approved biological monitor shall remain on-call throughout construction in the event that a Mojave desert tortoise wanders into the construction site. In the unlikely event that any Mojave desert tortoises are encountered on-site during construction activities, the occurrence(s) shall be reported to the construction supervisor and the BR and construction activities shall seize immediately. The BR will contact the USFWS within 24 hours of the sighting. Construction activities will not commence until authorized by the USFWS or until the Mojave desert tortoise exits the project site on its own accord.
8. A Raven Management Plan shall be prepared to minimize attracting common ravens during construction activities, in accordance with Boarman's (2002) *Reducing Predation by Common Ravens on Desert Tortoises in the Mojave and Colorado Deserts.* The BR shall be responsible for implementing the management practices identified within the Raven Management Plan. The Raven Management Plan shall include, at minimum:
    a. A Mojave desert tortoise awareness training shall be presented to all construction personnel prior to commencement of construction activities. The USFWS-approved biological monitor shall present the Mojave desert tortoise awareness training and provide educational pamphlets to the crew members. The Mojave desert tortoise awareness briefing shall include, but is not be limited to, the following information:
        - Construction personnel shall be informed about the federally threatened status of the Mojave desert tortoise, shall be shown what this species and its eggs look like, and shall be educated about the protection measures designed to reduce potential project-related effects on this species. Construction personnel shall be provided with

instruction regarding what to do if they encounter a Mojave desert tortoise and/or its eggs within the project site during construction activities.

- Construction personnel shall be advised that handling, harming, or harassing a Mojave desert tortoise is illegal and is a violation of the FESA. Construction personnel shall be advised that penalties of up to $25,000 and six months imprisonment are the consequences for unauthorized handling of a listed species. Construction personnel shall sign a document, which indicates that they have received the Mojave desert tortoise briefing and that they understand its contents.
- Measures to minimize attracting ravens shall be discussed to crew members to be followed during all construction activities associated with the project site.

b. Trash bins and cans shall be covered so that trash within the containers shall not be accessible to ravens. Trash shall be picked up and removed daily from the construction site.

9. Post-construction reporting shall be provided to the USFWS within 90 days of completion of construction.

6.6 INTERRELATED AND INTERDEPENDENT EFFECTS

Interrelated and interdependent effects are direct or indirect effects that occur as a result of activities that are closely affiliated with a project. Activities affiliated with the Proposed Project (discussed in detail in **Section 3.1**) include the offsite construction of roadway and utility improvements.

Construction of roadway improvements would not result in the significant loss of existing vegetation and modification of drainage channels, because work would be performed in existing roadways and channels. Due to the degraded condition of the roadside areas and the low quality habitat, the extension of the existing facilities would not result in adverse effects to sensitive species.

Construction of utility improvements would not result in the significant loss of habitat or impacts to special-status species because the utility lines either already exist or would be located immediately adjacent to existing roadways. Due to the limited nature of the improvements along existing roadways and the degraded condition of existing habitat, adverse effects from the construction of roadway and utility improvements would be negligible.

6.7 CUMULATIVE EFFECTS

For the purposes of this BA, cumulative effects are defined as the effects of future state, local, or private activities that are reasonably foreseeable in the Action Area. This BA only discusses future state, local, or private activities occurring outside the Action Area if they result in effects within the Action Area. Future federal actions that are unrelated to the Proposed Project are not considered in this BA because they will be subject to separate consultation pursuant to Section 7 of FESA.

Infrastructure projects that may be constructed as a result of development of the Proposed Project are discussed under *Interrelated and Interdependent Effects*. No other cumulative projects are anticipated to occur in the vicinity of the Action Area. Any future development in the area would be required to mitigate impacts to biological resources based on the California Environmental Quality Act (CEQA), the

California Endangered Species Act, the federal Clean Water Act, and the FESA. No significant cumulative effects would occur.

7.0 CONCLUSIONS AND DETERMINATION

The Action Area is located within the Western Mojave Recovery Unit of the Mojave desert tortoise, but is not located in a DWMA, ACEC, designated critical habitat, or other area managed directly or indirectly for Mojave desert tortoise conservation, as defined within the 2011 Recovery Plan (USFWS, 2011). Although Mojave creosote bush scrub provides habitat for the Mojave desert tortoise, the habitat is of low quality on-site given the presence of dirt roads that crisscross the site and given the urban land uses and barriers to movement surrounding the project site, including Lenwood Road, an outlet mall and developed areas within the City to the west and north, and the Stoddard Valley OHV area, which is heavily used by off-road vehicle traffic, to the south and east. Given that the land uses surrounding the project site consist of OHV recreational use, paved roads, and commercial development and that no Mojave desert tortoise or their sign was observed within the project site during the biological surveys, this species is unlikely to occur within the project site. While unlikely to occur, the mitigation measures identified in **Section 6.5** would ensure that any potential impacts to the Mojave desert tortoise are avoided and/or minimized. With the incorporation of mitigation measures, the Proposed Project may affect, but is not likely to adversely affect the Mojave desert tortoise.

8.0 REFERENCES/PERSONAL COMMUNICATION

8.1 REFERENCES

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8.2 PERSONAL COMMUNICATION

Bransfield, Ray and Eshelbach, Kate. Desert District Office, USFWS. 2007. Personal communication with Sean Marquis, LaTisha Burnaugh, and Peter Bontadelli via telephone. January 3, 2007.

Bransfield, Ray. Desert District Office, USFWS. 2012. Personal communication with Kelly Bayne via telephone and email. March 27, 2012.

Sullivan, Charles. Natural Resource Specialist, Bartow Field Office, BLM. 2007. Personal communication with Sean Marquis via telephone. January 8, 2007.

APPENDIX 1

AGENCY COMMUNICATION DOCUMENTATION

ANALYTICAL ENVIRONMENTAL SERVICES

1801 7th Street, Suite 100

Sacramento, CA 95811

http://www.analyticalcorp.com

(916) 447-3479 • Fax (916) 447-1665

TELEPHONE NOTES

Project: Los Coyotes Casino-Hotel Project

Subject: Threatened and Endangered Species

Date: January 3, 2007

By: AES Staff Sean Marquis, LaTisha Burnaugh, and Peter Bontadelli

Contact: Ray Bransfield and Kate Eshelbach

Agency: USFWS Ventura Fish and Wildlife Office, Desert Division

Phone #: (805) 644-1766

AES staff Sean Marquis, LaTisha Burnaugh, and Peter Bontadelli contacted USFWS representatives Ray Bransfield and Kate Eshelbach via telephone requesting clarification regarding the Mojave desert tortoise. The USFWS advised, that while the project site is not ideal habitat for the Mojave desert tortoise, precautions should be taken to protect Mojave desert tortoises during construction and conveyed concerns as to where any desert tortoises found on the site would be relocated.

ANALYTICAL ENVIRONMENTAL SERVICES

1801 7th Street, Suite 100

Sacramento, CA 95811

http://www.analyticalcorp.com

(916) 447-3479 • Fax (916) 447-1665

TELEPHONE NOTES

Project: Los Coyotes Casino-Hotel Project

Subject: Threatened and Endangered Species

Date: January 8, 2007

By: AES Representative Sean Marquis

Contact: Charles Sullivan, Natural Resource Specialist

Agencies: BLM, Bartow Field Office

Phone #: (760) 252-6000

AES staff Sean Marquis BLM Natural Resource Specialist Charles Sullivan via telephone conveying USFWS' concern regarding potential lands in the vicinity of the project site to relocate Mojave desert tortoise, should any be found onsite. The BLM offered to accept a small number of Mojave desert tortoises in the vicinity of the project site if any were found on site. Mr. Sullivan also suggested that measures be taken to prevent tortoises from entering the project site to ensure that the project would not adversely affect the Mojave desert tortoise.

From: Ray_Bransfield@fws.gov

Sent: Tuesday, March 27, 2012 5:45 PM

To: Kelly Bayne, M.S.

Subject: Survey for Desert Tortoises

In Reply, Please Refer to 2012-TA-0271.

Kelly Bayne
Analytical Environmental Services
Sacramento, California

Dear Ms Bayne:
This note is in response to your request, which you provided by electronic mail on March 27, 2012, for guidance with regard to the dates that surveys could be conducted for desert tortoises on a 40-acre parcel near Barstow. Specifically, you requested, during our phone conversation today, our opinion on whether surveys could begin before the first of April, which is the earliest date suggested by the Fish and Wildlife Service's guidance.

Given the short time between today and April 1, beginning work now would not appreciably alter the results of the surveys.

As we discussed on the telephone, I recommend that you also contact the California Department of Fish and Game.

If you have any questions, please contact me by electronic mail or at (805) 644-1766, extension 317.

Sincerely,

Raymond Bransfield
Senior Biologist

APPENDIX 2

CALIFORNIA NATURAL DIVERSITY DATABASE LIST OF REPORTED OCCURRENCES OF SPECIAL-STATUS SPECIES WITHIN THE BARSTOW SE, HINKLEY, BARSTOW, NEBO, DAGGETT, WEST ORD MOUNTAIN, STODDARD WELL, TURTLE VALLEY, AND HODGE 7.5-MINUTE USGS QUADRANGLES VENTURA

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Abronia villosa var. aurita chaparral sand-verbena	PDNYC010P1			G5T3T4	S2	1B.1
2	Athene cunicularia burrowing owl	ABNSB10010			G4	S2	SC
3	Castela emoryi Emory's crucifixion-thorn	PDSIM03030			G2G3	S2S3	2.3
4	Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
5	Corynorhinus townsendii Townsend's big-eared bat	AMACC08010			G4	S2S3	SC
6	Eriophyllum mohavense Barstow woolly sunflower	PDAST3N070			G2	S2	1B.2
7	Falco mexicanus prairie falcon	ABNKD06090			G5	S3	
8	Gopherus agassizii desert tortoise	ARAAF01010	Threatened	Threatened	G4	S2	
9	Lanius ludovicianus loggerhead shrike	ABPBR01030			G4	S4	SC
10	Mentzelia tridentata creamy blazing star	PDLOA031U0			G2	S2.3	1B.3
11	Mimulus mohavensis Mojave monkeyflower	PDSCR1B1V0			G2	S2	1B.2
12	Pediomelum castoreum Beaver Dam breadroot	PDFAB5L050			G3	S2	1B.2
13	Phacelia parishii Parish's phacelia	PDHYD0C3G0			G2G3	S1.1	1B.1
14	Siphateles bicolor mohavensis Mohave tui chub	AFCJB1303H	Endangered	Endangered	G4T1	S1	
15	Taxidea taxus American badger	AMAJF04010			G5	S4	SC
16	Toxostoma lecontei Le Conte's thrasher	ABPBK06100			G3	S3	SC
17	Uma scoparia Mojave fringe-toed lizard	ARACF15030			G3G4	S3S4	SC
18	Xerospermophilus mohavensis Mohave ground squirrel	AMAFB05150		Threatened	G2G3	S2S3	

APPENDIX 3

USFWS LIST OF FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES WHICH MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

Preliminary Species-list: *Barstow*

Ventura Fish And Wildlife Office

Following is a preliminary U.S. Fish and Wildlife Service species-list from the Ventura Fish And Wildlife Office. The species-list identifies listed and proposed species and designated and proposed critical habitat that may be affected by the project "Barstow".

NOTE: THIS IS ONLY A PORTION OF YOUR COMPLETE SPECIES-LIST. Your project location spans multiple Fish and Wildlife Service office jurisdictions. You will be receiving additional official species-list documents from the offices listed later in this document.

This species-list has been generated by the Service's on-line Information, Planning, and Conservation (IPaC) decision support system based on project type and location information you provided on February 8, 2012, 2:39 PM. This information is summarized below.

Please reference our tracking number, 08EVEN00-2012-SLI-0169, in future reference to this project to assist in expediting the process.

`http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF`

This list below only addresses federally proposed, listed, or candidate species and federally designated critical habitat. Please contact the appropriate State agencies for information regarding State species of special designation. Also, please feel free to contact the office(s) identified below if you would like information on other important trust resources (such as migratory birds) in your project area.

This Species-list document is provided by:

VENTURA FISH AND WILDLIFE OFFICE
2493 PORTOLA ROAD, SUITE B
VENTURA, CA 93003
(805) 644-1766

Expect additional Species-list documents from the following office(s):

CARLSBAD FISH AND WILDLIFE OFFICE
6010 HIDDEN VALLEY ROAD
CARLSBAD, CA 92009
(760) 431-9440

TAILS consultation code: 08EVEN00-2012-SLI-0169

Project type: Development

Project location map:

Project coordinates: MULTIPOLYGON (((-117.0826416 34.8450042, -117.0749168 34.8451759, -117.0749168 34.8384811, -117.0826416 34.8384811, -117.0826416 34.8450042)))

Project counties: San Bernardino, CA

Endangered Species Act Species-list

California red-legged frog *(Rana draytonii)*

Population: Entire

Listing Status: Threatened

Desert tortoise *(Gopherus agassizii)*

Population: U.S.A., except in Sonoran Desert

Listing Status: Threatened

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

Listing Status: Endangered

Southwestern Willow flycatcher *(Empidonax traillii extimus)*

Listing Status: Endangered

APPENDIX 4

LISTS OF ANIMALS AND VASCULAR PLANTS OBSERVED IN THE ACTION AREA

ANIMAL CHECKLIST

Barstow Site

MAMMALS

CANIDAE
Canis latrans
(coyote)

LEPORIDAE
Lepus californicus
(black-tailed jackrabbit)

SCIURIDAE
Ammospermophilus leucurus
(antelope ground squirrel)

REPTILES

TEIIDAE
Cnemidophorus tigris
(western whiptail)

BIRDS

ALAUDIDAE
Eremophila alpestris
(horned lark)

CORVIDAE
Corvus corax
(common raven)

COLUMBIDAE
Zenaida macroura
(mourning dove)

HIRUNDINIDAE
Hirundo rustica
(barn swallow)

LARIIDAE
Lanius ludovicianus
(loggerhead shrike)

ODONTOPHORIDAE
Callipepla gambelii
(Gambel's quail)

THRAUPIDAE
Piranga ludoviciana
(western tanager)

Analytical Environmental Services
June 2010

VASCULAR PLANT CHECKLIST

Barstow Site

CONIFERS

PINACEAE
Pinus sp. (horticultural pine)

FLOWERING PLANTS – DICOTS

AMARANTHACEAE
Atriplex polycarpa (saltbush)

ASTERACEAE
Ambrosia dumosa (burro-weed, white bursage)
Hymenoclea salsola (burrobrush)
Malacothrix glabrata (desert dandelion)

BORAGINACEAE
Amsinckia tessellata (devil's lettuce)
Cryptantha circumscissa (cryptantha)
Pectocarya penicillata (pectocarya)
Tiquilia plicata (tiquilia)

CACTACEAE
Opuntia echinocarpa (golden cholla)
Opuntia ramosissima (pencil cactus)

FABACEAE
Senna armata (spiny senna, desert senna)

GERANIACEAE
Erodium cicutarium (filaree)

POLYGONACEAE
Chorizanthe brevicornu (brittle spineflower)

SALICACEAE
Populus sp. (horticultural cottonwood)

ZYGOPHYLLACEAE
Larrea tridentata (creosote bush)

FLOWERING PLANTS – MONOCOTS

POACEAE
Schismus barbatus (Mediterranean grass)

APPENDIX 5

DESERT TORTOISE SURVEY FOR THE PROPOSED LOS COYOTES CASINO PROJECT SITE, BARSTOW, SAN BERNARDINO COUNTY, CALIFORNIA

DESERT TORTOISE SURVEY FOR THE PROPOSED LOS COYOTES CASINO PROJECT SITE, BARSTOW, SAN BERNARDINO COUNTY, CALIFORNIA

April 4, 2012

Prepared for:

Analytical Environmental Services

1801 7th Street, Ste. 100 • Sacramento, CA 95811

Prepared by:

Sundance Biology, Inc.

179 Niblick Road, PMB 272 • Paso Robles, California 93446

MERCY VAUGHN manydogs10@aol.com 928-380-5507 *STEPHEN BOLAND spboland@aol.com 918-380-8850*

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INTRODUCTION

This report addresses the results of a focused presence/absence survey for the desert tortoise on the proposed Los Coyotes Casino site in the city of Barstow, San Bernardino County, California. Potential habitat was delineated considering vegetation, elevation, and topography.

The proposed project site is located in the city of Barstow, California near the southeast corner of Lenwood Road and Mercantile Way (Figures 1 and 2). The project site is approximately 23 acres. It lies within the Western Mojave Recovery Unit which is managed under the guidelines set out in the West Mojave Plan and Final Environmental Impact Statement. However, the site is not contained within a Desert Tortoise Critical Habitat area or a Desert Wildlife Management Area (DWMA).

METHODOLOGY

Habitat Delineation

Delineation of potential desert tortoise was done prior to commencing the survey on March 30, 2012. Vegetation community on the site is creosote bush scrub and suitable for use by desert tortoises.

Field Survey

Focused surveys were completed for the desert tortoise (*Gopherus agassizii*) on the entire site. Additionally, zone-of-influence (ZOI) transects were conducted at 200, 400, and 600 meters south and east of the project corridor habitat occurs. Common and other uncommon animal species were sought as these focused surveys were performed. All animal species identified during the surveys were recorded in field notes and are listed in Tables 1-3.

Desert Tortoise

The survey for desert tortoise was conducted in accordance with the *Pre-project Survey Protocol for Potential Desert Tortoise Habitats, 2010* (US Fish and Wildlife Service, 2010). A variance to conduct the survey on March 30, 2012 was obtained from Ray Bransfield of the USFWS. The survey was conducted by walking a set of 24 east-west transects that covered the project site. Transect spacing was at 10 meters between transect centerlines, the standard width for desert tortoise presence/absence surveys.

A set of UTM coordinates for transect endpoints paralleling the project corridor centerline were calculated for the site. This resulted in 24 transects each 400 meters in length. For navigation of transects a Garmin handheld global positioning system (GPS) units was used.

The proposed site and ZOI was surveyed for desert tortoises and on 30 March 2012. Weather conditions were generally west winds, 3-10 mph and clear. Temperatures ranged from 50-82 degrees Fahrenheit throughout the daylight hours.

Data Recorded

All wildlife species encountered were recorded. Sensitive species and/or their sign encountered were recorded along with GPS coordinates for each incidence. Only definitive sign was recorded.

Biological Field Team

The survey was conducted by Stephen Boland. Biologist Kelly Bayne was present to observe during the survey.

RESULTS

Survey Area Description

The survey area ranges in elevation from 2395 to 2410 feet and is characterized by a creosote desert bush scrub vegetation community (Figures 2-3). The geomorphology of the survey area is middle bajada above the Mojave River flood plain with predominantly sandy loam soils. Slope aspect is generally west-northwest draining towards the Mojave River.

Impacts to the habitat on the site are high due to high levels of off-highway vehicle activity from the Stoddard Valley Off-Highway Vehicle Area in close proximity to the east and south. Additionally, commercial developments are found immediately north and west of the site. Trash and windblown litter is common along the north and west edges of the site. The overall habitat condition is fair to poor but remains suitable for the desert tortoise.

Desert Tortoise

Desert tortoise is listed as a threatened species by both State and federal governments (California Department of Fish and Game, 2006b). No tortoises or tortoise sign was found on the site. One class 3 tortoise burrow and a scat laid down this year was found on the 400 meter ZOI transect southeast of the site. A class 1 burrow and two scat probably laid down Fall 2011 were found approximately 900 meters northeast of the site. Areas surveyed and sign found are shown in Figure 2. Sign found is listed in Table 4.

Other Sensitive Species

No other species of wildlife were identified on the project site listed as either a Species of Special Concern (SSC), Bird of Conservation Concern (BCC), or both (California Department of Fish and Game 2006a, USFWS 2002).

DISCUSSION

Desert Tortoise

The proposed project site lies within the geographic range of the desert tortoise. The habitat within the survey area as well as adjacent habitat is typical and suitable for desert tortoises.

No tortoises were observed on site while surveying the project corridor. An old burrow and a recent scat were found on the 400 meter ZOI southeast of the site. An active burrow and two scat were found approximately 900 meters north east of the site. The presence of varying human impacts has probably contributed to the decline of any populations that may have occurred historically.

The proposed Casino Project may have direct impacts on desert tortoises in the area as well as indirect impacts occurring through loss of habitat. Direct impacts could occur during construction if a tortoise wanders onto the site.

MITIGATION RECOMMENDATIONS

Desert Tortoise

In order to mitigate potential direct impacts, the following recommendations will help minimize the potential for "take" of tortoises during and after construction.

1). Develop a biological monitoring plan in consultation with the USFWS. This plan would delineate all measures to be implemented prior to, during and post-construction, which would include but are not limited to the following measures:

a. Temporary tortoise-proof fencing (1"x 2" mesh hardware cloth) may need to be erected and maintained along the boundary of the project corridor prior to initiating construction and clearance surveys for desert tortoises on site. The fence will prevent tortoises from wandering onto the site during construction. Ongoing maintenance of the fencing would be recommended with oversight by an authorized biologist. Fence installation should be monitored by a qualified tortoise biologist.
b. It is recommended that tortoise clearance surveys be conducted at 15-foot intervals and that two coverages without finding any tortoises or new tortoise sign be conducted prior to declaring the site clear of tortoises. All burrows that could provide shelter for a desert tortoise should be excavated during the first clearance survey.
c. All construction and operations personnel should undergo desert tortoise awareness training.
d. After the tortoise-proof fence is erected, a qualified biologist(s) should remain onsite until all vegetation is cleared and, at a minimum, conduct site and fence

inspections on a bi-weekly basis throughout construction in order to maintain compliance with mitigation measures.

e. A qualified biologist(s) should be on site to survey for tortoises immediately in front of vegetation clearance activities in the event a tortoise was inadvertently missed during clearance surveys.
f. A biologist should remain on-call throughout construction in the event a tortoise wanders onto the site.
g. A raven management plan should be developed for the project site.
h. Post-construction reporting should be provided to all agencies within 90 days of completion of construction.

REFERENCES

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California Energy Commission and California Department of Fish and Game. (2010). *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California.* Sacramento, CA: California Energy Commission and California Department of Fish and Game.

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US Fish and Wildlife Service. (2010). *Pre-project Survey Protocol for Potential Desert Tortoise Habitats, 2010.* Ventura, CA: US Fish and Wildlife Service.

Table 1. Mammal Species List

LATIN NAME	COMMON NAME
Ammospermophilus leucurus	White-tailed antelope squirrel
Canis latrans	Coyote (scat only)
Lepus californicus	Black-tailed jackrabbit
Canis lupus familiaris	Domestic dog

Table 2. Reptile Species List

SCIENTIFIC NAME	COMMON NAME
Uta stansburiana	Common side-blotched lizard

Table 3. Bird Species List

COMMON NAME	COMMON NAME
Black-throated sparrow	Northern mocking bird
Common raven	Red-tailed hawk
Horned lark	Rock wren
House finch	Sage sparrow
House sparrow	White-crowned sparrow

Table 4. Desert Tortoise Sign (Datum NAD 27)

Type of Sign	Cond. Class	Description and Comments	Easting	Northing	ZOI
Burrow	3	18cm wide, 30cm deep. Poor condition.	493202	3855297	400m
Scat	TY	32cm wide, 0-.5m deep, active condition, no scat. Another tortoise burrow next to this tortoise burrow.	493046	3855289	400m
Burrow	1	30cm wide, >1m deep, active condition, and two scat inside burrow.	493807	3856142	>600m
Scat	NTY	Found in wash. Probably laid down Fall 2011.	493688	3856329	>600m
Scat	NTY	Found in wash. Probably laid down Fall 2011.	493718	3856346	>600m

Condition Class Key for Desert Tortoise sign:
1=currently active, with desert tortoise or recent sign
2=good condition, definitely tortoise, no evidence of recent use
3=deteriorated condition, includes collapsed burrows, definitely desert tortoise
TY=Tortoise scat laid down this year
NTY= Tortoise scat laid down prior to this year (not this year)

Figure 1. Project site location in Barstow, San Bernardino County, California.

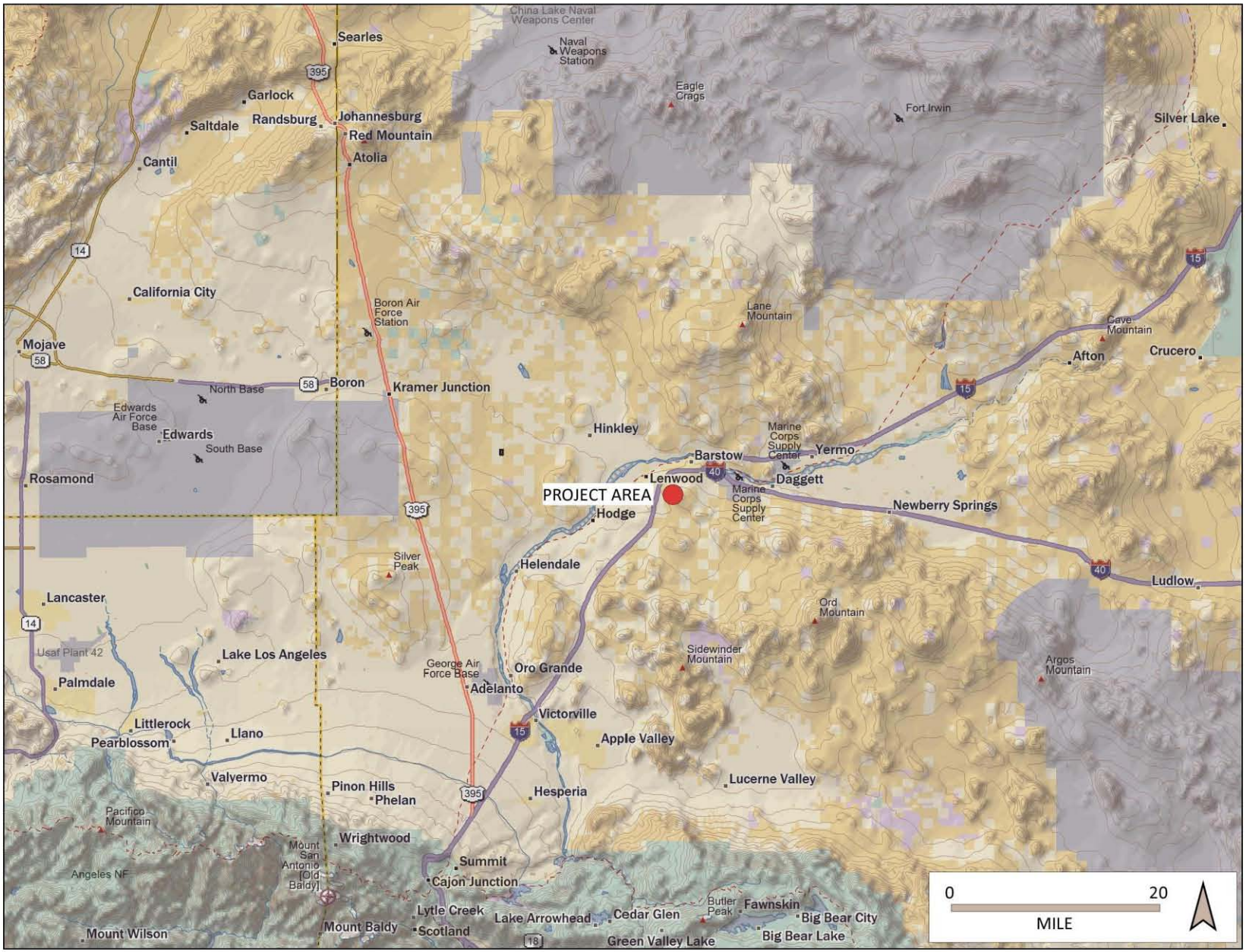


Figure 2. Desert tortoise survey area, Barstow, San Bernardino County, California.

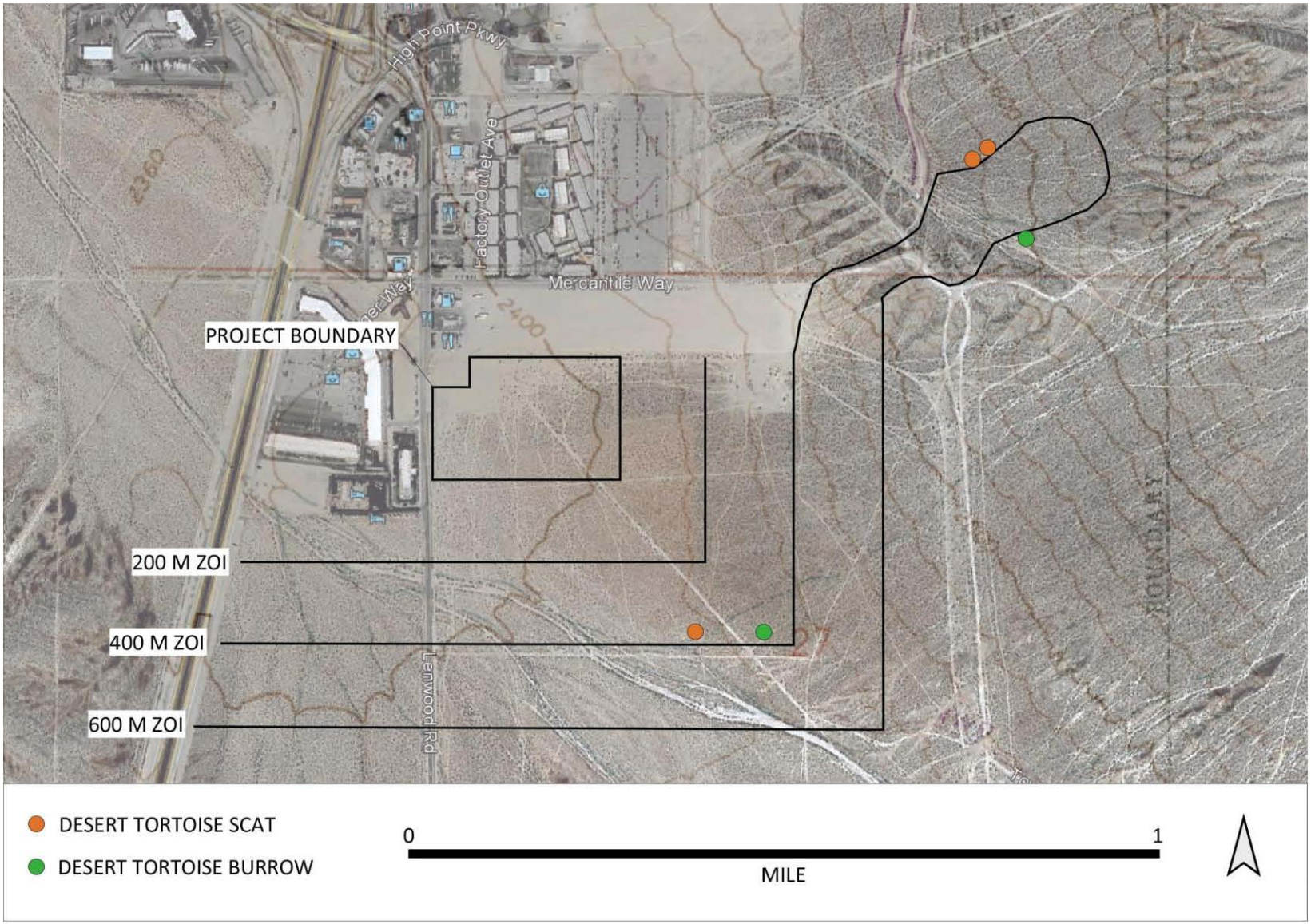


Figure 3. Project Site Habitat and tortoise sign photos, Barstow, San Bernardino County, California. (Datum NAD 27)

Main site-view south from NE corner, UTM 492901 E, 3855911 N

Main site-view east from west edge, UTM 492525 E, 3855801 N

Tortoise scat. 400 meter ZOI, UTM 493046 E, 3855289 N

Tortoise burrow-Class 3. 400 meter ZOI, UTM 493202 E, 3855297 N

Tortoise burrow-Class 1. Approximately 900 meters NE of site,

UTM 493807 E, 3856142 N

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: March 30, 2012 (day, month, year) Survey biologist(s):Stephen Boland, spboland@aol.com, 928-380-8850. Observing: Kelly Bayne, Analytical Env. Serv. (name, email, and phone number)

Site description: Casino, 23 acres in Barstow, CA. (project name and size; general location)

County: San Bernardino _____ Quad: Barstow SE _____ Location: UTM 492726 E, 3855790 N NAD 27 _ (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage Area size to be surveyed: 23 acres Transect #: 1-24 and ZOI @ 200, 400, 600 meters Transect length:

GPS Start-point: 492901 E, 3855911 N (easting, northing, elevation in meters) Start time: 0800am

GPS End-point: 492901 E, 3855671 N (easting, northing, elevation in meters) End time:1700pm

Start Temp: _50_____°F End Temp: _68_____°F

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (*Yes, No or Unknown*)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting (all found in ZOI)	GPS location Northing (all found in ZOI)	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	493202	3855297	Burrow	Class 3. 180 mm wide 300 mm deep. Not used in a while. Collapsed towards the back.
2	493046	3855289	Scat	Laid down this year.
3	493807	3856142	Burrow	Class 1. Scat inside appears recent. End curves out of view. 300 mm wide > 1 meter deep.
4	493688	3856329	Scat	Appears to have been laid down in the Fall of 2011. Dark but no scent with some cracking on the patina. Found in wash
5	493718	3856346	Scat	Appears to have been laid down in the Fall of 2011. Dark but no scent with some cracking on the patina. Found in wash

Transect number: 1-24 and ZOI

APPENDIX 6

REGIONALLY OCCURRING FEDERALLY LISTED, PROPOSED, OR CANDIDATE SPECIES

APPENDIX 3
BARSTOW SITE
REGIONALLY OCCURRING FEDERALLY LISTED SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Plants					
Astragalus albens Cushenbury milk-vetch	Endangered	Known to occur in San Bernardino County.	Known to occur in Joshua tree "woodland," Mojave desert scrub, and pinyon and juniper woodland/usually carbonate, rarely granitic. Elevations: 1,095-2,000 meters.	March - June	**No.** The project site is outside the known range of elevation for this species. This species was not observed during the May 3 and 4, 2006 biological survey conducted within the evident and identifiable blooming period.
Astragalus jaegerianus Lane Mountain milk-vetch	Endangered	Known to occur in San Bernardino County.	Occurs in Joshua tree "woodland" and Mojave desert scrub/granitic, sandy, or gravelly. Elevations: 900-1,200 meters.	April - June	**No.** The project site is outside the known range of elevation for this species. This species was not observed during the May 3 and 4, 2006 biological survey conducted within the evident and identifiable blooming period.
Erigeron parishii Parish's daisy	Threatened	Known to occur in Riverside and San Bernardino counties.	Known to occur in Mojave desert scrub and pinyon and juniper woodland/usually carbonate, sometimes granitic. Elevations: 800-2,000 meters.	May - August	**No.** The project site is outside the known range of elevation for this species. This species was not observed during the May 3 and 4, 2006 biological survey conducted within the evident and identifiable blooming period.
Eriogonum ovalifolium var. *vineum* Cushenbury buckwheat	Endangered	Known to occur in San Bernardino County.	Known to occur in Joshua tree "woodland," Mojave desert scrub, and pinyon and juniper woodland/carbonate. Elevations: 1,400-2,440 meters.	May - August	**No.** The project site is outside the known range of elevation for this species. This species was not observed during the May 3 and 4, 2006 biological survey conducted within the evident and identifiable blooming period.
Oxytheca parishii var. *goodmaniana* New name: *Acanthoscyphus parishii* var. *goodmaniana* Cushenbury oxytheca	Endangered	Known to occur in San Bernardino County.	Known to occur usually on sandy substrate in pinyon and juniper woodland, which is occasionally of carbonate or talus substrate. Elevations: 1,219-2,377 meters.	May - October	**No.** The project site is outside the known range of elevation for this species. This species was not observed during the May 3 and 4, 2006 biological survey conducted within the evident and identifiable blooming period.
Animals					
Fish					
Gila elegans Bonytail chub	Endangered	Occurs in Lake Mohave and Lake Havasu, Mohave County- Arizona. Green, Yampa, and Colorado Rivers within Utah and Colorado.	Mainstream slower water habitats including eddies, pools, side channels, and coves. Elevations: 0-1,219 meters.	Consult Agency	**No.** Suitable habitat for this species does not occur within the project site.
Gila bicolor mohavensis Mojave tui chub	Endangered	Widely distributed throughout the hydrographic Great Basin Region, including the northern portion of the Mojave Desert, in much of the area formerly occupied by Lake Lahontan and	Associated with deep pools and slough-like areas of the Mojave River. Requires aquatic ditchgrass (*Ruppia maritime*) for spawning and shelter.	May - June	**No.** Suitable habitat for this species does not occur within the project site.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		other pluvial lakes.			
Xyrauchen texanus Razorback sucker	Endangered	Isolated populations occur within Lakes Mohave and Mead in Arizona and Lake Havasu in Nevada, and within the Lower Colorado River. Small remnant populations occur in the Green, Yampa, and mainstream Colorado Rivers in Utah and Colorado, and in the San Juan River near the New Mexico-Utah border. It has been documented in Greenlee, Mohave, Pinal, Yavapai, Yuma, La Paz, Maricopa, Gila, Coconino, and Graham Counties- Arizona.	Large rivers and streams, impoundments, low velocity main channels, and backwaters. Spawns in downstream river mouths of tributaries and has been documented in adjacent wetlands.	Consult Agency	**No.** Suitable habitat for this species does not occur within the project site.
Amphibians					
Bufo microscaphus californicus Arroyo toad	Endangered	Endemic to California and northern Baja California. Ranges west of the desert in coastal areas from the upper Salinas River system in San Luis Obispo county to northwestern Baja California. It has been recorded at the Mojave River, Little Rock Creek, Whitewater River, San Felipe Creek, Vallecito Creek, and Pinto Canyon.	Inhabits washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks, cottonwoods. Extremely specialized habitat needs, including exposed sandy streamsides with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding. Sea level to 900 meters.	March - July	**No.** Suitable habitat for this species does not occur within the project site.
Rana draytonii California red-legged frog	Threatened	Known along the Coast from Mendocino County to Baja California, and inland through the northern Fresno Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County.	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation from 0 to 1,500 meters.	November - June	**No.** Suitable habitat for this species does not occur within the project site.
Reptiles					
Gopherus agassizii Desert tortoise	Threatened	In California, occurs throughout major portions of the Mojave and Sonora deserts.	Within the West Mojave Desert, primarily occur in creosote bush scrub, with lower densities occurring in Joshua tree woodland and saltbush scrub. Generally occurs between 610-1,006 meters in elevation.	March - October	**Yes.** The Mojave creosote bush scrub is suitable habitat within the project site for this species.
Birds					
Coccyzus americanus occidentalis Western yellow-billed cuckoo	Candidate	Summer migrant along the Colorado River, Sacramento and Owens valleys, Kern River, and other scattered locations throughout lowland California.	Frequents valley foothill and desert riparian habitats. Inhabits riparian habitats with dense understory foliage along slow-moving drainages, backwaters, or seeps. Prefers dense willows for roosting, but will use adjacent orchard in the Sacramento Valley.	June - August	**No.** Suitable habitat for this species does not occur within the project site.
Empidonax traillii extimus Southwestern willow flycatcher	Endangered	Occurs in southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and northwestern Mexico. In California this species occurs in Kern, Tulare, San Bernardino, Riverside, San Diego, Santa Barbara, Orange, Los Angeles, Imperial, and Inyo counties. In Arizona this species is associated with	Requires dense riparian habitats along streams, rivers, lakesides, and other wetlands for nesting (especially willows, cottonwoods, and mesquite). Will forage throughout wet meadows, open river valleys, lush wetlands and thickets, and other montane riparian habitats.	April-September	**No.** Suitable habitat for this species does not occur within the project site.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		the Aqua Fria, Gila, Little Colorado, Salt, San Pedro, Colorado, San Francisco, Hassayampa, Verde, Big Sandy, Santa Maria, Virgin, and Bill Williams rivers, and Pinal, Tonto, and Cienega creeks.			
Rallus longirostris yumanensis Yuma clapper rail	Endangered	Occurs along the Lower Colorado River from Lake Mead to Mexico. Also known to occur within the Salton Sea. California counties include San Bernardino, Riverside, and Imperial. Arizona counties include Maricopa, Pinal, and Gila.	Occurs in brackish or freshwater shallow marsh habitats and stream banks. Requires a wet substrate with dense stands of bulrush and/or cattail.	March-July	**No.** Suitable habitat for this species does not occur within the project site.
Vireo bellii pusillus Least Bell's vireo	Endangered	Occurs in San Diego, Riverside, San Bernardino, Santa Barbara, Inyo, Ventura, Los Angeles, Orange, and Monterey Counties of southern California and portions of northern Baja California-Mexico.	Occurs in cottonwood and willow riparian forests, oak woodlands, and within shrubby thickets and desert washes.	April-July	**No.** Suitable habitat for this species does not occur within the project site.

APPENDIX 7

DESERT TORTOISE EXCLUSION FENCE

CHAPTER 8. DESERT TORTOISE EXCLUSION FENCE

RECOMMENDED SPECIFICATIONS FOR DESERT TORTOISE EXCLUSION FENCING

These specifications were developed to standardize fence materials and construction procedures to confine tortoises or exclude them from harmful situations, primarily roads and highways. Prior to commencing any field work, all field workers should comply with all stipulations and measures developed by the jurisdictional land manager and the U.S. Fish and Wildlife Service for conducting such activities in desert tortoise habitat, which will include, at a minimum, completing a desert tortoise education program.

Fence Construction

Materials

Fences should be constructed with durable materials (*i.e.*, 16 gauge or heavier) suitable to resist desert environments, alkaline and acidic soils, wind, and erosion. Fence material should consist of 1-inch horizontal by 2-inch vertical, galvanized welded wire, 36 inches in width. Other materials include: Hog rings, steel T-posts, and smooth or barbed livestock wire. Hog rings should be used to attach the fence material to existing strand fence. Steel T-posts (5 to 6-foot) are used for new fence construction. If fence is constructed within the range of bighorn sheep,

6-foot T-posts should be used (see New Fence Construction below). Standard smooth livestock wire fencing should be used for new fence construction, on which tortoise-proof fencing would be attached.

Retrofitting Existing Livestock Fence

Option 1 (see enclosed drawing). Fence material should be buried a minimum of 12 inches below the ground surface, leaving 22-24 inches above ground. A trench should be dug or a cut made with a blade on heavy equipment to allow 12 inches of fence to be buried below the natural level of the ground. The top end of the tortoise fence should be secured to the livestock wire with hog rings at 12 to 18-inch intervals. Distances between T-posts should not exceed 10 feet, unless the tortoise fence is being attached to an existing right-of-way fence that has larger interspaces between posts. The fence must be perpendicular to the ground surface, or slightly angled away from the road, towards the side encountered by tortoises. After the fence has been installed and secured to the top wire and T-posts, excavated soil will be replaced and compacted to minimize soil erosion.

Option 2 (see enclosed drawing). In situations where burying the fence is not practical because of rocky or undigable substrate, the fence material should be bent at a 90E angle to produce a lower section approximately 14 inches wide which will be placed parallel to, and in direct

contact with, the ground surface; the remaining 22-inch wide upper section should be placed vertically against the existing fence, perpendicular to the ground and attached to the existing fence with hog rings at 12 to18-inch intervals. The lower section in contact with the ground should be placed within the enclosure in the direction of potential tortoise encounters and level with the ground surface. Soil and cobble (approximately 2 to 4 inches in diameter; can use larger rocks where soil is shallow) should be placed on top of the lower section of fence material on the ground covering it with up to 4 inches of material, leaving a minimum of 18 inches of open space between the cobble surface and the top of the tortoise-proof fence. Care should be taken to ensure that the fence material parallel to the ground surface is adequately covered and is flush with the ground surface.

New Fence Construction

Options 1 or 2 should be followed except in areas that require special construction and engineering such as wash-out sections (see below). T-posts should be driven approximately

24 inches below the ground surface spaced approximately 10 feet apart. Livestock wire should be stretched between the T-posts, 18 to 24 inches above the ground to match the top edge of the fence material; desert tortoise-proof fencing should be attached to this wire with hog rings placed at 12 to 18-inch intervals. Smooth (barb-less) livestock wire should be used except where grazing occurs.

If fence is constructed within the range of bighorn sheep, two smooth-strand wires are required at the top of the T-post, approximately 4 inches apart, to make the wire(s) more visible to sheep. A 20 to 24-inch gap must exist between the top of the fence material and the lowest smooth-strand wire at the top of the T-post. The lower of the top two smooth-strand wires must be at least 43 inches above the ground surface.

(72-inch T-posts: 24 inches below ground + 18 inches of tortoise fence above ground + 20 to 24-inch gap to lower top wire + 4 inches to upper top wire = 66 to 70 inches).

Inspection of Desert Tortoise Barriers

The risk level for a desert tortoise encountering a breach in the fence is greatest in the spring and fall, particularly around the time of precipitation including the period during which precipitation occurs and at least several days afterward. All desert tortoise fences and cattleguards should be inspected on a regular basis sufficient to maintain an effective barrier to tortoise movement. Inspections should be documented in writing and include any observations of entrapped animals; repairs needed including bent T-posts, leaning or non-perpendicular fencing, cuts, breaks, and gaps; cattleguards without escape paths for tortoises or needed maintenance; tortoises and tortoise burrows including carcasses; and recommendations for supplies and equipment needed to complete repairs and maintenance.

All fence and cattleguard inventories should be inspected at least twice per year. However, during the first 2 to 3 years all inspections will be conducted quarterly at a minimum, to identify and document breaches, and problem areas such as wash-outs, vandalism, and cattleguards that fill-in with soil or gravel. GPS coordinates and mileages from existing highway markers should be recorded in order to pinpoint problem locations and build a database of problem locations that may require more frequent checking. Following 2 to 3 years of initial inspection, subsequent inspections should focus on known problem areas which will be inspected more frequently than twice per year. In addition to semi-annual inspections, problem areas prone to wash-outs should be inspected following precipitation that produces potentially fence-damaging water flow. A database of problem areas will be established whereby checking fences in such areas can be done efficiently.

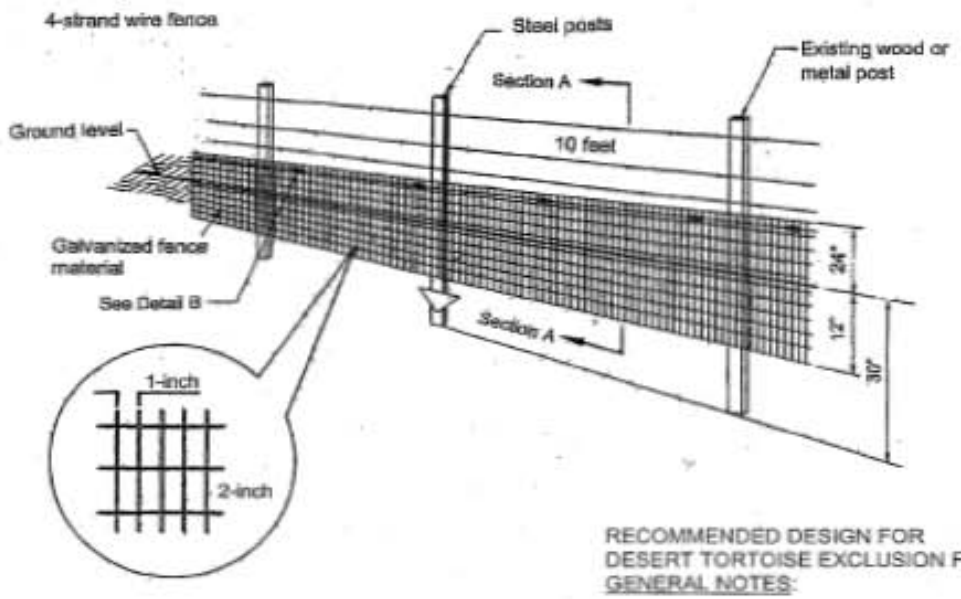
Repair and Maintenance of Desert Tortoise Barriers

Repairs of fence wash-outs: (1) realign the fence out of the wash if possible to avoid the problem area, or (2) re-construct tortoise-proof fencing using techniques that will ensure that an effective desert tortoise barrier is established that will not require frequent repairs and maintenance.

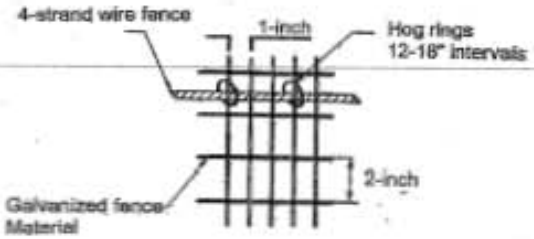
Gaps and breaks will require either: (a) repairs to the existing fence in place, with similar diameter and composition of original material, (b) replacement of the damaged section to the nearest T-post, with new fence material that original fence standards, (c) burying fence, and/or (d) restoring zero ground clearance by filling in gaps or holes under the fence and replacing cobble over fence constructed under Option 2. Tortoise-proof fencing should be constructed and maintained at cattleguards to ensure that a desert tortoise barrier exists at all times.

All fence damage should be repaired in a timely manner to ensure that tortoises do not travel through damaged sections. Similarly, cattleguards will be cleaned out of deposited material underneath them in a timely manner. In addition to periodic inspections, debris should be removed that accumulates along the fence. All cattleguards that serve as tortoise barriers should be installed and maintained to ensure that any tortoise that falls underneath has a path of escape without crossing the intended barrier.

DESERT TORTOISE EXCLUSION FENCE (2005)



DETAIL A



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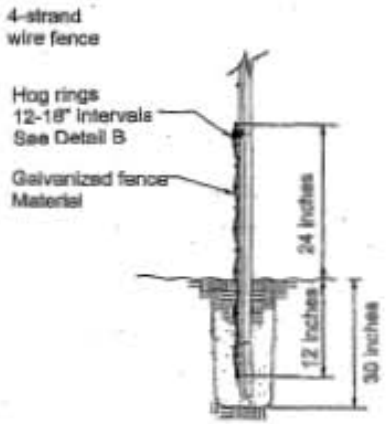


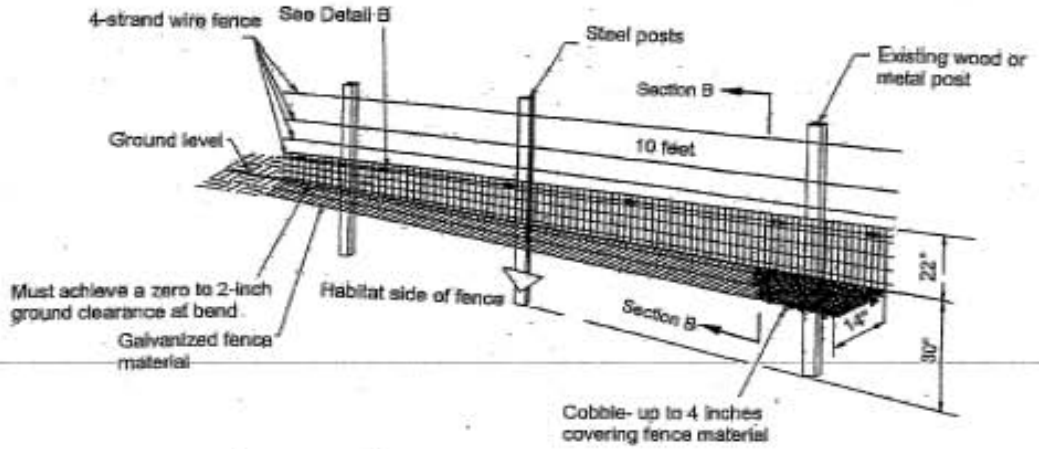
SECTION A

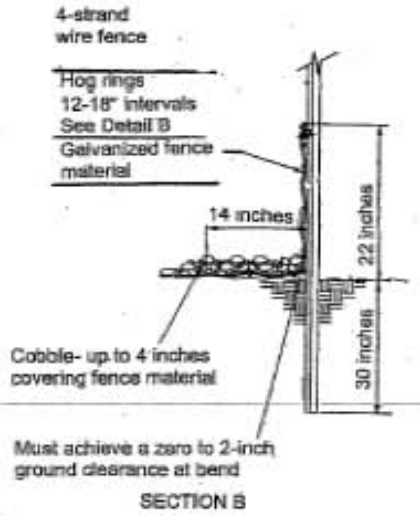
RECOMMENDED DESIGN FOR
DESERT TORTOISE EXCLUSION FENCE
GENERAL NOTES:

1. Ensure that fence posts and materials conform to the standards approved by the U.S. Fish and Wildlife Service.
2. Ensure that the height above ground level is no less than 18 inches and no higher than 24 inches.
3. Ensure that the depth of fence material below ground level is about 12 inches but no less than 6 inches. (See SECTION A above)
4. Install additional steel posts when span between existing fence posts exceed 10 feet.
5. Attach fence material to existing fence or wire using hog rings at 12-inch intervals.
6. Fasten fence material to posts with 3 tie wires with a wire near the top, bottom, and center of the fence material.
7. Backfill trenches with excavated material and compact the material.
8. Attach fence material to all gates. Ensure that clearance at base of gate achieves zero ground clearance.
9. Substitute smooth wire for barbed wire if additional support wires are necessary.
10. The number and placement of support wires may be modified to allow sheep and deer to pass safely.
11. Erosion at the edge of the fence material where the fence crosses washes may occur and requires appropriate and timely monitoring and repair.
12. Tie the fence into existing culverts and cattleguards when determined necessary to allow desert tortoise passage underneath roadways.

FOR BEDROCK OR CALICHE SUBSTRATE

1. Use this fence design (see below) only for that portion of the fence where fence material cannot be placed 6 inches below existing ground level due to presence of bedrock, large rocks or caliche substrate.
2. Ensure that the fence height above ground level is no less than 22 inches.
3. Ensure that there is a zero to 2-inch ground clearance at the bend.
4. Ensure that the bent portion of the fence is lying on the ground and pointed in the direction of desert tortoise habitat.
5. Cover the portion of the fence that is flush with the ground with cobble (rocks placed on top of the fence material to a vertical thickness up to 4 inches).
6. When substrate no longer is composed of bedrock or caliche, install fence using design shown above.





SECTION B