PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Inland Empire Economic Partnership Commercial Filming
Barstow Resource Area

Bureau of Land Management – Barstow Field Office

May 2013

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Barstow Resource Area

May 2013

U.S. Department of the Interior
The Bureau of Land Management Barstow Field Office
2601 Barstow Road
Barstow, California 92311

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LIST OF ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
AMSL	above mean sea level
APE	area of potential effects
ATV	all terrain vehicle
BFO	Barstow Field Office
BLM	U.S. Bureau of Land Management
BMPs	Best Management Practices
CDCA	California Desert Conservation Area
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CWA	Clean Water Act
DTSC	Department of Toxic Substances Control
DWMA	Desert Wildlife Management Areas
EA	Environmental Assessment
ECSZ	Eastern California Shear Zone
F	Fahrenheit
FESA	Federal Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
HCA	Habitat Conservation Area
I-15	Interstate 15
I-40	Interstate 40
IEFC	Inland Empire Film Commission
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
OHV	Off-Highway Vehicle
OHWM	Ordinary High Water Mark
RMP	Resource Management Plan
RPW	relatively permanent water

RWQCB	Regional Water Quality Control Board
SBAIC	San Bernardino Archaeological Information Center
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TNW	traditional navigable water
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management
WMP	West Mojave Plan
WRCC	Western Regional Climate Center

CHAPTER 1 — INTRODUCTION

1.1 IDENTIFYING INFORMATION

Bureau of Land Management (BLM) lands under the Barstow Field Office's jurisdiction (BFO) provide a variety of unique terrain and conditions that are attractive to the film industry. Pursuant to 43 CFR 2920, photography and filming activities regularly occur on public lands under the BFO's jurisdiction. A permit must be acquired from the BLM before commercial photography or filming occurs. Filming activities generate revenues for the U.S. General Treasury and occur within the parameters listed in the permit issued. The activities are permitted subject to the parameters established in local management plans with stipulations tailored to the specific location.

This programmatic Environmental Assessment (EA) considers the potential environmental effect associated with filming activities at the following locations within the BFO's jurisdiction:

- Sawtooth Canyon;
- Rasor Off-Highway Vehicle (OHV) Area;
- Afton Canyon;
- Portions of Odessa Canyon;
- Portions of Mule Canyon;
- Stoddard Valley OHV Area; and
- Amargosa Canyon (Sperry Wash sections[1]).

The EA describes the existing conditions and assesses the impacts of the proposed action and no-action alternatives. Direct and indirect site specific effects of the proposed project are assessed. The impacts are analyzed for short-term, long-term, and cumulative consequences.

1.2 PURPOSE AND NEED FOR ACTION

The purpose of this project is to:

1.) Provide consistent and timely opportunities for commercial film permits on BLM public land, including special areas;
2.) Protects natural resources on public lands; and
3.) Prevent unnecessary or undue degradation.

The BLM receives several applications per year for commercial filming activities in the California Desert District (CDD) and other specially designated areas such as BLM's California Desert Conservation Area (CDCA) and the West Mojave Plan (WMP) area. Various levels of filming have taken place in the Barstow Resource Area since 1935,

[1] Hollywood Canyon is considered to be part of Sperry Wash.

including such well-known movies as *Tumbling Tumbleweed* (1935), *The Bagdad Café* (1987), *Erin Brockovich* (2000), *Kill Bill* (2004), and *Letters from Iwo Jima* (2007), resulting in positive (additional resource protection, cleanup of filming areas, and increased revenue).

The opportunities afforded to the film industry desert filming location must be sufficiently balanced to ensure that the sensitive resources and unique character of desert environment are appropriately protected. The unique scenic, natural, and open space qualities of the Mojave Desert, coupled with the desert's relative proximity to major film production facilities, has created additional demand for filming in desert locations. This increased demand, typically driven by the characteristically abbreviated time constraints common in the film industry, benefits from a programmatic assessment of the environmental effects of film activities at the locations in question.

Because of the sensitivity of desert resources and increased demand for desert filming activities, special management actions are necessary to prevent and/or mitigate the effects that filming activities may have on the desert environment. The programmatic EA will identify the acceptable limits of future filming activities, determine additional site-specific and areawide constraints, and establish minimum impact criteria for filming activities which apply specifically to the seven identified locations. The programmatic EA will also determine standard stipulations to minimize filming impacts and resolve conflicts with other uses such as OHV activities.

The need for the action is established by the Federal Land Policy and Management Act (FLPMA) specifically Section 302(b) which requires BLM to regulate commercial uses through the use of permits and to respond to such requests. Commercial filming permits are discretionary actions in which a proponent files an application with BLM requesting a permit. The BLM would consider each application and if it meets minimum impact criteria for special areas, could then issue a 43 CFR 2920 permit without further National Environmental Policy Act (NEPA) clearance.

1.3 EXTERNALLY GENERATED ACTION

The proposed action would allow for filming activities to occur within Sawtooth Canyon, Rasor OHV Area, Afton Canyon, Portions of Odessa Canyon, Portions of Mule Canyon, Stoddard Valley OHV Area, and the Sperry Wash sections of Amargosa Canyon. A map of each area under consideration is provided in Section 2.1.2 (General Setting). This action would impact approximately 104,605 acres of land administered by the Barstow Field Office (BFO) of the BLM.

1.4 DECISION TO BE MADE

The programmatic EA assists the BLM in project planning and ensures compliance with the NEPA to make a determination as to whether any "significant" effects could result from the analyzed actions. "Significance" is defined by the Council on Environmental Quality, and is found in Title 40 Code of Federal Regulations (CFR) 1508.27. The programmatic EA also provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). If the BLM determines

that this project has “significant” effects following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A Decision Record, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental effects.

The BLM will decide whether to adopt the minimum impact criteria set forth in this programmatic EA for identified filming activities within Sawtooth Canyon, Rasor OHV Area, Afton Canyon, Portions of Odessa Canyon, Portions of Mule Canyon, Stoddard Valley OHV Area, and Amargosa Canyon (Sperry Wash). If the criteria are accepted, BLM will appropriately screen applications and consider issuance of a 43 CFR 2920 permit for these filming applications.

1.5 SCOPING AND ISSUES

This is, by definition, a small minimum impact action that is routine in nature. As previously identified, pursuant to 43 CFR 2920, photography and filming activities regularly occur on public lands under the BFO’s jurisdiction. The BLM conducted internal scoping to identify any possible resource issues.

1.6 CONFORMANCE WITH LAND USE PLANS

The CDCA, Final West Mojave (WEMO) Plan, the Final Stoddard Valley OHV Management Plan (September 1993), Management Plan for Afton Canyon Natural Area and the Surrounding Area (May 1989), Draft Amargosa River Area of Critical Environmental Concern Implementation Plan, and associated environmental documents have been reviewed to determine if the proposed action conforms with land use terms and conditions required by 43 CFR 1610.5. The proposed action is in conformance with the CDCA Plan, as amended. The areas analyzed in this environmental assessment consist of lands classified as I (Intensive Use), M (Moderate Use), L (Limited Use) and U (Unclassified) as designated by the CDCA Plan and subsequent amendments. In the above documents, photography and filming activities were determined to be appropriate activities for the BFO’s planning area and stipulations for filming activities within the planning areas were identified. Initial stipulations for filming have since been expanded in response to area management planning and/or new legislative requirements. The CDCA Plan determined that permitted activities were appropriate on these lands, but the specific permitted activity of filming was not addressed in the CDCA Plan.

1.7 RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS

Issuing commercial filming permits is authorized under Section 302(b) of the FLPMA (43 U.S.C. 1732), the implementing regulations at 43 CFR 2920 and corresponding BLM Manual 2920. Principal authorities affecting use and management of lands under wilderness review are FLPMA (43 U.S.C. 1712, 1782), BLM Manual 8550 and its corresponding Handbook H-8550-1, Resource Management Plan (RMP). Special Recreation Permits (SRPs) are

authorized under FLPMA, 43 U.S.C. 1701, et seq., and the Land and Water Conservation Fund Act, as amended (16 U.S.C. 4061-6a). SRPs are required for a variety of recreation activities on BLM public lands. They are used to ensure public health and safety, protect recreation and natural resources, and ensure the public receives a fair monetary return for certain recreation uses of BLM public lands. SRPs are required for commercial activities, competitive events, certain organized group activities and in some designated special areas.

Existing Wilderness Study Areas (WSAs) are managed under the BLM's RMP and guidelines for Lands Under Wilderness Review (BLM Handbook H-8550-1) until legislation takes effect to change their status. The major objective of the RMP is to manage lands under wilderness review in a manner that does not impair their suitability for designation as wilderness. In general, the only activities permissible under the RMP are temporary uses that do not create surface disturbance or involve permanent placement of structures. The RMP provides for permits under 43 CFR 2920 and 2930 to be issued in BLM determines that the use in question satisfies the "non-impairment" standard and that such permits contain a stipulation that if the WSA is designated as a wilderness area, the permit may be terminated.

CHAPTER 2 — PROPOSED ACTION AND ALTERNATIVES

2.1 DESCRIPTION OF PROPOSED ACTION

The proposed action is to determine an appropriate level of permitting authority and parameters for filming activities on specific public lands, consistent with the multiple class use designation[1] and resource protection values. Individual applicants would be issued permits for filming under the blanket permit authority determined by this analysis. The EA and permit authorization would set limits on the intensity of filming activities permitted in Sawtooth Canyon, Rasor OHV Area, Afton Canyon, Portions of Odessa Canyon, Portions of Mule Canyon, Stoddard Valley OHV Area, Amargosa Canyon (Sperry Wash sections) as well as provide necessary stipulations, mitigation, and appeal opportunities. This authority would apply only when commercial companies[2] are using the areas listed below as a stage for commercial photography ranging from still shots to motion pictures, and only if such activities meet the criteria identified herein. The intensity of film activities within these areas can generally assigned to one of the three levels of use, defined as follows:

- *Light Use* includes film activity that meets the following conditions:
  - The length of the film activity limited to five days or fewer;
  - A cast and crew of up to 20 persons;
  - All vehicles associated with film activity are restricted to BLM designated open routes;
  - A range of up to fifteen vehicles (inclusive of cast and crew and associated services) is utilized during the film activity;
  - No activity occurs within designated Critical Habitat or Desert Wildlife Management Areas (DWMA);
  - No digging, excavation, or augering permitted during filming activity;
  - Use of physical effects that do not result in soil disturbance (e.g., flame bars, ceramic fire logs, squibs, and atmospheric effects equipment for small effects of wind, fog, steam, and so on) permitted; and
  - All props used in filming activity are freestanding.

- *Moderate Use* is more intense than light use and is characterized by:
  - The length of the film activity is greater than five days, but less than 30 days;
  - A cast and crew of up to 60 persons;
  - A range of up to 45 vehicles (inclusive of cast and crew and associated services) is utilized during the film activity;

[1] The multiple class use designation refers to a designation that allows multiple types and levels of use consistent with the guidelines of the CDCA Plan.
[2] A permit must be acquired from the BLM before commercial photography or filming occurs. Photography or filming for personal use would not require the obtainment of a BLM permit.

- Temporary disturbance of less than one acre (e.g., activities related to staking, posting, or sandbagging for props and any temporary supporting service tents) subject to existing BLM revegetation protocols;
- Limited motorized disturbance (e.g., precision driving and stunts), limited set construction (e.g., limited to free-standing sets), and limited use of specialized support equipment (e.g., up to 2 boom vehicles and 5 semi-truck or tracked vehicles);
- Limited use of physical effects permitted with temporary soil disturbance (e.g., small pyrotechnic devices[1] and atmospheric effect equipment for creating fire wind, rain, and snow effects on site); and
- All props used in filming activity are freestanding.

- *Intense Use* includes any film activity that requires or results in any of the following:
  - A filming period in excess of thirty days, inclusive of set up (i.e., base camp and set building activities) and strike (i.e., tear down of base camp and any sets constructed);
  - A cast and crew in excess of 61 persons;
  - More than 45 vehicles (inclusive of cast and crew and associated services) are utilized during the film activity;
  - Use of specialized support equipment (e.g., set construction, generators, boom vehicles, semi-truck or tracked vehicle, or water equipment);
  - Use of physical effects permitted involving permanent soil disturbance/debris (e.g., large-scale pyrotechnics, large-scale atmospheric effects equipment for creating rain, snow, fire, or explosion effects);
  - Temporary disturbance of more than one acre but less than two acres (e.g., digging, excavation, or augering permitted) subject to existing BLM revegetation protocols;
  - All props used in filming activity are freestanding.

Activities which do not meet these criteria would still be evaluated on a case by case basis and require a 30-day appeal period when the permit is issued. Permit authorizations approved herein would be monitored by the BFO and subject to additional limitations as deemed necessary by the Authorized Officer for the protection of human safety and/or resource values. Moderate and Intense use filming activities may be subject to consultation with USFWS depending on the location and duration of the filming activity.

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[1] Small pyrotechnic devices include those that are considered appropriate for proximate pyrotechnics use. Many of these proximate pyrotechnic devices are self-contained, short in duration, and do not generate residue once fully combusted. Please refer to the American Pyrotechnics Association Glossary of Proximate Pyrotechnic Devices for further information.

2.1.1 Other Stipulations Incorporated into the Proposed Action

Efforts would be made to contain the loose soil during installation activities to avoid soil loss and adverse effects to water and air quality in the proposed project area. Immediately upon completion of filming activities, loose soil would be backfilled and compacted to ensure that site conditions are returned to their original conditions present at the time filming activities occur.

Each potential film site has different noxious weed issues and, therefore, needs to be addressed on a case-by-case basis regarding specific measures. Issuing a site-specific permit would provide the opportunity to address the specific noxious weed issues associated with the area. By following existing BLM stipulations[1] identified in the film permit provided by BLM regarding vegetative reseeding and avoidance of the spread of noxious weeds, the potential for the introduction and spread of noxious weeds would be minimized. In addition, any use of animals on set would require prepping the animals prior to filming activities through form verification in filming permit.

Additional best management practices would be employed to reduce impacts to surface water resources from the proposed action including: controlling vehicles and equipment to restrict off-road use, preventing destruction of vegetation immediately adjacent to filming areas, and preventing releases of materials from the filming area, such as plant material, trash, and oil or fuel from equipment.

All jurisdictional waters and wetlands regulated by the United States Army Corps of Engineers (USACE) would be avoided by all project activities. There would be no dredging or depositing of fill materials within jurisdictional waters.

In the event that environmental contamination is encountered during set up and break down of filming activities at the proposed action location (e.g. any unusual odors, liquids, materials, or stained soils), appropriate response procedures would need to be available, including a plan for work area controls, notification instructions, and subsequent investigations. If contaminated soil or water is encountered during filming activities, all monitoring, handling and disposal requirements must be met in order to protect workers, the public, and the environment, from contaminants.

The BLM will screen each minimum impact commercial filming proposal for compliance with the criteria discussed above and to ensure that the proposal is compatible with the purposes of the area where it is proposed. If all of the criteria are met, a permit will be issued based on this EA.

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[1] Includes adherence to applicable requirements and standards in BLM Manual 9011 (Chemical Pest Control), BLM Manual 9015 (Integrated Weed Management) and BLM Manual 9014 (Use of Biological Control Agents of Pests on Public Lands).

2.1.2 General Setting

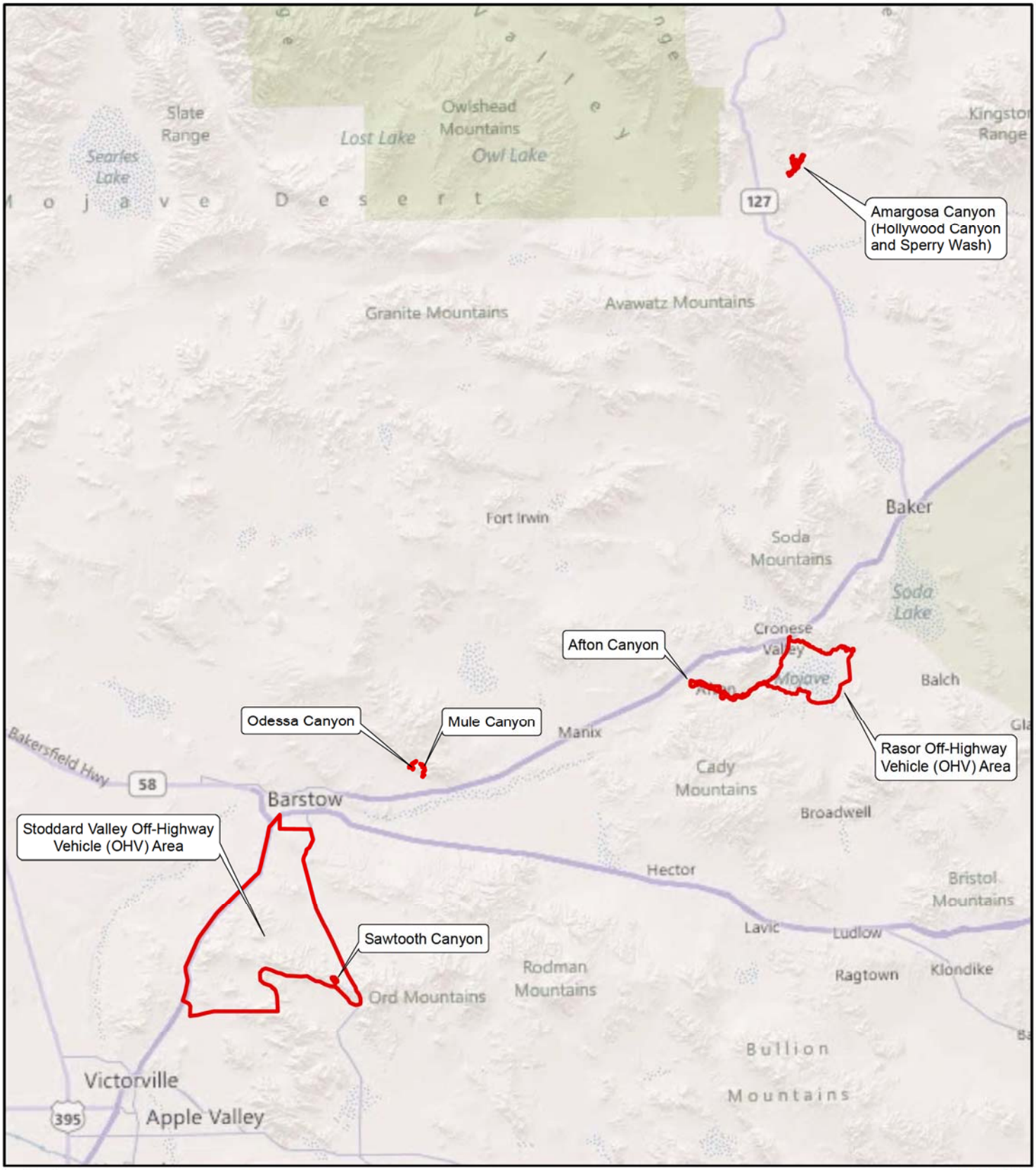
The climate of the proposed study area is semiarid. Based on climatological data summaries compiled by the Western Regional Climate Center (WRCC), rainfall for the study area is heaviest from November through March. The average annual precipitation for the study area, recorded at the Barstow-Daggett Airport monitoring station, is 3.27 inches. The average annual minimum temperature is 54.0 degrees Fahrenheit (F) and the average annual maximum temperature is 82.3 degrees F (WRCC 2009).

The project study area is located in the southwestern portion of the Mojave Desert and all project locations are situated within the Upper Sonoran Life Zone. The Upper Sonoran Life Zone ranges from about 500 feet above mean sea level (AMSL) to an elevation of approximately 5,000 feet AMSL and is represented in cismontane valleys and low mountain slopes. As illustrated in Figure 1 (Project Location), regional transportation routes serving the seven proposed filming locations consist of State Route 247 (SR-247), State Route 127 (SR-127), Interstate 15 (I-15), and Interstate 40 (I-40).

Sawtooth Canyon. Sawtooth Canyon is located in the *West Ord Mountain, California* USGS 7.5-minute topographic quadrangle (Figure 2). The canyon can be accessed by vehicle via a maintained dirt road off SR-247 that currently leads west to the main camping area. Current uses within Sawtooth Canyon include camping and rock climbing. Several dirt roads used by off-road vehicles crisscross the study area. Vegetation communities on site include disturbed areas where camping, rock climbing, and off-highway vehicle use occur and Mojave creosote scrub in undisturbed areas. The canyon has several tall cliff faces, many of which are used as recreational climbing routes.

Afton Canyon. Afton Canyon is located 37 miles northeast of the City of Barstow along I-15 between the Afton Road and Basin Road exits (Figure 3). Elevations near the campground and Mojave River range from approximately 1,400 feet to 1,450 feet. Afton Canyon is accessible via Afton Canyon Road and Mojave Road (both of which are dirt roads with several river crossings). The trail through Afton Canyon is part of the Mojave Road (a rugged 4-wheel-drive scenic tour that starts at Fort Mojave near Needles and ends at Camp Cady near Harvard road east of Barstow.)

Afton Canyon is one of the few locations along the stretch of the Mojave River where the river runs aboveground year-round. Afton Canyon has a diverse landscape of hills, canyons and washes. Multicolored rock walls and changing light conditions make for many photographic opportunities. Existing recreational activities within Afton Canyon include hiking, hunting, photography, camping, rock hounding, horseback riding, and vehicle touring. There is camping that is available on a first-come, first serve basis with tables, fire grates and pit toilets.



LSA

LEGEND

Filming Study Areas

FIGURE 1

N

0 6 12
Miles

SOURCE: Bing Maps (c.2008)

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Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

Project Location

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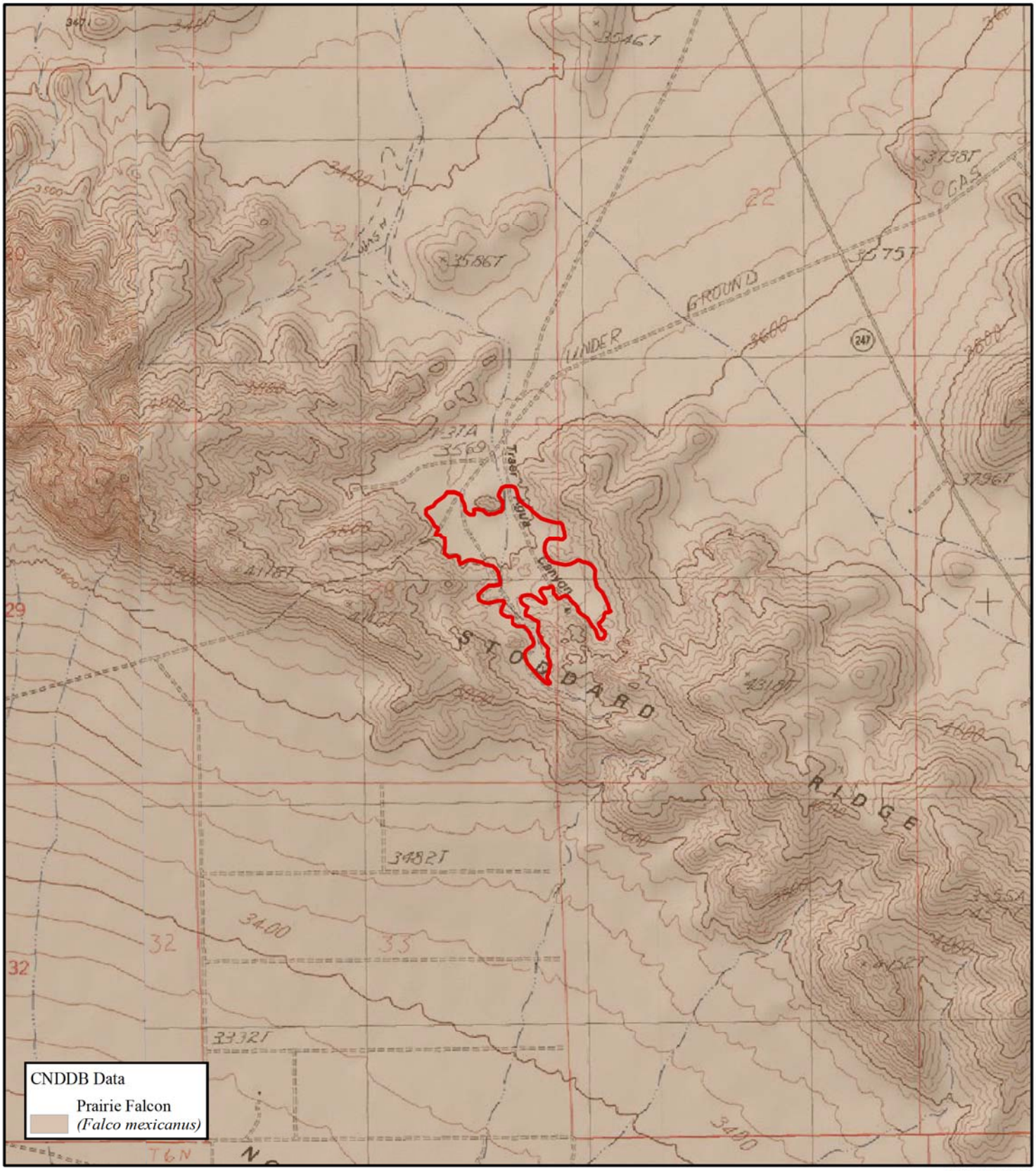

LSA

LEGEND

Filming Study Area

Note: No designated critical habitat located within the study area

0 1000 2000
Feet

FIGURE 2

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for Sawtooth Canyon

SOURCE: Bing Maps (c.2008), CNDDB (2011); USGS 7.5' Quad: West Ord Mountain (1993), CA.

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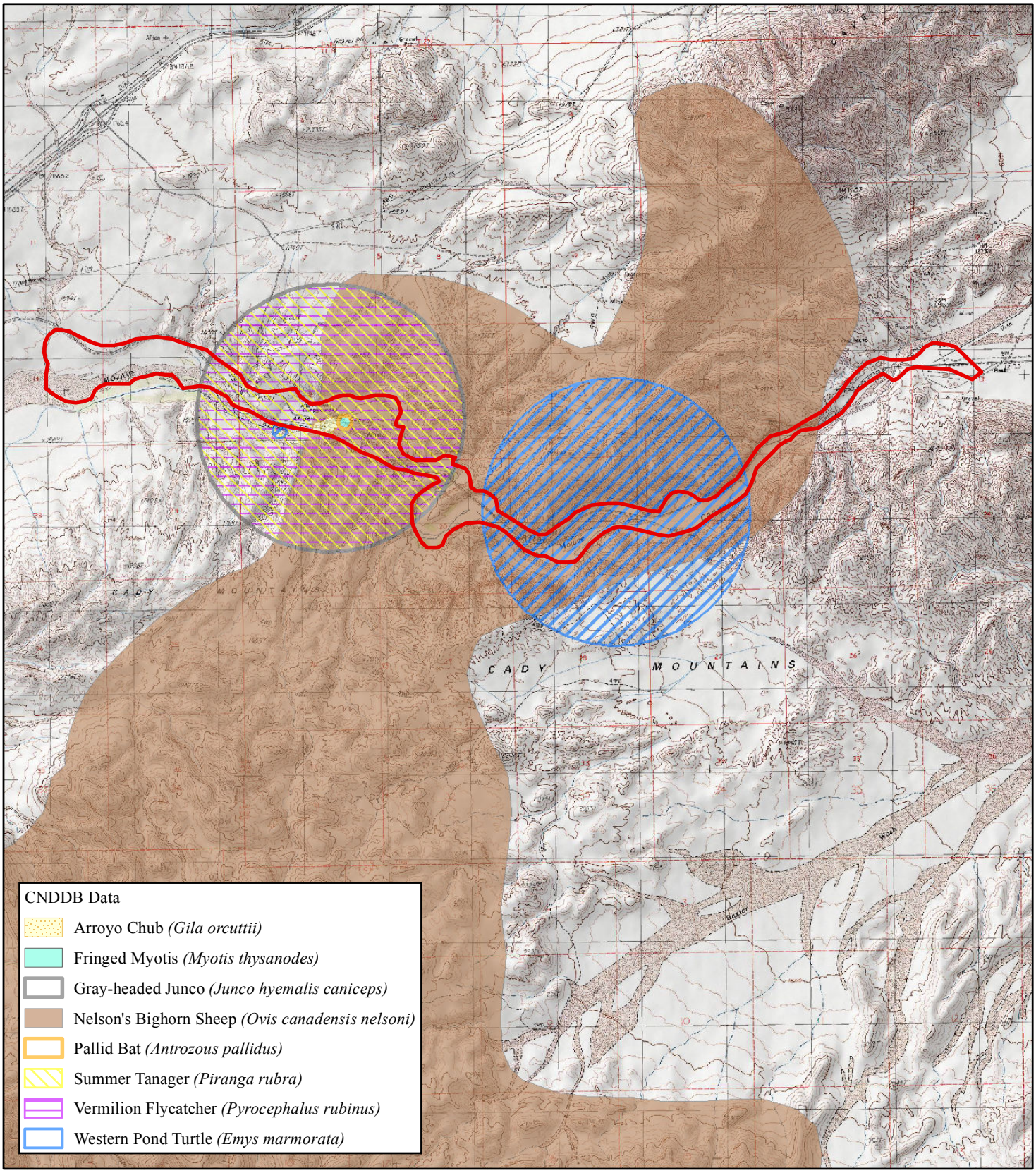

LSA

FIGURE 3

LEGEND

Filming Study Area

Note: No designated critical habitat located within the study area

N

0 0.5 1
Miles

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for Afton Canyon

SOURCE: Bing Maps (c.2008), CNDDB (2011); USGS 7.5' Quad: Cave Mountain (1986) and Dunn (1986), CA.

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Rasor OHV Area. The Rasor OHV Area is located between Interstate 15 (I-15) and the Mojave National Preserve, approximately 25 miles southwest of the City of Baker (Figure 4). The area can be accessed by vehicle from the I-15 via the Basin Road and Rasor Road exits. Both Basin and Rasor Roads are graded dirt roads. Elevations within the Rasor OHV Area range from near 2,427 feet elevation down to around 1,275 feet elevation at the Mojave River.

The Rasor OHV Area consists of a well-established dirt road and adjoining OHV-use area and is characterized by rock outcroppings, steep cliffs, rolling hills, open valleys, and sand dunes. Mojave Road traverses the riding area into the Mojave National Preserve. The north boundary of the Rasor OHV Area is bounded by steep rugged rocky hill masses while the central portion of the area is crossed by many trails that run through washes and over some rough terrain. The southern portion of the area consists of areas with deep sand and dune fields.

Existing recreational activities within the Rasor OHV Area include OHV use (e.g. ATVs), hiking, rock scrambling, rock hounding, and plant, bird, and wildlife watching. Most visitors ride motorcycles or ATVs, drive sand rails or tour the area in four-wheel drive vehicles. The easily accessed areas off the Rasor Road exit are used extensively for OHV and sand rail staging and play. Due to the remoteness of the area, there have been no requests for competitive event permits, leaving this area exclusively for casual OHV riders. There are many deep mine shafts in the riding area so travel outside the riding area is only on designated routes with street legal vehicles. Camping is limited to a 2 week duration and is allowed anywhere in the riding area that does not block travel on a road.

Odessa Canyon. Odessa Canyon is located near Calico Road and Doran Scenic Road in the *Yermo, California* 7.5-minute USGS topographic quadrangle (Figure 5). The area is characterized by a narrow canyon bounded by steep cliffs within the Calico Mountains. Most of the canyon is unvegetated, but small areas of saltbush scrub occur in flat areas. Odessa Canyon can be accessed via an existing access road that is frequently used by OHVs.

Mule Canyon. Mule Canyon Filming Area is located approximately 3 miles north of Yermo (Figure 6). It lies within the Calico Mountains and is characterized by a narrow canyon bounded by steep cliffs. Most of the canyon is unvegetated, but small areas of saltbush scrub occur in flat areas. Mule Canyon can be accessed via an existing access road that is frequently used by OHVs.

Stoddard Valley OHV Area. The Stoddard Valley OHV Area is a triangular-shaped riding area formed by I-15 and SR-247 (e.g. Barstow Road), immediately south of Barstow. Most visitors access the area to the east, off Interstate 15 at the Outlet Center Drive Exit (Sidewinder Road) or at the Hodge Road Exit, to the south on I-15 (Figure 7). This area is characterized by steep rock mountains, rolling hills, open valleys, and winding sandy washes, which are currently used extensively by OHVs. Elevations range from 5,000 feet on Stoddard Peak, to 2,800 feet at Turtle Valley. Vegetation consists of creosote scrub, annual grasses, wild flowers and the Joshua tree.

Most area visitors ride motorcycles or ATVs, or tour the area in four-wheel drive vehicles. The easily accessed areas off Sidewinder Road (Outlet Center Drive exit on I-15) are used extensively for OHV free play. The Stoddard Valley OHV Area is used extensively for competitive racing events by permit. There are many occasions for hiking, rock scrambling, rock hounding, and plant, bird and wildlife watching. Camping within the area is limited to a two week duration with camping allowed anywhere within the riding area that does not block travel on a road.

Amargosa Canyon (Sperry Wash sections). Amargosa Canyon is located in San Bernardino and Inyo Counties approximately 40 miles east of Death Valley (Figure 8). The canyon begins south of Tecopa and runs in a southerly direction for about 9 miles. As illustrated in Figure 8, portions of Amargosa Canyon are preserved wilderness and an Area of Critical Environmental Concern (ACEC). Access is restricted to hiking trails. The main trail through the canyon follows the old roadbed created by the construction of the Tonopah and Tidewater Railroad in 1906. Recreational activities in the area include hiking, bird watching, rock climbing, rock collecting, horseback riding, scenic touring, nature study, astronomy, and photography.

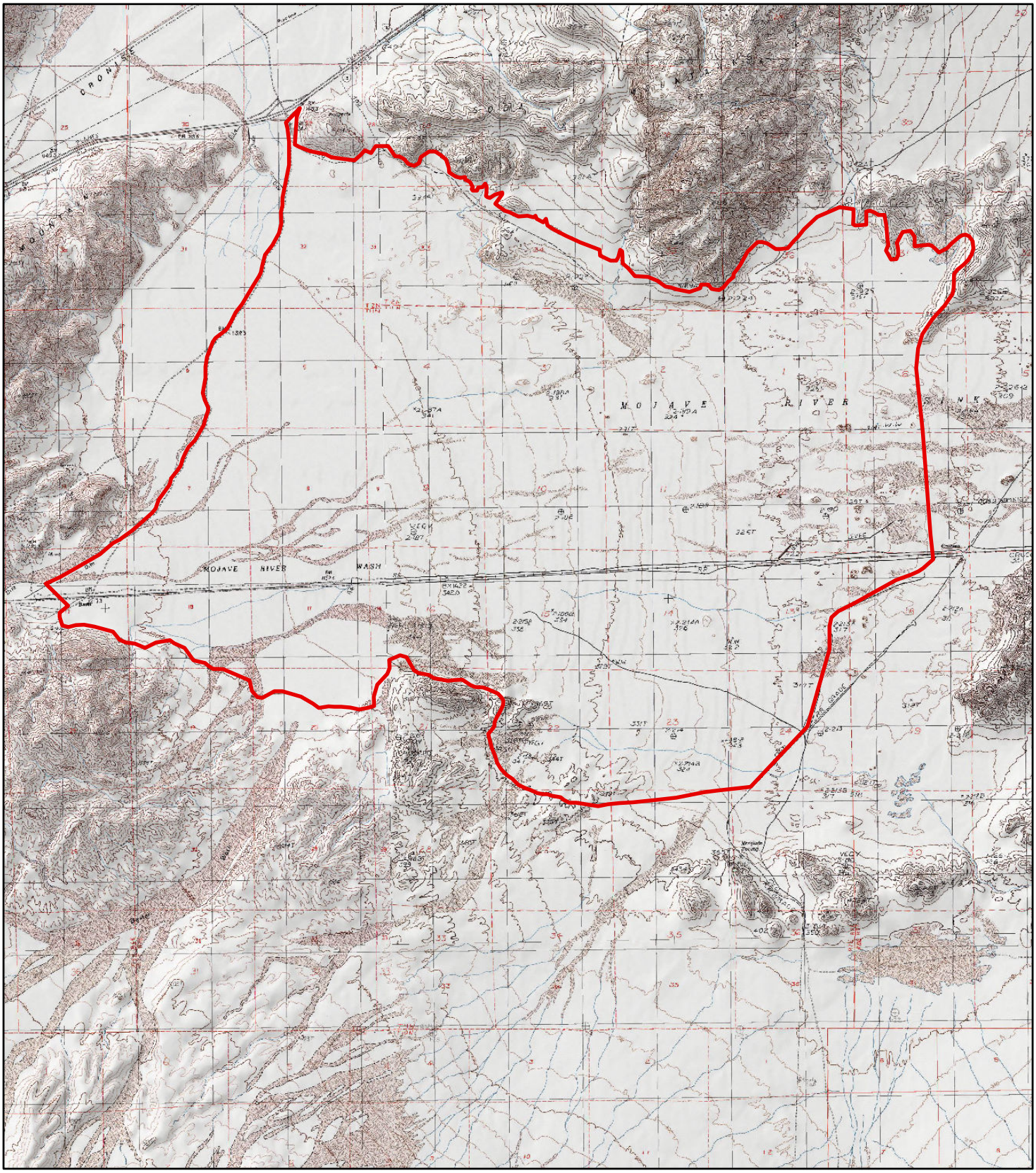
Sperry Wash (of which Hollywood Canyon is a part of) is within Amargosa Canyon and is the focus of the filming study area for the Amargosa Canyon location. The Sperry Wash route traverses the southern tip of the Central Amargosa Unit and was designated as an open route in the 1983 Amargosa Canyon Natural Area Plan, and again in the Northern and Eastern Mojave (NEMO) route of travel process. The original route was constructed in the 1950s as a paved road to replace the T&T Railroad and link the mines east of Tecopa with State Route 127 at Dumont Dunes. Road maintenance ceased as the mines began closing in the 1970s. Today, most of the original road is washed away, and the route requires a four-wheel-drive vehicle. The route south of the Sperry Wash/Amargosa River confluence passes the old Sperry Site and T&T Railroad grade, both of which have been heavily weathered and subject to flash-flood erosion. The route itself parallels the river course and has been washed out repeatedly by flash flood events. In 1994, Congress designated the surrounding land wilderness, but excluded the route by creating a non-wilderness corridor.

2.2 NO ACTION ALTERNATIVE

Under the No-Action Alternative, the BLM BFO would not approve the filming location programmatic EA, and the Proposed Action of allowing additional filming activities to occur within Sawtooth Canyon, Rasor OHV Area, Afton Canyon, Portions of Odessa Canyon, Portions of Mule Canyon, Stoddard Valley OHV Area, and Amargosa Canyon (Sperry Wash sections) would continue to be done on a case-by-case basis. The No-Action Alternative is considered as a part of BLM's NEPA process and provides a comparative impact base for other alternatives. It could be selected by BLM if warranted by the findings of the environmental analysis. Effects associated with the selection of the No-Action Alternative are provided for each environmental issue in Section 4.0 of this document.

2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

There were no other alternatives considered or analyzed in detail.



LSA

FIGURE 4

LEGEND

Filming Study Area

Note: No CNDDB areas or designated critical habitat located within the study area

N

0 3000 6000
Feet

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for
Rasor Off-Highway Vehicle (OHV) Area

SOURCE: Bing Maps (c.2008), CNDDB (2011); USGS 7.5' Quad: Cave Mountain (1986) and Crucero Hill (1983), CA.

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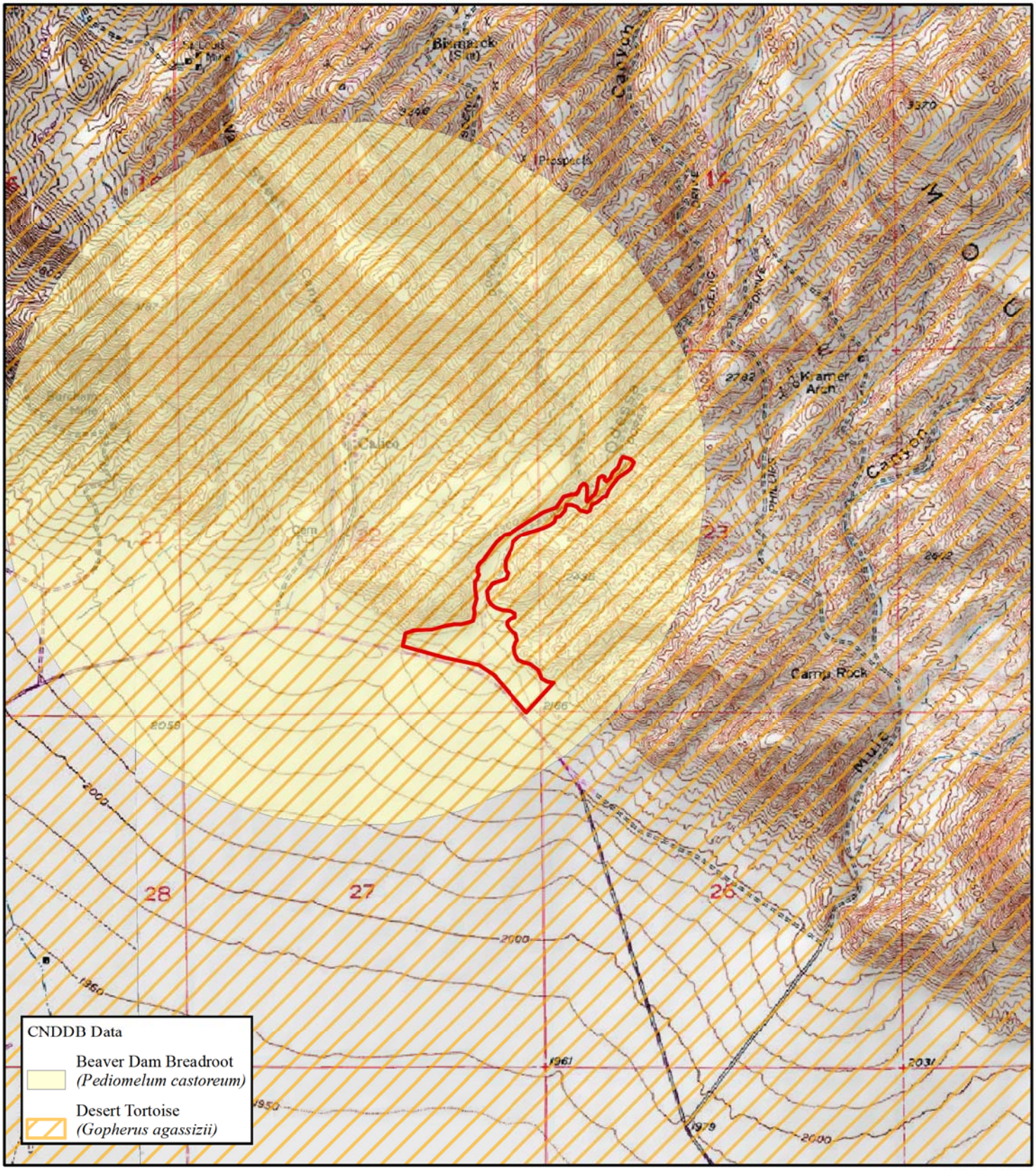

LSA

LEGEND

Filming Study Area

Note: No designated critical habitat located within the study area

0 1000 2000
Feet

FIGURE 5

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for Odessa Canyon

SOURCE: Bing Maps (c.2008), CNDDB (2011); USGS 7.5' Quad: Yermo (1970), CA.

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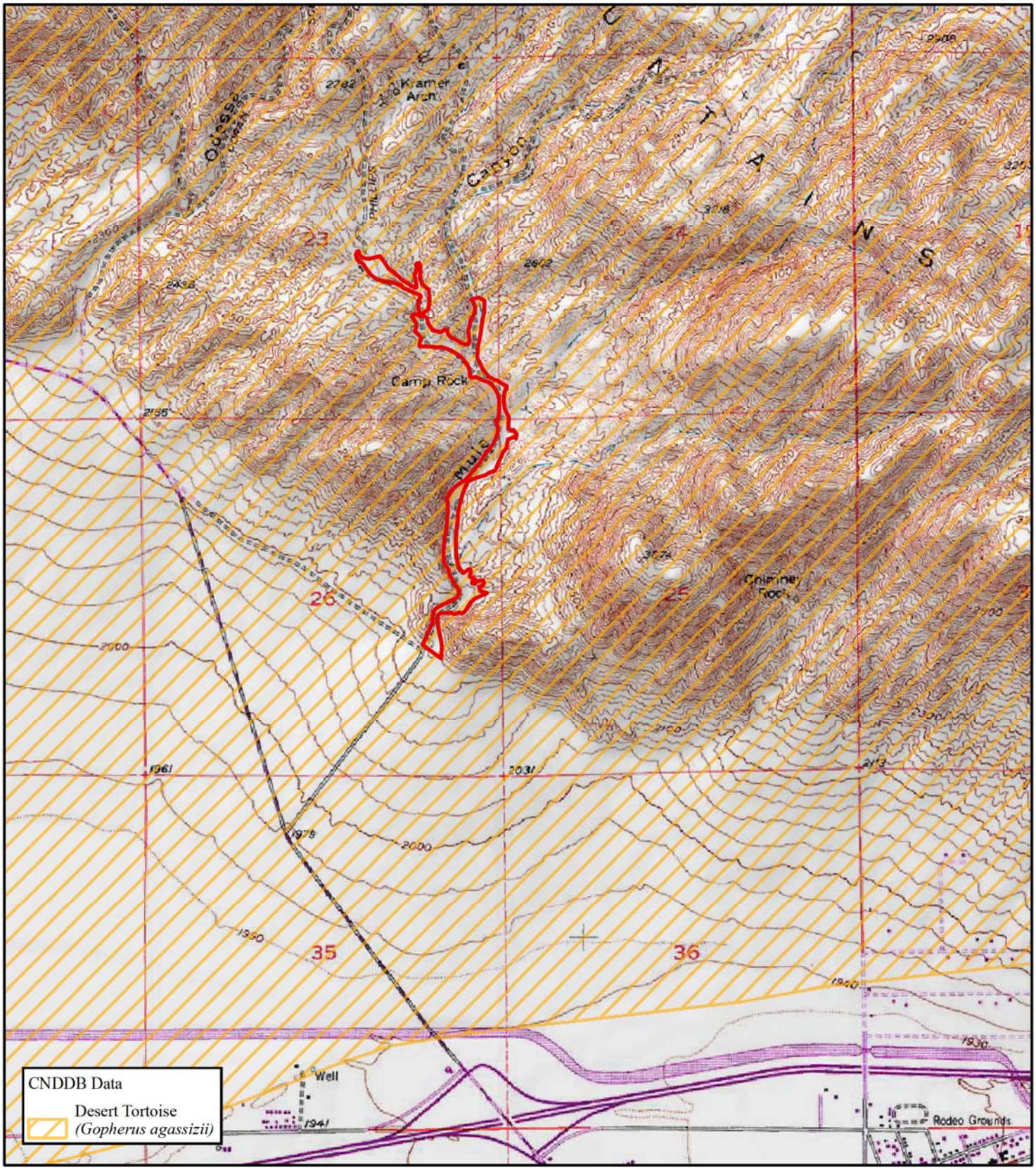

LSA

LEGEND

Filming Study Area

FIGURE 6

Note: No designated critical habitat located within the study area

0 1000 2000
Feet

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for Mule Canyon

SOURCE: Bing Maps (c.2008), CNDDB (2011); USGS 7.5' Quad: Yermo (1970), CA.

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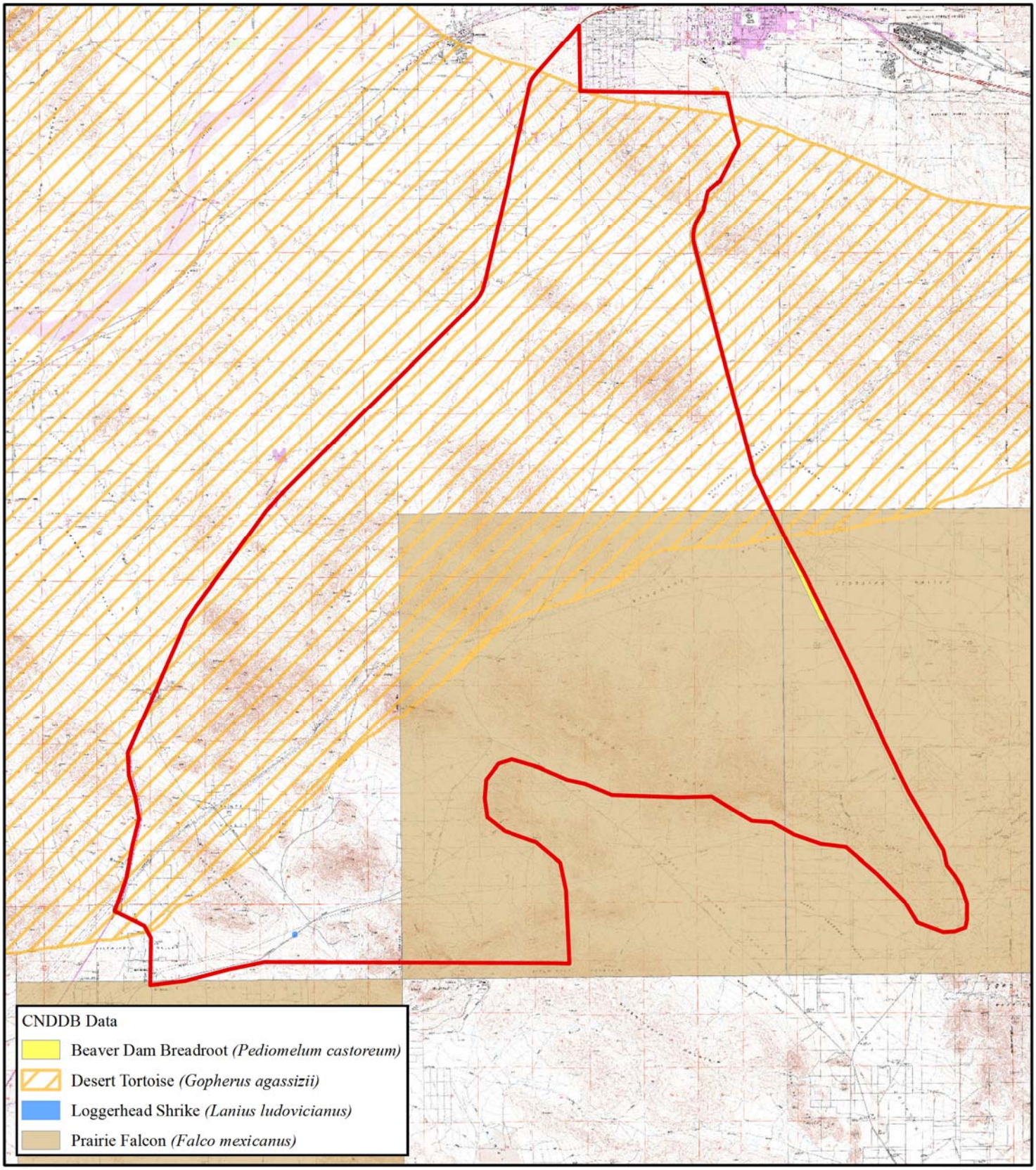

LSA

FIGURE 7

LEGEND

Filming Study Area

Note: No designated critical habitat located within the study area

N

0 1.25 2.5
Miles

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for
Stoddard Valley Off-Highway Vehicle (OHV) Area

SOURCE: Bing Maps (c.2008), CNDDB (2011); USGS 7.5' Quad: Yermo (1970), CA.

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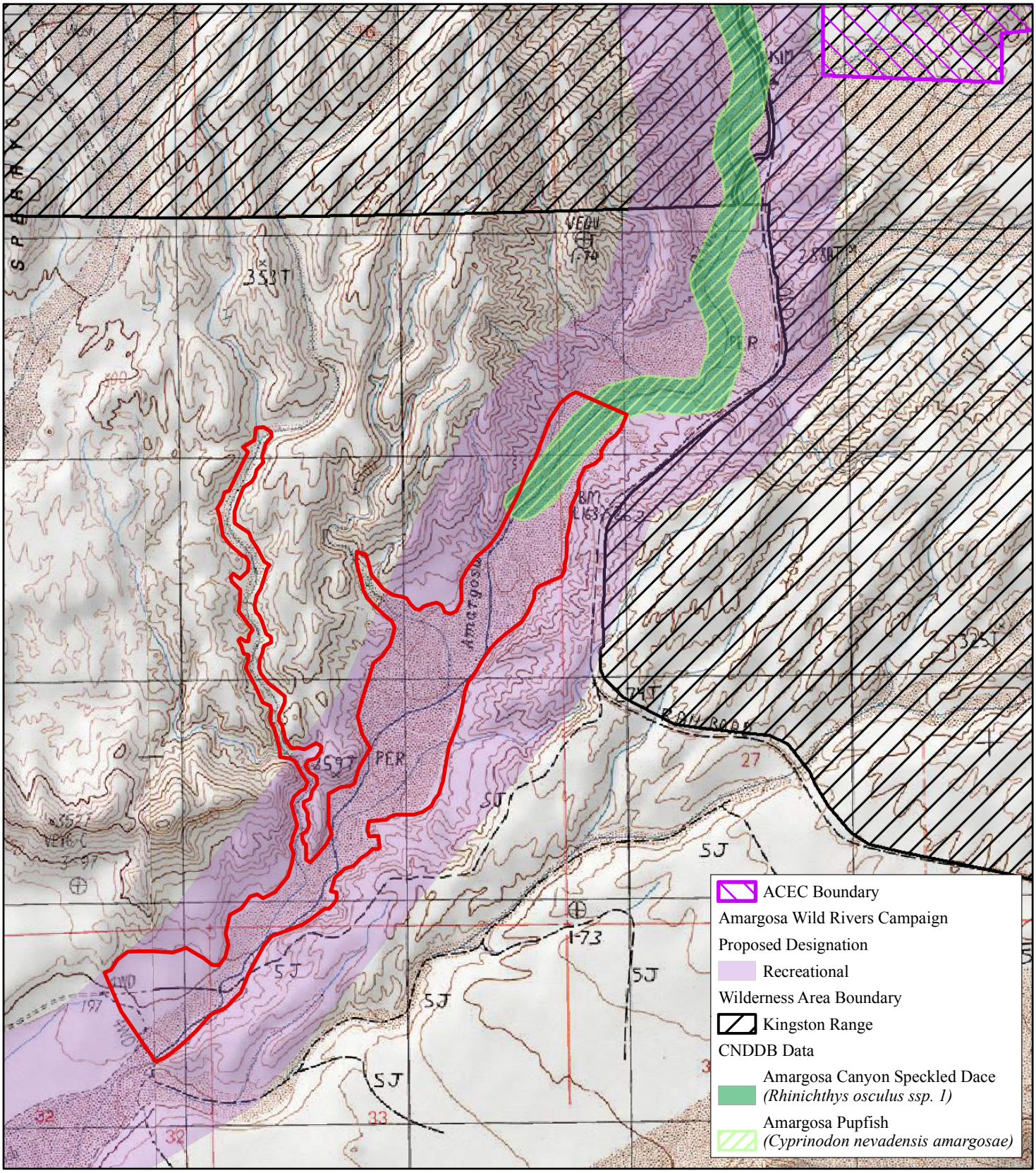

LSA

FIGURE 8

LEGEND

Filming Study Area

N

0 1000 2000
Feet

Note: No designated critical habitat located within the study area

Programmatic Environmental Assessment
Commercial Filming Barstow Resource Area

CNDDB and Critical Habitat for Amargosa Canyon (Sperry Wash)

SOURCE: CNDDB (2011); USGS 7.5' Quad: Dumont Dunes and Saddle Peak Hills (1984), CA.

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CHAPTER 3 — AFFECTED ENVIRONMENT

This chapter addresses, by affected resource, the affected environment for nineteen (19) resource elements. These elements include the standard critical elements of the human environment (H-1790-1, appendix 5, BLM NEPA handbook, as amended) and several other resource elements commonly affected by filming activities.

Based on the nature of filming activities (temporary, localized, and limited disturbance), the following elements are either not present or will not be affected by the Proposed Action:

- Environmental Justice
- Farmlands, Prime or Unique
- Livestock Grazing
- Wild Horses and Burros
- Wilderness

Elements present that will be analyzed:

- Areas of Critical Environmental Concerns (ACECs)
- Air Quality
- Cultural Resources
- Floodplains
- Health and Safety
- Recreation
- Socioeconomics
- Hazardous and Solid Wastes
- Native American Religious Concerns
- Water Quality, Surface and Ground
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wildlife
- Vegetation

For some elements (e.g. cultural resources, wild and scenic rivers, wildlife, and vegetation), the affected environment varies for each of the proposed filming locations. In this instance, the affected environment section for that element has been separated based on each filming location. Where the affected environment is the same for all filming locations, one discussion has been provided for all filming locations.

3.1 AREAS OF CRITICAL ENVIRONMENTAL CONCERNS (ACECS)

The designation of Areas of Critical Environmental Concern (ACECs) is authorized in Section 202 (c)(3) of the Federal Land Policy and Management Act of 1976 (FLPMA, P.L. 94-579). ACECs include public lands where special management attention and direction is needed to protect and prevent irreparable damage to important historic, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards. ACEC designation indicates BLM recognizes the significant values of the area and intends to implement management to protect and enhance the resource values. For an area to be designed as an ACEC, the area must meet one or more of the following ACEC relevance criteria:

- A significant historical, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).
- A fish and wildlife resource (including but not limited to habitat for endangered, threatened, or sensitive species, or habitat essential for maintaining species diversity).
- A natural process or system (including but not limited to endangered sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).
- Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the RMP process that it has become part of a natural process.

The value, resource, system, process or hazard described in the relevance section must have substantial significance and values to meet the importance criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following:

- Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
- Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
- Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA.
- Has qualities that warrant highlighting in order to satisfy public or management concerns about safety and public welfare.
- Poses a significant threat the human life and safety or to property.

Sawtooth Canyon. The Sawtooth Canyon filming location is not within an identified ACEC.

Rasor OHV Area. The Rasor OHV Area filming location is not within an identified ACEC.

Afton Canyon. Afton Canyon Natural Area is located 37 miles northeast of Barstow along Interstate 15 between the Afton Road and Basin Road exits. As identified by BLM, Afton Canyon is designated as an ACEC to protect plant and wildlife habitat, and to preserve scenic values of the riparian area within the canyon. Early western explorers passing through this area included Jedediah Smith, Kit Carson and John Charles Fremont. The route following this road, known as the Mojave Road, is a rugged 4-wheel-drive scenic tour running from Fort Mojave on the Colorado River near Needles to Camp Cady near Harvard Road.

Portions of Odessa Canyon. The Odessa Canyon filming location is not within an identified ACEC.

Portions of Mule Canyon. The Mule Canyon filming location is not within an identified ACEC.

Stoddard Valley OHV Area. The Stoddard Valley OHV Area filming location is not within an identified ACEC.

Amargosa Canyon (Sperry Wash sections). Amargosa Canyon is part of the Amargosa River Natural Area, which is identified by BLM as an ACEC. The narrow Amargosa Canyon is known for its dense greenery and the shallow Amargosa River, complete with "hanging gardens" and a small waterfall. The river flows year-long, dropping south from Nevada, and finally flowing into Death Valley National Park. The Amarogsa Natural ACEC is a desert oasis that covers approximately 21,552 acres of BLM-managed public lands along 3 sections of the Amargosa River in southeastern Inyo and northeastern San Bernardino Counties. These lands are under the jurisdiction of the BFO. The Amargosa River Area of Critical Environmental Concern Implementation Plan is currently being developed in coordination with the U.S. Fish and Wildlife Service (USFWS) and would provide priorities and actions for managing the Amargosa watershed that support all of its values, including the riparian habitat and sensitive species that thrive in the Amargosa River area. The Amargosa River of Critical Environmental Concern Implementation Plan, once approved, would also implement actions to address increasing recreational use in the area and enhance passive recreation opportunities so the public can appreciate first-hand many of these values in a way that can also sustain them. Sperry Wash is a riverbed from canyon wall to canyon wall without suitable habitat for riparian species or the vole.

3.2 AIR QUALITY

The Mohave Desert Air Quality Management District (MDAQMD) has state air quality jurisdiction over the areas associated with the proposed action. The vicinity in which the filming activities would occur is currently classified as a Federal non-attainment area for ozone and PM-10 under national standards. Much of the time, air quality throughout the Barstow Resource area is generally good. Although air quality throughout the filming areas is generally good, there are times that the area does not meet air quality standards due to locally generated airborne dust resulting from wind picking up particulates on unpaved roadways and other denuded areas. Ozone is not a major problem away from major highway corridors in the high desert.

3.3 CULTURAL RESOURCES

A cultural resource is evaluated for eligibility for listing in the National Register according to four criteria. These criteria generally require that the resource be 50 years of age or older and significant at the local, state, or national level according to one or more of the following:

- **Criterion A.** It is associated with events that have made a significant contribution to the broad patterns of local or regional history;
- **Criterion B.** It is associated with the lives of persons significant in our past;

- **Criterion C.** It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or that represents a significant and distinguishable entity whose components lack individual distinction; and/or
- **Criterion D.** It has yielded, or may be likely to yield, information important in prehistory or history.

The National Register also requires that a resource possess integrity, which is defined as the ability of a property to convey its significance. The aspects of integrity are location, design, setting, materials, workmanship, feeling, and association. To determine which of these factors are most important will depend on the particular National Register criterion under which the resource is considered eligible for listing.

Based on the types of artifacts that were documented for the prehistoric sites evaluated in this study, particular attention is paid to their eligibility under Criterion D (although other criteria are considered for each site). The following discussion is based upon information contained in the *Class I Inventory Report and Class III Cultural Resources Assessment* (LSA 2011) prepared for the Proposed Action.

Field surveys were conducted on various days from December 2009 to February 2010. Class I Inventory (regional) overviews of Sawtooth Canyon, Rasor OHV Area, Afton Canyon, Odessa Canyon, Mule Canyon, Stoddard OHV Area, and the Sperry Wash sections of Amagrosa Canyon in the Barstow Resource Area were performed. Existing cultural resources, the study area environment, the status of past field studies and research, recorded sites and their National Register status were addressed. Data were collected from published and unpublished sources, BLM records (including available site files), institutional sources, and California and National Registers. Records searches were conducted as necessary through the California Historical Resources Information System (CHRIS) and at the San Bernardino Archaeological Information Center (SBAIC), located at the San Bernardino County Museum, Redlands.

The records search concluded that a total of 87 previous cultural resource surveys have been conducted and 314 cultural resources have been recorded within the one-mile radius of the five areas of potential effects (APEs).

Upon completion of the records search and the preparation of the Class I Inventory (BLM 2004), coordination with the BFO and the Inland Empire Film Commission (IEFC) was undertaken to prioritize the areas for the Class III Intensive Survey. Initially, field surveys were anticipated to encompass a maximum of 1,500 acres, but through efficient use of field time and a focused survey strategy developed in consultation with the BFO, the project evaluated approximately 104,605 acres in five different project APE locations. Although there are seven filming locations, for cultural resources, some of the these filming locations have been combined into one APE. In particular, Mule and Odessa Canyons have been included in the same APE and Afton Canyon/Razor OHV Area have been included in the same APE. Therefore, all cultural resources with physical surface manifestations in the five project APEs in the Barstow region were identified. A total inventory and complete record were completed to a level where no further surface surveys were required.

The field surveys resulted in the recordation of four previously unrecorded historic archaeological resources and one previously unrecorded and probable prehistoric resource. These resources were documented on standard State Department of Parks and Recreation Site Records (DPR 523 Series).

Sawtooth Canyon. The records search concluded that a total of 8 previous cultural resource surveys have been conducted and 5 cultural resources have been recorded within the one-mile radius of the Sawtooth Canyon APE. During the field visit, no newly recorded cultural resources were located within the Stoddard Valley OHV location.

Rasor OHV Area. Refer to Afton Canyon discussion.

Afton Canyon. The records search concluded that a total of 23 previous cultural resource surveys have been conducted and 43 cultural resources have been recorded within the one-mile radius of the Afton Canyon/Razor OHV Area APE. During the field visit, one local segment of one linear historic site (CA-SBR-1910H) was re-located and updated. In addition, four cultural resources were subsequently recorded on December 11, 2010. These cultural resources include the following:

- **Linear Historic Site CA-SBR-1910H.** This linear historic site consists of a series of parallel gravel scrapes made during construction of the railroad. These features were found on the Afton Canyon floor alongside the Afton Canyon Road and railway.
- **Historic Resource SBR-14818H.** This historic resource is a historic period cemetery consisting of six grave markings (i.e., rocks/crosses) located on the south side of Afton Canyon on an alluvial sheet flow coming off small hills to the south.
- **Potentially Prehistoric Resource SBR-14819H.** This resource consists of two rock concentrations that may be “graves” as reported by some as part of the historic Afton cemetery located on the opposite bank of the Mojave River. It has been determined that these rock features were for water catchment and for planting Agave.
- **Historic Resource CA-SBR-2910H.** This resource consists of a raised grade that is constructed of locally available materials. Surface material was scraped and pushed to form a raised bed up to 12 inches in some areas and is approximately 8 feet wide. This resource is located in the bottom of Afton Canyon south of the Mojave River and the abandoned town of Afton.
- **Historic Resource SBR-14820H.** This resource is a graded dirt road that may have provided access to the Afton Cemetery (SBR-14818H) located approximately 20 feet to the south. The graded dirt road is approximately 9.5 feet across and runs parallel to the raised grade resource (CA-SBR-2910H). The graded dirt road terminates at washes to the east and west and is approximately 501 feet long.

Portions of Odessa Canyon. The records search concluded that a total of 10 previous cultural resource surveys have been conducted and 39 cultural resources have been recorded within the one-mile radius of the Odessa Canyon/Mule Canyon APE. No newly recorded cultural resources were located within the Odessa Canyon location. During the

field visit, no newly recorded cultural resources were located within the Odessa Canyon location.

Portions of Mule Canyon. As stated above, the records search concluded that a total of 10 previous cultural resource surveys have been conducted and 39 cultural resources have been recorded within the one-mile radius of the Odessa Canyon/Mule Canyon APE. During the field visit, no newly recorded cultural resources were located within the Mule Canyons location.

Stoddard Valley OHV Area. The records search concluded that a total of 34 previous cultural resource surveys have been conducted and 188 cultural resources have been recorded within the one-mile radius of the Stoddard Valley OHV APE. During the field visit, no newly recorded cultural resources were located within the Stoddard Valley OHV location.

Amargosa Canyon (Sperry Wash sections). The records search concluded that a total of 10 previous cultural resource surveys have been conducted and 39 cultural resources have been recorded within the one-mile radius of the Sperry Wash sections of Amargosa Canyon APE. No newly recorded cultural resources were located within the Sperry Wash sections of Amargosa Canyon.

3.4 FLOODPLAINS

Most of the annual rainfall in the region occurs in the winter with potential flooding occurring in the proposed locations from intense storms resulting in rapid runoff. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identify areas subject to flooding during the 100-year storm event. Note that the term “100-year” is a measure of the size of the flood, not how often it occurs. The “100-year flood” is a flooding event that has a one percent chance of occurring in any given year. Based on these FEMA FIRMs, all proposed filming locations, with the exception of Stoddard Valley OHV Area, are within an underdetermined flooding area, but may potentially be subject to flooding. For the Stoddard Valley OHV Area, only the northwestern portion of this filming location is identified as being located within the 100-year flood zone (FEMA 2008). The remaining portion of the Stoddard Valley OHV Area is within an undetermined flooding area that may be subject to flooding.

3.5 HEALTH AND SAFETY

The seven proposed filming locations receive multiple use as the public visits these areas year round. Ever increasing public recreation use indicates the potential for greater contact between wildlife and the public. The specific language addressing the filming activities in these areas and that of BLM’s responsibility to inspect such areas for health, safety, and environmental issues in the Proposed Action sufficiently provides for public safety and health.

3.6 NATIVE AMERICAN RELIGIOUS CONCERNS

The seven proposed filming locations may be considered traditional territory to three Native American tribes that historically occupied and/or utilized the natural resources present within the proposed filming areas. The tribes include the Serrano, Vanyume (Beneme), and the Chemehuevi. None of the tribes currently reside within the proposed filming locations and there are no treaty rights (hunting, fishing, etc.) associated with any of the plant or animal communities present within the proposed filming areas.

3.7 RECREATION

Recreational use occurs within the seven proposed filming locations occur throughout the year. Many recreation activities consist of OHV use within Sawtooth Canyon, Stoddard Valley, and the Rasor OHV area. Other recreational activities with the seven proposed filming locations include camping, hiking, picnicking, and photography. Recreational vehicle travel is limited to designated areas. Recreation use levels in this area are relatively low and infrequent with dispersed camping within the Sawtooth Canyon and Afton Canyon areas for those wishing to stay overnight.

3.8 SOCIOECONOMICS

The term “Quality of life” can be characterized by what is valued in a lifestyle and what features make up that lifestyle. Lifestyle features can be determined by historical activities of the area, career opportunities and the general cultural features of the geographical area. Quality of life issues are subjective and can be modified over time with exposure to other ways of living. Outdoor recreation is a popular activity of many people that live in or visit the area and includes driving for pleasure, camping, backpacking, fishing, hunting, hiking, horseback riding, photography, wildlife viewing, and sightseeing. These activities contribute to the overall quality of life for residents.

In addition to local recreation use, the undeveloped, open spaces in the County are themselves a tourist attraction and contribute a “sense of place” for many. The attachment people feel to a setting, typically through a repeated experience, provides them with this sense of place. Attachments can be spiritual, cultural, aesthetic, economic, social, or recreational. Filming and other types of dispersed outdoor recreational experiences contribute to the local economy. Filming activities and the associated filming industry are major contributors to the economy of San Bernardino County.

3.9 HAZARDOUS AND SOLID WASTES

Online database searches were conducted to investigate the possible presence of hazardous materials and/or hazardous facilities in the project study area. The following agencies and online databases were consulted to obtain pertinent information for the project study area:

- California Department of Toxic Substances Control (DTSC), EnviroStor database; and
- State Water Resources Control Board (SWRCB), Geotracker database.

Based on a review of these databases, no hazardous materials and/or hazardous facilities were identified within the seven proposed filming locations.

3.10 WATER QUALITY, SURFACE AND GROUND

Springs provide much needed water to wildlife species that require a perennial water source. Both game and non-game species routinely visit springs in the desert. Endemic fish and micro fauna can also be found inhabiting these rare water sources.

Water sources in the Mojave Desert are rare and occur as seeps and springs. Springs are generally small and are associated with prominent mountain ranges. The "typical" spring, seep, or riparian area consists of trees, cat-tails/reeds, ferns, grasses, *Carex* spp, or *Juncus* spp. and a few shrub or small tree species, except where Tamarisk has come to dominate exclusively.

With the exception of Afton Canyon and Amargosa Canyon, the proposed filming locations do not contain perennial water sources. Portions of the Amargosa Canyon and Afton Canyon locations contain perennial water sources. Sperry Wash includes tributaries to the Amargosa River. Afton Canyon includes one of the few areas where the Mojave River occurs as a perennial, aboveground water source. The Amargosa River is a traditional navigable water TNW and is also designated as a *Wild and Scenic River*. Due to the perennial water source, the Amargosa River has a large amount of associated riparian vegetation within the boundaries of the location. Afton Canyon includes one of the few areas where the Mojave River occurs as a perennial, aboveground water source. Due to the perennial water, the Mojave River has a large amount of associated riparian vegetation within the boundaries of the proposed location.

3.11 WETLANDS/RIPARIAN ZONES

Wetlands include permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.

Jurisdictional wetlands, those protected under Section 404 of the Clean Water Act (CWA) and Executive Order 11990, and classified as Waters of the United States by the U.S. Army Corps of Engineers (USACE), have three essential characteristics:

- Dominance by hydrophytic vegetation;
- Hydric soils; and
- Wetland hydrology.

Hydrophytic vegetation requires inundated or saturated soils. Hydric soils are ponded or flooded for a sufficient time during the growing season to develop anaerobic conditions. Wetland hydrology is the availability of surface water or groundwater to create a wetland environment (USACE 1987). With the exception of Afton Canyon and Amargosa Canyon (Sperry Wash sections), all proposed filming locations do not contain potentially jurisdictional areas (includes riparian habitat, other special status plant communities, or wetlands).

3.12 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act of 1968 (Public Law 90-542) was passed by Congress to preserve river systems that contain outstanding features. The law was enacted during an era when many rivers were being dammed or diverted, and is intended to balance this development by ensuring that certain rivers and streams remain in their free-flowing condition. The BLM is mandated to evaluate stream segments on public lands as potential additions to the National Wild and Scenic Rivers System (NWSRS) during the Resource Management Plan (RMP) Process under Section 5(d) of the Act. The NWSRS study guidelines are found in BLM Manual 8351, U.S. Departments of Agriculture and Interior Guidelines published in Federal Register Vol. 7, No.173, September 7, 1982 and in various BLM memoranda and policy statements. Formal designation as a Wild and Scenic River requires Congressional Legislation, or designation can be approved by the Secretary of Interior if nominated by the Governor of the state containing the river segment. The following discussion provides information on how BLM considered waterways for potential inclusion in the NWSRS.

With the exception of Amargosa Canyon, all proposed filming locations do not contain Wild and Scenic Rivers. The Amargosa River is a TNW and certain portions are also designated as a *Wild and Scenic River*. The NEMO Plan Amendment determined that three segments of the Amargosa River are eligible for inclusion in the National Wild and Scenic River System. Two of these segments flow through the Amargosa River ACEC. The southern portion of the Central Amargosa Unit of the ACEC, from Sperry Site to just south of Tecopa, is eligible with the tentative classification as a wild segment. In the north half of the Central Unit, from Shoshone to Tecopa, the river is eligible with the tentative classification as a scenic segment. A third eligible river segment is outside and downstream of the Amargosa River ACEC. This segment flows from the Sperry site south through Dumont Dunes OHV Area almost to Highway 127 and is tentatively classified as a recreation segment. As illustrated in previously referenced Figure 8, the filming study area for the Amargosa Canyon is within the third eligible river segment.

3.13 WILDLIFE

Migratory Birds. The Migratory Bird Treaty Act (MBTA) 16 USC §§ 703–712, as amended, governs take, possession, import, export, transport, selling, purchasing, or bartering of migratory birds, their eggs, parts and nests, except as authorized under a valid permit (50 CFR 21.11). The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes, and requiring harvests

to be limited to levels that prevent overutilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take but ensuring that take is compatible with the protection of the species.

Most bird species are protected under the MBTA and under the California Fish and Game Code. It is unlawful to take, possess, or needlessly destroy any bird or the nests or eggs of any bird species except as otherwise provided in California Fish and Game Codes and Regulations. Disturbances at the active nesting territories shall be avoided during the nesting season, typically February 1 through August 31.

Special Status Species and Natural Communities. As previously stated, all seven proposed filming locations are within the BLM's CDCA Plan area. Management guidance for the study area is provided by the West Mojave Plan (WEMO), an amendment to the CDCA Plan. These planning documents were designed to provide public and private projects with a streamlined program for compliance with the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) and a way to apply the costs of compensation and mitigation equitably to all agencies and parties.

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) may list species as threatened or endangered under FESA and CESA. Under the regulations of FESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Authorization is granted by several means including issuance of 10(a) permit under Section 10(a)(1)(b) of FESA or participation in a Section 7 Consultation. Additionally, the USFWS can designate "critical" habitat that identifies areas, occupied or not, that are essential to the conservation of a listed species. Critical habitat areas may require special management considerations or protections.

The CDFG administers CESA, which prohibits the take of plant and animal species designated by the Fish and Game Commission as either threatened or endangered in the State of California. Sections 2080.1 and 2081 of the Fish and Game Code include provisions to authorize "take" of endangered or threatened species for otherwise lawful projects with approval by the CDFG.

The BLM, CDFG, USFWS, local agencies, and special status groups, such as the California Native Plant Society (CNPS) publish watch lists of declining species. Species on these lists are a part of the special status species assessment. Special status species, species of concern, and candidates for State and/or Federal listing are also included in the special status species discussion. Inclusion of species described in this analysis is based on the following:

- Direct observation of the species or its sign in the study area or immediate vicinity during surveys conducted for this study[1] or reported in previous biological studies;
- Sighting by other qualified observers;

[1] LSA Associates, Inc., 2011b, *General Biological Resources Report Inland Empire Economic Partnership, Commercial Filming, Barstow Resource Area,* October 2011.

- Record reported by the California Natural Diversity Data Base (CNDDB) published by the CDFG;
- Presence or location of specific species lists provided by private groups (e.g., CNPS); or
- Site lies within known distribution of a given species and contains appropriate habitat.

The BLM has identified 56 animals afforded special status in the WMP area. These include BLM sensitive species as well as species listed on watch lists published by the CDFG, USFWS, local agencies, and special status groups, such as the CNPS.

The literature review revealed five special status fish, three special status reptiles, fourteen special status birds, and seven special status mammals are known to occur within a five-mile radius of the proposed filming areas. Of these, one fish, three reptiles, three birds, and four mammals were determined to have a potential to occur within the proposed filming areas based on the presence of suitable habitat to support these species. Species with the potential to occur in the filming areas are described in detail below. A special status species probability summary is included in Appendix A.

All project-related effects to species considered special status in the WMP must be considered and minimized or avoided where possible. Non-listed species that are considered sensitive species, species of concern or are candidates for state and/or federal listing are also included in the special status species discussion. Legal protection for sensitive species varies widely, including the comprehensive protection extended to listed threatened/endangered species.

Sawtooth Canyon. The following sensitive animal species have the potential to occur within the Sawtooth Canyon Area: desert tortoise (*Gopherus agassizii*), prairie falcon (*Falco mexicanus*), golden eagle (*Aquila chryseatos*), and the Western mastiff bat (*Eumops perotis*). A description of each of these species is provided below.

> **Desert tortoise (*Gopherus agassizii*).**The desert tortoise is a federally and state threatened species. It is most commonly found in desert scrub, desert wash, and Joshua tree communities throughout the Mojave, Sonoran, and Colorado Deserts. The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Colorado Desert in California. Desert tortoise forage on annual plants and grasses and are most active when this food source is available, generally from March through June and September through November. They occur in areas with firm ground that is suitable for digging burrows, which they use to avoid extreme desert temperatures. The BLM and USFWS have established management areas to protect habitat critical to the desert tortoise. The USFWS has designated desert tortoise critical habitat and established the Western Mojave Recovery Unit (USFWS 1994b)]. In 2005 the West Mojave Plan established Desert Wildlife Management Areas (DWMAs), for the conservation of the tortoise. The desert tortoise has been observed during BLM surveys in Sawtooth Canyon, Stoddard

Valley OHV Area. The proposed filming location in the Rasor OHV area is unsuitable for tortoises.

- **Prairie Falcon (*Falco mexicanus*).** The prairie falcon is a CDFG Species of Special Concern and BLM sensitive Species. It is protected by the MBTA while nesting. It is a permanent resident of the southeastern deserts, northwest throughout the Central Valley, and along the inner Coast Ranges and Sierra Nevada. Prairie falcons are primarily associated with perennial grasslands, savannahs, rangeland, agricultural fields, and desert scrub. They usually nest in sheltered areas of cliffs overlooking large, open areas. Prairie falcons have a potential to nest in cliffs or rocky outcrops and on nearby Stoddard Ridge, adjacent to the western side of the study area. A raptor nest was observed on the cliffs on the southwest end of the proposed filming area, but the species was unknown. At least two prairie falcon nests on Stoddard Ridge were observed in 2008 surveys conducted by the BLM. Additionally, three prairie falcons were seen in the vicinity of Sawtooth Canyon during a BLM site visit on June 22, 2010. Two of these falcons were seen together flying above the east side of Sawtooth Canyon. Another was seen flying along the west side of Sawtooth Canyon. One nest site was encountered during a BLM site visit to Traer Agua Canyon. The prairie falcon has not been documented within the other filming sites (i.e. Amargosa Canyon, Afton Canyon, Mule Canyon, Odessea Canyon, and Stoddard Valley). However, these areas have potential habitat (i.e. tall cliffs and outcroppings) that may support the prairie falcon.

- **Golden Eagle (*Aquila chrysaetos*).** The golden eagle is a California Fully Protected Species and is protected under the Federal Bald and Golden Eagle Protection Act. It is also a BLM Special Species. It is an uncommon permanent resident and migrant throughout California, in a variety of habitats from sea level up to 3,833 m (0–11,500 feet). The golden eagle nests on cliffs and in large trees, usually in rugged open habitats with canyons. Similar to prairie falcons, golden eagles have a potential to nest in cliffs or rocky outcrops and on nearby Stoddard Ridge, adjacent to the western side of the study area. A raptor nest was observed on the cliffs on the southwest end of the proposed filming area, but the species was unknown. Several golden eagle nests were observed in the area in 2008 surveys conducted by the BLM.

- **Western Mastiff Bat (*Eumops perotis*).** This mammal is a California Species of Special Concern and BLM sensitive Species. It occurs in many open, arid habitats and roosts in crevices in vertical cliff faces, as well as high buildings and tunnels. While suitable habitat is present within the Sawtooth Canyon Filming Area, no mastiff bats were observed during the biological assessment survey conducted for this project.

Rasor OHV Area. The Rasor OHV Area contains suitable habitat for desert tortoise and Mojave fringe-toed lizard (*Uma scoparia*). The desert tortoise has been observed during BLM surveys in the Rasor OHV Area. A description of the desert tortoise is provided under Sawtooth Canyon while a description for the Mojave fringe-toed lizard is provided below.

- **Mojave Fringe-toed Lizard (*Uma scoparia*).** This reptile is a California Species of Special Concern, a BLM sensitive Species, and is a federal candidate for listing under FESA. It is restricted to areas with fine, aeolian sands such as dunes, riverbeds, washes, and hummocks, with creosote bush scrub habitat. Although the Rasor OHV Area contains suitable fine aeolian sandy areas that could support this species, no Mojave Fringe-toed lizards were observed during the biological assessment survey conducted for this project.

Afton Canyon. Special status species with the potential to occur within Afton Canyon include the arroyo chub (*Gila orcuttii*), Mohave Tui chub (*Siphateles bicolor mohavensis*), western pond turtle (*Actinemys marmorata pallida*), desert tortoise, Mojave fringe-toed lizard, prairie falcon, yellow-breasted chat (*Icteria virens*), summer tanager (*Puranga rubra*), Vermillion flycatcher (*Pyrocephalus rubinus*), pallid bat (*Antrozous pallidus*), fringed myotis (*Myotis thysanodes*), and Nelson's bighorn sheep (*Ovis Canadensis nelsoni*). A description of each of these species is provided below.

- **Arroyo Chub (*Gila orcuttii*).** This fish is a California Species of Special Concern that is found in perennial streams or intermittent streams with permanent pools. It requires slow-moving water and is known to occur in the Mojave River. While this species is known to occur in Afton Canyon in the Mojave River, no filming activities would be permitted within the Mojave River.

- **Mohave Tui Chub (*Siphareles bicolor mohavensis*).** The Mohave tui chub is a federally and state endangered species that is endemic to the Mojave River basin. It requires alkaline, mineralized waters and needs deep pools, ponds, or slough-like areas and vegetation for spawning. While this species may occur in the Mojave River, no filming activities would be permitted within the Mojave River.

- **Western Pond Turtle (*Actinemys marmorata*).** The Western pond turtle is a California Species of Special Concern and BLM sensitive species. It inhabits permanent or nearly permanent water below 6,000 feet from central Calfironia, west of the Sierra-Cascade crest south to north-western Baja California. Absent from desert regions, except in the Mojave Desert along the Mojave Riverside and its tributaries. The Western pond turtle requires basking sites such as partially submerged logs, rocks, or open mud banks. While this species is known to occur in Afton Canyon within the Mojave River, no filming activities would be permitted within the Mojave River.

- **Yellow Breasted Chat (*Icteria virens*).** The yellow-breasted chat is a California Species of Special Concern. This species is found in riparian thickets of willow and brushy tangles near watercourses. Although this bird species may occur in riparian habitat associated with the Mojave River within the Afton Canyon Filming Area, filming activities would not be permitted in riparian habitat.

- **Summer Tanager (*Piranga rubra*).** The summer tanager is a California Species of Special Concern and breeds in riparian woodland along the Colorado River and at widely scattered locations in desert regions from Inyo County and northeast Kern

County southward. Although this species may occur in riparian habitat associated with the Mojave River in the Afton Canyon Filming Area, filming activities would not be permitted in riparian habitat.

- **Vermillion Flycatcher (*Pyrocephalus rubinus*).** This species is a California Species of Special Concern and inhabits cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, and other open, mesic areas. The vermillion flycatcher may occur in riparian habitat associated with the Mojave River in the Afton Canyon Filming Area. However, filming activities would not be permitted in riparian habitat.

- **Pallid Bat (*Antrozous pallidus*).** This mammal is a California Species of Special Concern and BLM sensitive species. It occurs in arid regions with rocky outcroppings and readily available water. It forms day roosts in caves, crevices, mines, and occasionally hollow trees and buildings. Night roosts may be more open sites, such as porches and open buildings. Hibernation sites are probably rock crevices. Foraging habitat includes grasslands, shrublands, woodlands, and forest in western North America.

- **Fringed Myotis (*Myotis thysanodes*).** This species is a BLM sensitive species that occurs in most brush, woodland, and forest habitats in California.

- **Nelson's Bighorn Sheep (*Ovis canadensis nelsoni*).** This species is a BLM sensitive species that occurs in open, rocky, steep areas with available water and herbaceous forage. This species is found in Afton Canyon where there is perennial water from the Mojave River and escape terrain between the first train trestle located near the camp area and a bend in the Mojave River often referred to as the horseshoe.

Portions of Odessa Canyon. Special status species with the potential to occur in the Odessa Canyon Filming Area include desert tortoise, prairie falcon, and Townsend's big-eared bat (*Corynorhinus townsendii*). A description of Townsend's big-eared bat is provided below.

- **Townsend's Big-eared Bat (*Corynorhinus townsendii*).** This mammal is a California Species of Special Concern and BLM sensitive species. It requires areas such as caves, crevices, and mines for roosting. It is a colonial cave dweller and roosts within five miles of riparian areas. Its distribution is not well known in the Mojave Desert. Two known roosts occur near Quartzite Peak and within five miles of the Mojave River.

Portions of Mule Canyon. Special status species with the potential to occur in the Mule Canyon Filming Area include desert tortoise, prairie falcon, and Townsend's big-eared bat. A description of these sensitive species has been provided for previous filming locations.

Stoddard Valley OHV Area. Special status species with the potential to occur in the Stoddard Valley OHV area include desert tortoise, burrowing owl (*Athene cunicularia*), prairie falcon, and Townsend's big-eared bat. A description of these sensitive species has been provided for previous filming locations. A description of burrowing owl is provided below.

- **Burrowing Owl (*Athene cunicularia*).** The burrowing owl is a California Species of Special Concern and BLM sensitive species. It usually occupies ground squirrel burrows in open, dry, grasslands, agricultural and range lands, railroad right of ways, margins of highways, golf courses, and airports. The burrowing owl often utilizes man-made structures, such as earthern berms, cement culverts, cement, asphalt, rock or wood debris piles. The Stoddard Valley Filming Area contains suitable habitat to support burrowing owl although high OHV use may prevent species from establishing burrows. No burrowing owls were observed during the surveys conducted for this project.

Amargosa Canyon (Sperry Wash) Sensitive species with the potential to occur in the Sperry Wash sections of Amargosa Canyon include desert tortoise, Mojave fringe-toed lizard, long-eared owl (*Asio otus*), prairie falcon pallid bat, and Nelson's bighorn sheep. Descriptions of previously mentioned species have been provided in the preceeding sections.

- **Long-eared Owl (*Asio otus*).** This long-eared owl is a California Species of Special Concern that is protected while nesting. It occurs in forests and woodlands and nests in dense riparian woodland habitat. This species may occur in riparian habitat associated with the Amargosa River. However, filming activities would not be permitted within the Amagrosa River and no other suitable habitat occurs in the Amargosa Canyon Filming Area.

3.14 VEGETATION

Vegetation throughout the seven proposed filming locations is composed primarily of Mojave Desert creosote bush scrub or desert saltbush scrub. Desert holly scrub occurs along the wash margins of Sperry Wash in the Amargosa Canyon filming location. Disturbed areas within the proposed filming locations are associated with dirt roads and trails, areas adjacent to railroads, and cleared areas from past land uses (e.g., mining). Table A shows the existing vegetation communities within each filming area.

Table A: Vegetation Communities within Each Filming Area

Filming Area	Creosote Bush Scrub	Saltbush Scrub	Desert Holly Scrub	Riparian	Disturbed
Sawtooth Canyon	X				X
Rasor OHV Area	X	X			X
Afton Canyon	X	X		X	X
Portions of Odessa Canyon		X			X
Portions of Mule Canyon		X			X
Stoddard Valley OHV Area	X				X
Amargosa Canyon (Sperry Wash Sections only)		X	X		X

As previously identified, the proposed filming locations are within the BLM's CDCA Plan area and are guided by the WMP, an amendment to the CDCA Plan. The BLM has identified 37 plants afforded special status in the WMP area. These include BLM sensitive plant species as well as species listed on watch lists published by the CDFG, USFWS, local agencies, and special status groups, such as the CNPS.

The literature review revealed fourteen special status plants are known to occur within a five-mile radius of the proposed filming areas. Of these, three plants were determined to have a potential to occur within the proposed filming areas based on the presence of suitable habitat to support these species. Plant species with the potential to occur in the filming areas are described in the following paragraphs below. A special status plant species summary is provided in Appendix A.

Sawtooth Canyon. Based on the biological resource literature research and field visit conducted for the project[1], no potential sensitive plant species are anticipated to occur within the Sawtooth Canyon Filming Area.

Rasor OHV Area. Based on the biological resource literature research and field visit conducted for the project[2], no potential sensitive plant species are anticipated to occur within the Rasor OHV Filming Area.

Afton Canyon. Special status plant species with the potential to occur within Afton Canyon include Emory's Crucifixion Thorn (*Castela emoryi*). A description of this species is provided below.

- **Emory's Crucifixion Thorn (*Castela emoryi*).** Emory's crucifixion thorn is a leafless, densely spiny shrub that grows from 6 to 20 feet tall, and is a CNPS List 2 species. It occurs along washes or other places where water may accumulate on plains or bajadas. Its fruits are held on the plant for several years, and the seeds

[1] LSA Associates, Inc., 2011b, *General Biological Resources Report Inland Empire Economic Partnership, Commercial Filming, Barstow Resource Area,* October 2011.

[2] LSA Associates, Inc., 2011b, *General Biological Resources Report Inland Empire Economic Partnership, Commercial Filming, Barstow Resource Area,* October 2011.

have thick walls that must be worn down before germination can occur. Emory's crucifixion thorn is known from only a few widely scattered occurrences in the Sonoran Desert and southern Mojave Desert in eastern California, southwestern Arizona, northern Baja California, and western Sonora (Mexico). It is most commonly known from non-saline dry lakes but has been found occasionally along washes and other seasonally wet sites where water accumulates. It is found at elevations between 85 and 770 meters (280–2,530 feet). The species has a low potential to occur in Afton Canyon due to the presence of desert washes that are seasonally wet.

Portions of Odessa Canyon. Special status species with the potential to occur in the Odessa Canyon Filming Area include Jackass-clover (*Wislizenia refracta* ssp. *refracta*). A description of this plant species is provided below.

- **Jackass-clover (*Wislizenia refracta* ssp. *refracta*).** This plant is a CNPS List 2 species that occurs in sandy washes and in roadsides with Mojave Creosote Bush Scrub at elevations between 600 and 800 meters (1,950–2,600 feet). Odessa Canyon and Mule Canyon both contain sandy washes and roads with creosote bush scrub habitat to support this species.

Portions of Mule Canyon. As previously identified, special status plant species with the potential to occur in the Mule Canyon Filming Area include Jackass-clover (*Wislizenia refracta* ssp. *refracta*). A description of this sensitive plant species has been provided for previous filming locations.

Stoddard Valley OHV Area. Special status species with the potential to occur in the Stoddard Valley OHV Filming Area include Barstow woolly sunflower (*Eriophyllum mohavense*), Creamy blazing star (*Mentzelia tridentata*), Mojave monkeyflower (*Mimulus mohavensis*). A description of these plant species is provided below.

- **Barstow woolly sunflower (*Eriophyllum mohavense*).** The Barstow woolly sunflower is a State Special Plant and a BLM sensitive species. It occurs in sandy or rocky places, on playas, in creosote bush scrub, saltbrush scrub habitat, and sandy margins of alkali depressions. This species may occur in undisturbed Mojave Creosote Scrub throughout the Stoddard Valley Filming Area.

- **Creamy blazing star (*Mentzelia tridentata*).** The Creamy blazing star is a State Special Plant and is found in Mojavean desert scrub at 2,300 to 3,800 feet elevation in Imperial, Inyo, Kern, Riverside, San Bernardino, and San Diego counties. This species may occur in undisturbed Mojave Creosote Scrub throughout the Stoddard Valley Filming Area.

- **Mojave monkeyflower (*Mimulus mohavensis*).** The Mojave monkeyflower is a State Special Plant and a BLM sensitive species. This species can be found on gravelly banks of desert washes at 1,900 to 3,900 feet in elevation. The Mojave monkeyflower may occur in undisturbed Mojave Creosote Scrub throughout the Stoddard Valley Filming Area.

Amargosa Canyon (Sperry Wash sections). Sensitive plant species with the potential to occur in the Sperry Wash sections of Amargosa Canyon include Ripley's Alliciella (*Aliciella ripleyi*) and Tecopa bird's beak (*Chloropyron tecopense*). A description of these species has been provided provided below.

- **Ripley's Alliciella (*Aliciella ripleyi*).** This plant species is a CNPS List 2 species known to occur in Mojavean desert scrub habitat associated with carbonate soils at elevations between 305 and 1,950 meters (1,000–6,400 feet). Carbonate soils are present in Amargosa Canyon and suitable Mojavean desert scrub habitat is present within Sperry Wash.

- **Tecopa bird's beak (*Chloropyron tecopense*).** This plant is a State 1B plant and a BLM sensitive species. The Tecopa bird's beak occurs in mesic, alkaline areas associated with Mojavean desert scrub, meadows, and seeps. The potential for this plant species to be present within Sperry Wash is low due to the site being outside of the species' elevational range. This species may occur in riparian habitats within the Amargosa Canyon. However, filming activities would not be permitted in riparian habitat.

CHAPTER 4 — ENVIRONMENTAL EFFECTS

4.1 AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Proposed Action. As previously identified, Afton Canyon is designated as an ACEC to protect plant and wildlife habitat, and to preserve scenic values of the riparian area within the canyon. The Amargosa Area of Critical Environmental Concern Implementation Plan is currently being developed in coordination with the U.S. Fish and Wildlife Service (USFWS). Once approved, the implementation plan would provide priorities and actions for managing the Amargosa watershed that support all of its values, including the riparian habitat and sensitive species that thrive there. The implementation plan would also implement actions to address increasing recreational use in the area and enhance passive recreation opportunities so the public can appreciate first-hand many of these values in a way that can also sustain them.

Due to the sensitivity of habitats within this area, the BLM has designated portions of Amargosa Canyon as an ACEC, which has specific management strategies in order to preserve the natural resources found in the area. Based on the potential for habitat and sensitive species to occur within the seven proposed filming locations, only Light Intensity filming would be permitted within the Afton Canyon-location as this level of filming would not adversely affect the associated ACEC area. Although portions of Amargosa Canyon is identified as an ACEC, the proposed filming locations (e.g. Sperry Wash/Hollywood Canyon) are outside of the identified ACEC area.

Light Use Intensity prohibits soil disturbances. However, due to the scope of the proposed Moderate and Intense Use filming activity (i.e., disturbances greater than one acre permitting digging, excavation, and augering), Moderate and Intense Use filming activities shall not be permitted within these areas. Adherence the restrictions described above and with adherence to policies and provisions identified in the Afton Canyon ACEC Management Plan and WMP will ensure that no substantial adverse effect would occur under the Proposed Action.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed filming locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within any of the seven proposed location, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of effects identified for the Proposed Action.

4.2 AIR QUALITY

Proposed Action. Very few improved roads exist within or in the vicinity of the proposed filming locations. Primary access to the proposed filming locations is from I-15, I-40, SR-247, and SR-127. Other access is available from minor paved and unpaved roads. Vehicle travel resulting from filming activities on paved and unpaved roads has the potential to increase particulate matter (airborne dust) into the environment over baseline conditions. Equipment such as generators and large vehicles can increase airborne dust while in use. It is

anticipated that airborne dust would be created by equipment setup and strike, and associated vehicle travel on dirt roads. Less dust would be created by actual filming activities such as pyrotechnics use, historic vehicle driving on dirt roads, and actor and film crew movement. In particular, those scenes where a dusty or smoke-filled environment is desired for film realism, the use of "fog machines" (also known as haze machines or haze generators) or non-toxic smoke bombs may be employed in order to protect human health and safety.

Based on the proposed filming activities, the following measures are included as Reasonably Available Control Measures (RACMs) to comply with the State Implementation Plan in the San Bernardino general area of non-conformity. Within the seven proposed filming locations, airborne dust resulting from vehicle travel, equipment use, and soil disturbance would be controlled in three ways: by minimizing vehicle travel, minimizing soil disturbance, and by periodically wetting areas subject to dust creation. No pooling of water or run-off would occur as a result of dust control measures. Vehicle travel would be reduced by vanpooling film crews to the film sites. Other essential vehicle travel (non-commuting) would be minimized to the greatest extent feasible.

Based on the nature of filming activities proposed, it is expected that only localized, temporary impacts to air quality could potentially occur. With the above RACMs, this impact is deemed minimal in relation to both annual and 24 hour Clean Air Act standards. No substantial adverse effects on regional air quality would occur under the Proposed Action.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed filming locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within any of the seven proposed location, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of air quality effects identified for the Proposed Action.

4.3 CULTURAL RESOURCES

Proposed Action. As previously identified, during the field surveys[1], no additional new historic resources were identified for Sawtooth Canyon, Odessa Canyon, Mule Canyon, Stoddard Valley OHV Area, and Amargosa Canyon (Sperry Wash sections). All newly recorded resources were located within the Afton Canyon which is located within the Razor OHV filming location.

Sawtooth Canyon. No new historic resources were recorded during the site visit within Sawtooth Canyon. Therefore, the Proposed Action is not anticipated to result in substantial

[1] LSA Associates, Inc., 2011a, *Class I Inventory Report and Class III Cultural Resources Assessment Programmatic Environmental Assessment for Filming Activities, Barstow Field Office Jurisdiction, Bureau of Land Management, San Bernardino County, California,* August 2011.

adverse effects on cultural resources under light or moderate filming activity levels. Although the potential for buried resources is low overall in the areas surveyed, monitoring of ground-disturbing activities planned for any filmmaking activity under intense filming in any location in the surveyed areas by a qualified archaeologist is recommended. Based on an approved construction monitoring and discovery plan, the monitors shall have the authority to halt activities in the immediate area of discovery and the BLM archaeologist shall be notified.

Rasor OHV Area. Refer to Afton Canyon discussion.

Afton Canyon. The field surveys resulted in the recordation of four previously unrecorded historic archaeological resources and one previously unrecorded and possible prehistoric resource. These resources were documented on standard State Department of Parks and Recreation Site Records (DPR 523 Series). For the Proposed Action, both prehistoric and historic sites comprise the resources evaluated. Only one of the historic resources (CA-SBR-1910H), the Union Pacific railroad, has been previously evaluated for eligibility to the National Register and has been determined eligible; the segment in the project APE in Afton Canyon is a contributing element to the larger extent of the railroad, beyond the visible limits of Afton Canyon.

The remaining historic and prehistoric resources identified within the Afton Canyon and Razor OHV area locations are recommended as not eligible for listing in the National Register due to their limited potential for important information. However, while not eligible for listing in the National Register, specific avoidance measures at one historic resource site and one prehistoric resource site (the Afton cemetery [SBR-14818H] and the prehistoric rock piles [SBR-14819H], respectively) are recommended to be incorporated into the proposed action.

This measure includes the exclusion of filming activities within 200 meters (approximately 656 feet) of the Afton Cemetery. Whereas avoidance of any cultural resources during ground disturbance is preferred, specific efforts will be made during filming activities to avoid the cemetery.

Portions of Odessa Canyon. No new historic resources were recorded during the site visit within Odessa Canyon. Therefore, the Proposed Action is not anticipated to result in substantial adverse effects on cultural resources under light or moderate filming activity levels. For intense filming activity levels, monitoring of ground-disturbing activities planned for any filmmaking activity by a qualified archaeologist is recommended.

Portions of Mule Canyon. No new historic resources were recorded during the site visit within Mule Canyon. Therefore, the Proposed Action is not anticipated to result in substantial adverse effects on cultural resources under light or moderate filming activity levels. For intense filming activity levels, monitoring of ground-disturbing activities planned for any filmmaking activity by a qualified archaeologist is recommended.

Stoddard Valley OHV Area. No new historic resources were recorded during the site visit within Stoddard Valley OHV Area. Therefore, the Proposed Action is not anticipated to result in substantial adverse effects on cultural resources under light or moderate filming activity levels. For intense filming activity levels, monitoring of ground-disturbing activities planned for any filmmaking activity by a qualified archaeologist is recommended.

Amargosa Canyon (Sperry Wash sections). No new historic resources were recorded during the site visit within the Sperry Wash sections of Amargosa Canyon. Therefore, the Proposed Action is not anticipated to result in substantial adverse effects on cultural resources under light or moderate filming activity levels. For intense filming activity levels, monitoring of ground-disturbing activities planned for any filmmaking activity by a qualified archaeologist is recommended.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed filming locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within any of the seven proposed locations, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of cultural resource effects identified for the Proposed Action.

4.4 FLOODPLAINS

Proposed Action. As previously stated, a portion of the Stoddard Valley OHV Area is identified as being within an identified 100-year flood zone. The remaining locations of the Proposed Action are located within an area identified as being undetermined but potentially susceptible to flooding. The proposed action would result in opening the proposed filming locations up to commercial filming activities. Due to the temporary nature of the proposed filming activities, it is anticipated that such activities would not change any existing 100-year flood zones within the filming locations.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed filming locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within any of the seven proposed locations, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of floodplain effects identified for the Proposed Action.

4.5 HEALTH AND SAFETY

Proposed Action. Roadway closures necessary for filming would be minimized and any traffic directed during closure using signage and a staffed traffic controller. Activities that require placement of props or set dressing that create a blockage of any open route as a part of a scene will be able to be disassembled to an extent that will allow the public to travel through unimpeded on the roadways. Certain filming locations would be closed off to the

public from prep stage[1] through filming and strike,[2] as well all set locations that do not impede public access through the area. Prep filming and strike in each area will be limited to the maximum time feasible to accomplish each required scene as to minimize effects to public access to these areas. In addition, a 24 hour security detail would be posted to ensure public safety and property security during all on-site activity from initial site prep to strike. In addition, standard measures identified in Section 5.0 would ensure that the no adverse effects associated with the Proposed Action would occur.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within any of the proposed locations, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of safety effects identified for the Proposed Action.

4.6 NATIVE AMERICAN RELIGIOUS CONCERNS

Proposed Action. Based on the nature of filming activities that could occur under the Proposed Action, including limited surface disturbance activities, limited vehicle use and filming duration restrictions, it is anticipated that American Indian Traditional Practices would not be affected.

No Action. Similar to the proposed action.

4.7 RECREATION

Proposed Action. Many recreation activities consist of OHV use within Sawtooth Canyon, Stoddard Valley OHV area, and the Rasor OHV area. Recreational activities within the remaining locations area include hiking, camping, and photography. The Proposed Action will impact recreational access to specific areas during filming activity through temporary road closures and limited access to areas being used as sets for certain scenes. The majority of filming activities is anticipated to occur during the workweek (Monday through Friday) when recreational use is the lowest. Filming activities are anticipated to occur from early morning to late evening.

Impacts of road closures and access restrictions to the set locations for recreational use are temporary in nature and not anticipated to be an adverse effect to recreation opportunities. Measures that ensure public access to open routes would minimize this effect on recreation opportunities. Areas used for staging and set up of sets will use the smallest possible area for the minimum length of time to minimize effects to public access to areas containing set locations.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed locations would not be approved. Implementation of this action would not preclude future

[1] Base camp and set building activities
[2] Tear down of base camp and any sets constructed.

filming applications on a case by case basis. If a filming company wanted to film within the proposed locations, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of recreational effects identified for the Proposed Action.

4.8 SOCIOECONOMICS

Proposed Action. It is anticipated by implementing the Proposed Action, BLM would see an increase in film permit requests. Based on the Inland Empire Film Commission's data, this could equate to an increase in revenue to San Bernardino County. Productions lasting 30 days would add revenue to local communities through motel occupancy and subsequent lodging taxes; purchase of supplies, equipment and meals; and employment opportunities. No effects to social values are expected. Because the certainty of filming activities is an unknown commodity within the County, the economic effects when combined with other Reasonably Forseeable Future Actions (RFFAs) would be speculative.

No Action. Under the No Action Alternative, commercial filming within the seven proposed locations would require site-specific NEPA analysis. Based on past experience, up to three filming projects are not permitted per year due to the timing and cost restraints of preparing EA's for activities in the proposed areas. Therefore, opportunities of added revenue to the local economy would not be recognized. There would be no known affects to social values.

4.9 HAZARDOUS AND SOLID WASTES

Proposed Action. No known hazardous environmental conditions exist within the seven proposed filming locations. It is unlikely that any environmental conditions involving hazardous materials would be encountered during light and moderate filming activities within the proposed project area as soil disturbance is prohibited or limited to temporary disturbances. However, intense filming activity permits soil disturbances (e.g., digging, excavation, or augering) of more than one acre which may result in encountering hazardous materials. Safety measures during filming activities would be followed and work would cease if hazardous materials were encountered. No adverse effects to public health and safety are anticipated under light and moderate filming activities. Potentially adverse impacts may be associated with intense filming activities.

No Action. Under the No Action Alternative, the programmatic EA for the seven proposed locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within the proposed locations, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of hazardous and solid wastes effects identified for the Proposed Action.

4.10 WATER QUALITY, SURFACE AND GROUND

Proposed Action. Two aboveground perennial water sources were identified in the General Biological Resources Report prepared for the Proposed Action: the Amargosa River and the Mojave River. Filming activities in Afton Canyon and Amargosa Canyon would be limited to light use which involve the use of hand-held cameras, tripods, props and other filming equipment that could be easily carried off road or existing open roads. Walking and hiking on existing trails would occur and any vehicle use would occur only on existing roadways and ways designated in the respective land use plan or travel management plan as open to vehicular use. Therefore, filming activities within the portions of Amargosa Canyon (Sperry Wash) and Afton Canyon that would occur under the Proposed Action would not have the potential to adversely affect surface water quality.

Loose soil during installation activities for moderate and intense filming activities shall be contained to avoid soil loss and adverse effects to water and air quality in the proposed project area. Immediately upon completion of filming activities, loose soil would be backfilled and compacted to ensure that site conditions are returned to their original conditions present at the time filming activities occur.

Additional best management practices would be employed to reduce impacts to surface water resources from the proposed action including: controlling vehicles and equipment to restrict off-road use, preventing destruction of vegetation immediately adjacent to filming areas, and preventing releases of materials from the filming area, such as plant material, trash, and oil or fuel from equipment. All jurisdictional waters and wetlands regulated by the United States Army Corps of Engineers (USACE) would be avoided by all project activities. There would be no dredging or depositing of fill materials within jurisdictional waters. No adverse effects would occur under the Proposed Action.

Filming activities proposed under the Proposed Action would not require the withdrawal of groundwater in the area. Minor soil disturbances associated with filming activities would not affect any groundwater resources in the area. Therefore, no adverse effects to groundwater are anticipated under the Proposed Action.

No Action. Under the No Action Alternative, the programmatic EA for the Barstow Resource Area proposed filming locations would not be approved. Implementation of this action would not preclude future filming applications on a case by case basis. If a filming company wanted to film within any of these 7 filming locations, a site-specific, appropriate NEPA analysis would be required and would likely have a similar level of water quality effects identified for the Proposed Action.

4.11 WETLANDS/RIPARIAN ZONES

Proposed Action. Soil shall be contained during installation activities for moderate and intense filming uses to avoid soil loss and adverse effects to water and air quality in the proposed project area. Immediately upon completion of filming activities, loose soil would be backfilled and compacted to ensure that site conditions are returned to their original

conditions present at the time filming activities occur. All filming activities would follow BLM stipulations regarding vegetative reseeding and avoidance of the spread of noxious weeds.

Additional best management practices would be employed to reduce impacts to surface water resources from the proposed action including: controlling vehicles and equipment to restrict off-road use, preventing destruction of vegetation immediately adjacent to filming areas, and preventing releases of materials from the filming area, such as plant material, trash, and oil or fuel from equipment.

Afton Canyon and Amargosa Canyon contains the Mojave River and Amargosa River, which supports riparian habitat and potential wetlands. Although the Afton Canyon and Amargosa Canyon (Sperry Wash) filming locations are located within areas that contain jurisdictional waters and wetlands, all jurisdictional waters and wetlands regulated by the United States Army Corps of Engineers (USACE) would be avoided by all project activities. There would be no dredging or depositing of fill materials within jurisdictional waters. In addition, the portion of Amargosa Canyon that is proposed for filming activities (e.g. Sperry Wash/Hollywood Canyon) contains no riparian zones. No other filming areas (e.g. Sawtooth Canyon, Rasor OHV Area, Odessa Canyon, Mule Canyon, and Stoddard Valley OHV Area) contain riparian habitat, special status plant communities, or wetlands. As a result, no substantial effects to riparian habitat, wetlands, or associated plant and wildlife species are expected to occur under the Proposed Action.

No Action. Same as the Proposed Action.

4.12 WILD AND SCENIC RIVERS

Proposed Action. With the exception of the Amargosa Canyon location, all proposed filming locations do not contain wild and scenic rivers. Therefore no substantial adverse effects would occur as a result of the Proposed Acton at those locations. However, for the Amargosa Canyon location, Amargosa River is a wild and scenic river. The Amargosa River originates in the mountains surrounding Beatty, Nevada, flows through the Amargosa Desert region, and terminates at Bad Water in Death Valley National Park. Much of the river course to Bad Water is underground, but approximately seventeen miles of surface flow exist in the areas of Shoshone, Tecopa, and the Amargosa Canyon. Portions of the Amargosa River are designated and included in the NWSRS. Only Light filming activities shall be authorized in the Sperry Wash areas. Due to this limit and the temporary nature of the filming activities, it is anticipated that the Proposed Action would not result in substantial adverse effects to Wild and Scenic Rivers.

No Action. Same as the Proposed Action.

4.13 WILDLIFE

Proposed Action. Depending on the location, duration, and time of year, minimum impact commercial filming may affect wildlife. Under the Proposed Action, no permanent change to vegetation is anticipated to occur, resulting in no permanent loss of nesting, foraging, or cover habitat for wildlife. Disturbance associated with the Proposed Action would generally be small scale and temporary in nature, but potentially cause short-term displacement of wildlife in the immediate filming area. However, the proposed spatial and temporal buffers around sensitive habitat (i.e. avoidance of nesting area during critical breeding periods, riparian setbacks, and buffers around sensitive habitat) shall prevent any appreciable disturbance to wildlife species or their habitat. Each new permit proposal would need to be reviewed by a BLM biologist to determine specific potential impacts and appropriate requirements and restrictions as identified in this EA as it relates to the type of filming activity, the filming location, the time of year, the duration of filming activities). Therefore, effects discussed below and requirements to avoid impacts are for temporary effects caused during the time that film crews are present in each of the proposed filming locations.

Sawtooth Canyon. As previously identified potential sensitive species within the Sawtooth Canyon Area include desert tortoise, prairie falcon, golden eagle, burrowing owl, and the Western mastiff bat.

- **Desert tortoise.** The desert tortoise has the potential to occur in the Stoddard Valley, Sawtooth Canyon, Afton Canyon, and Rasor OHV Area filming locations. Since the desert tortoise is a Federally and State Threatened species, any take of desert tortoise would require a Biological Opinion prior to approval of proposed activities. The BLM was issues a Biological Opinion by the USFWS that addresses the effects of filming on the tortoise and includes the Stoddard Valley OHV area and the Sawtooth Canyon Filming Area.

  Desert tortoises may be encountered along the rim of Afton Canyon or in portions of the Rasor OHV area. Light Use filming activities are not expected to have any impact on desert tortoise since the instructions provided in the desert tortoise information pamphlets must be followed. Moderate Use filming activities may result in temporary disturbance of less than one acre of desert tortoise habitat and impacts to tortoise habitat located away from approved access roads. Intense use filming activities may result in temporary disturbance of large areas of desert tortoise habitat and impacts to tortoise habitat located away from approved access roads. All moderate and intense filming activities proposed shall be reviewed by the BLM to determine if the activities may affect desert tortoise. The BLM will determine on a case-by-case basis if desert tortoise surveys are required prior to allowing moderate or intense use filming activities.. If desert tortoises are observed using the proposed filming areas, all efforts to avoid impacts to desert tortoise, including changing proposed filming locations or activities, or requiring a desert tortoise monitor to be present during filming activities, shall be implemented. If efforts to avoid impacts to desert tortoise are not feasible and if BLM determines that the activities may affect desert tortoise, appropriate consultation with USFWS shall be conducted.

- **Prairie Falcon (*Falco mexicanus*).** As stated in Section 3.0 (Affected Environment), the prairie falcon has a high potential to occur in the Sawtooth Canyon Filming Area due to the presence tall cliffs with suitable nesting areas and adjacent foraging habitat. Light Use and Moderate Use filming activities are not expected to have any impact on the prairie falcon as filming activities will likely occur in lower, flat areas, not in tall cliffs. No loss of foraging habitat is anticipated under light or moderate use filming activities. Intense use filming activities may result in temporary disturbance of large areas of foraging habitat. However, the BLM will determine on a case-by-case basis if surveys are required prior to allowing intense use filming activities. In addition, the BLM will determine if a nesting bird survey is required prior to filming activities that would occur during the nesting season (February 1 to August 15) on a case-by-case basis. If such a survey is required by BLM, it will be conducted by a qualified biologist a maximum of one week prior to project activities. If no birds are found nesting within 500 feet of the active filming area, filming activities may proceed as planned. If birds are found nesting within 500 feet of the proposed active filming area, no activity in these areas may proceed until the qualified biologist has determined that the nestlings have fledged and BLM has concurred that activities may commence.

- **Golden Eagle (*Aquila chrysaetos*).** Similar to prairie falcons, golden eagles have a potential to nest in cliffs or rocky outcrops and on nearby Stoddard Ridge, adjacent to the western side of the study area. Light Use and Moderate Use filming activities are not expected to have any impact on the golden eagle as filming activities will likely occur in lower, flat areas, not in tall cliffs. No loss of foraging habitat is anticipated under light or moderate use filming activities. Intense use filming activities may result in temporary disturbance of large areas of foraging habitat. However, the BLM will determine on a case-by-case basis if surveys are required prior to allowing intense use filming activities. Similar to what was discussed for the prairie falcons, the BLM will determine if a nesting bird survey is required prior to filming activities that would occur during the nesting season (February 1 to August 15) on a case-by-case basis. If such a survey is required by BLM, it will be conducted by a qualified biologist a maximum of one week prior to project activities. Active golden eagle nests shall be evaluated based on historic use of the vicinity and distance from the proposed film location.

- **Burrowing Owl (*Athene cunicularia*).** Although Stoddard Valley Filming Area contains suitable habitat to support burrowing owl, high OHV use may prevent species from establishing burrows. The BLM will determine if a nesting bird survey is required prior to filming activities that would occur during the nesting season (February 1 to August 15) on a case-by-case basis. If such a survey is required by BLM, it will be conducted by a qualified biologist a maximum of one week prior to project activities following CDFW protocols.

- **Western Mastiff Bat (*Eumops perotis*).** This species has a high potential to occur in the Sawtooth Canyon Filming Area as this site contains several vertical cliff faces that could support roosts. Direct impacts to roosts are not expected as filming activities will likely only occur in lower, accessible areas, not on vertical cliff faces. To

ensure that no indirect impacts to the Western Mastiff Bat occur with filming activities, filming activities shall be prohibited within 500 feet of a known and active bat roost site as identified by the BLM.

Rasor OHV Area. As previously identified, the area contains suitable habitat for desert tortoise and Mojave fringe-toed lizard. A discussion of effects on the desert tortoise is provided under Sawtooth Canyon while a discussion of effect for the Mojave fringe-toed lizard is provided below.

- **Mojave Fringe-toed Lizard.** Light use filming activities are not expected to have a impact on Mojave fringe-toed lizard exceeding those of activities already allowed in the Rasor OHV, Amargosa Canyon, and Afton Canyon Filming Areas. Moderate and intense use filming activities may result in temporary disturbance of Mojave fringe-toed lizard habitat and direct take of individuals. If filming activities are proposed in suitable habitat within the Rasor OHV, Amargosa Canyon, and Afton Canyon Filming Areas (areas with fine, wind-blown sands such as dunes and sand hummocks), the BLM will determine on a case-by-case basis if surveys are required prior to filming. If Mojave fringe-toed lizards are found in proposed filming areas, all efforts to avoid impacts shall be implemented. These include changing proposed filming locations and/or requiring a qualified biologist to clear proposed filming areas prior to moderate and intense use filming activities.

Afton Canyon. As previously identified, special status species with the potential to occur within Afton Canyon include arroyo chub, desert tortoise, Mojave fringe-toed lizard, prairie falcon, pallid bat, fringed myotis, and Nelson's bighorn sheep. Discussions of effects on desert tortoise, prairie falcon, and Mojave fringe-toed lizard have been discussed above. The other species are discussed below.

- **Arroyo Chub (*Gila orcuttii*).** Substantial adverse effects to this species are not expected as a result of filming activities, because the only action that would occur within the Mojave River for any of the allowed filming use levels would be driving through the Mojave River at crossings that are already permitted and regulated by the BLM. All other activities would be prohibited within the Mojave River. OHV use in the area already uses the Afton Canyon Filming Area in this manner and filming would not result in a substantial increase in such activity.

- **Pallid Bat (*Antrozous pallidus*).** Filming activities in the Amargosa Canyon and Afton Canyon Filming Areas are not expected to result in substantial adverse effects to this species as they are found in cliff habitat, where filming activities will not occur. Direct impacts to roost sites are not expected as filming activities will not occur in cliffs and no foraging habitat will be removed. To ensure that no indirect impacts to the Pallid Bat occur with filming activities, filming activities shall be prohibited within 500 feet of a known and active bat roost site as identified by the BLM.

- **Fringed Myotis (*Myotis thysanodes*).** This species has a low potential to occur in the Afton Canyon Filming Area. It may roost in riparian habitat associated with the Mojave River, but impacts to this habitat will not occur. However, it may forage in adjacent habitat where filming activities will occur. The proposed filming activities are

temporary in nature. Once filming activities are completed, the area in which the film had occurred would be restored to its original pre-filming condition. Therefore, filming activities will not result in permanent loss of foraging habitat and effects to this species will not be substantial for any of the proposed filming use levels.

- **Nelson's Bighorn Sheep (*Ovis canadensis nelsoni*).** This species has a high potential to occur in the Amargosa Canyon and Afton Canyon Filming Areas. This species is found in Afton Canyon where there is perennial water from the Mojave River and escape terrain between the first train trestle located near the camp area and a bend in the Mojave River often referred to as the horseshoe. Filming activities would not be authorized in the horseshoe area. Filming activities will not result in permanent loss of foraging habitat or migration corridors for this species; therefore, substantial impacts to Nelson's bighorn sheep are not expected for any of the proposed filming use levels.

Portions of Odessa Canyon. Special status species with the potential to occur in the Odessa Canyon Filming Area include desert tortoise[1], prairie falcon, and Townsend's big-eared bat. A description of Townsend's big-eared bat is provided below.

- **Townsend's Big-eared Bat (*Corynorhinus townsendii*).** This species has a high potential to occur in the Mule Canyon and Odessa Canyon Filming Areas as both filming areas contain caves that are likely to be used for filming due to their visual uniqueness. Any filming activities that propose direct use of the caves in these filming areas will be reviewed on a case-by-case basis by BLM to ensure that roosting of the Townsend's big-eared bat are not substantially disturbed.

Portions of Mule Canyon. As previously identified, special status species with the potential to occur in the Mule Canyon Filming Area include desert tortoise[2], prairie falcon, and Townsend's big-eared bat. A discussion of effects for these sensitive species has been provided for previous filming locations.

Stoddard Valley OHV Area. Special status species with the potential to occur in the Stoddard Valley OHV area include desert tortoise, prairie falcon, and Townsend's big-eared bat. A discussion of effects for these sensitive species has been provided for previous filming locations.

Amargosa Canyon (Sperry Wash sections). Sensitive species with the potential to occur in the Sperry Wash sections of Amargosa Canyon include desert tortoise, Mojave fringe-toed lizard, long-eared owl, golden eagle, prairie falcon, pallid bat, and Nelson's bighorn sheep. A discussion of effects for these sensitive species, with the exception of the long-eared owl has been provided for previous filming locations.

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1 While potentially suitable habitat is present in Odessa Canyon, the desert tortoise has not been documented or sighted within the Odessa Canyon Filming location.

2 While potentially suitable habitat is present in Mule Canyon, the desert tortoise has not been documented or sighted within the Mule Canyon Filming location.

- **Long-eared Owl (*Asio otus*).** This species may occur in riparian habitat associated with the Amargosa River. However, filming activities other than access will not be allowed within 100 feet of riparian habitat; therefore, direct impacts to habitat for this species will not occur.

No Action. Filming permits would be required to undergo separate site-specific appropriate NEPA analysis depending on the type, intensity, and location of filming activities. This may dissuade some permit applicant whose intent is to distribute films for commercial purposes. Requiring a separate NEPA process for each application for activities in the seven proposed areas may result in fewer applicants filming on public lands. Appropriate stipulations for protection of priority wildlife habitats such as distance or timing restrictions would be included in any environmental analysis and would reduce impacts to wildlife to negligible levels similar to the Proposed Action.

4.14 VEGETATION

Proposed Action. All special status plants with the potential to occur in the proposed filming locations are CNPS List 2. The CNPS defines List 2 plants as those that are “rare, threatened, or endangered in California, but more common elsewhere” and have up to 50 known populations in California.

In order to reduce impacts to potential sensitive plant habitat, all filming activities that result in ground disturbance, as allowed in the Moderate and Intense Use filming levels, will be required to restore disturbed areas to the pre-disturbance state.

For the Moderate and Intense Use filming categories, if filming activities are sited in suitable habitat for sensitive plant species within any of the seven proposed filming areas (as discussed below for each filming area), a rare plant survey will be conducted. If the plant survey identifies sensitive species within the disturbance area, specific avoidance and minimization measures will be developed by the BLM plant specialist which may include changing the location of proposed filming activities.

The filming activities under the Proposed Action may include minor soil disturbance. Soil disturbance may effect vegetation in the area as potential environmental consequences include moderate soil loss from erosion. BMPs for erosion control are expected to result in no adverse, direct, or indirect impacts to soils. These practices include containment of loose soil during set up and strike activities to avoid soil loss. Immediately upon completion, loose soil would be backfilled, compacted, or otherwise returned to pre-filming activity conditions. These measures in the project design would ensure that any impacts to area soils and erosion would be minimal. Associated effects related to each of the proposed filming locations has been provided below.

Sawtooth Canyon. As previously identified, no potential sensitive plant species are anticipated to occur within the Sawtooth Canyon Area. Therefore, the proposed filming activities will not have a substantial adverse effect on sensitive plant species. Effects to vegetation within the Sawtooth Canyon location is anticipated to be localized, temporary in nature, and not to exceed current impact levels caused by public use.

Rasor OHV Area. As previously identified, no potential sensitive plant species are anticipated to occur within the Rasor OHV Area. Therefore, the proposed filming activities will not have a substantial adverse effect on sensitive plant species. Effects to sensitive plant species within the Rasor OHV area is anticipated to be localized, temporary in nature, and not to exceed current impact levels caused by public use.

Afton Canyon. Special status plant species with the potential to occur within Afton Canyon include Emory's crucifixion thorn. Based on existing location conditions, this species has a low potential to occur in the Afton Canyon Filming Area along the Mojave River as well as seasonal desert washes. No removal or trimming of Emory's crucifixion thorn is authorized as a result of filming activities; therefore, this species will not be affected.

Portions of Odessa Canyon. As previously identified, special status species with the potential to occur in the Odessa Canyon Filming Area include Jackass-clover. It has a moderate potential to occur in Odessa Canyon due to the presence of sandy washes and dirt roads throughout the filming area. However, the majority of Odessa Canyon does not contain Mojave Creosote Bush Scrub habitat, so this species will be limited to a small area within Odessa Canyon.

Jackass-clover is a CNPS List 2 plant. The CNPS defines List 2 plants as those that are "rare, threatened, or endangered in California, but more common elsewhere" and have up to 50 known populations in California. Due to the widespread nature of these plants and localized potential impacts as a result of filming activities, proposed uses under the light use filming category will not have a substantial impact on Jackass-clover. Due to the potential for larger impact areas allowed in the Moderate and Intense use filming categories, a rare plant survey shall be conducted prior to allowing disturbance in suitable habitat areas that support Jackass-clover. If the plant survey identifies sensitive species within the disturbance area, specific avoidance and minimization measures will be developed by the BLM plant specialist which may include changing the location of the proposed filming activities.

Portions of Mule Canyon. Similar to what was identified for Odessa Canyon, special status plant species with the potential to occur in the Mule Canyon Filming Area include Jackass-clover. It has a moderate potential to occur in the Mule Canyon location due to the presence of sandy washes and dirt roads throughout the filming areas. Most of the Mule Canyon Filming Area does not contain Mojave Creosote Bush Scrub habitat, so this species will be limited to small areas within this proposed filming location. Avoidance and minimization measures would be consistent with those previously described.

Stoddard Valley OHV Area. As previously identified, no potential sensitive plant species are anticipated to occur within the Stoddard Valley OHV Area. Therefore, the proposed filming activities will not have an adverse effect on sensitive plant species.

Amargosa Canyon (Sperry Wash sections). Sensitive plant species with the potential to occur in the Sperry Wash sections of Amargosa Canyon include Ripley's Alliciella and Small-flowered Androstephium. Ripley's Alliciella was identified in the vicinity of the Amargosa Canyon Filming Area, which contains suitable habitat and areas with carbonate soils to support this species. However, the filming activities will likely occur in the lower elevation areas of this site (approximately 750–800 feet). Impacts to this species as a result

of filming in the Amargosa Canyon Filming Area are not anticipated. Small-flowered Androstephium has a low potential to occur in the Amargosa Canyon Filming Area. Sperry Wash contain large open areas with sandy soils to support this species, but at 750–800 feet elevation the site is outside of the species' elevation range. However, if filming crews do access higher elevation areas, suitable habitat may be encountered.

Both Alliciella and Small-flowered Androstephium are CNPS List 2 plants. The CNPS defines List 2 plants as those that are "rare, threatened, or endangered in California, but more common elsewhere" and have up to 50 known populations in California. Due to the widespread nature of these plants and localized potential impacts as a result of filming activities, proposed uses under the light and moderate use filming categories will not have a substantial impact on CNPS List 2 plants.

No Action. The No Action Alternative would require site-specific appropriate NEPA for individual filming permits. Requiring a separate NEPA process for each application for filming activities within each of the 7 filming locations may result in fewer applicants filming on public lands. Appropriate stipulations for protection of special status vegetation such as distance or timing restrictions would be included in any environmental analysis and would reduce impacts to vegetation to negligible levels similar to the Proposed Action.

4.15 CUMULATIVE IMPACTS

As the Council on Environmental Quality (CEQ), in guidance issued on June 24, 2005, point out, the "environmental analysis required under NEPA is forward-looking," and review of past actions is required only "to the extent that this review informs agency decision-making regarding the Proposed Action." Use of information on the effects on past action may be useful in two ways according to the CEQ guidance. One is for the consideration of the Proposed Action's cumulative effects, and secondly as a basis for identifying the Proposed Action's effects.

The CEQ stated in this guidance that "[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." This is because a description of the current state of the environment inherently includes the effects of past actions. The CEQ guidance specifies that the "CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions." Information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis, than attempting to establish such a starting point by adding up the described effects of individual past actions to some environmental baseline condition in the past, that unlike current conditions, can no longer be verified by direct examination.

The second area in which the CEQ guidance states that information on past actions may be useful is in "illuminating or predicting the direct and indirect effects of a Proposed Action." The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular baseline conditions is not generally accepted as a reliable predictor of effects.

However, “experience with and information about past direct and indirect effects of individual past actions” have been found useful in “illuminating or predicting the direct and indirect effects” of the Proposed Action and its alternatives is based on the general accumulated experience of the resource professionals in the agency with similar actions. The environmental consequences discussion described all expected effects including direct, indirect, and cumulative on resources from enacting the proposed alternatives. The EA described the current state of the environment which included the effects of past actions.

The cumulative area for this EA is the BLM Barstow Field region. Within the BLM Barstow Field region establishes and maintains a comprehensive, multi-area program focused on the demands of public land users while addressing the needs of traditional user groups on public land. The BLM reviews all land use plans/activities within the Barstow Field region to ensure compliance with the applicable land management practices, conservation criteria procedures and mitigation requirements set forth in the each respective management plan.

While implementation of the Proposed Action would allow for commercial filming activities within the identified filming location areas, the character and overall intensity of the Proposed Action is consistent with and comparable to existing land uses within each respective filming area. Because each cumulative project would be required to identify and mitigate any inconsistencies among the various land use plans, it can be anticipated that these projects would have a less than significant cumulative impact. Furthermore, because the BLM has multiple management plans that provide a regional and comprehensive approach to conservation planning and use of public land, no significant cumulative effect on resources would result from implementation of the Proposed Action.

CHAPTER 5 — MITIGATION AND MONITORING MEASURES

As discussed previously, the intensity of film activities recommended within each area can generally be assigned to one of the three levels of filming use, defined as follows:

- The intensity of film activities to be permitted within the proposed Filming Areas can generally be assigned to one of the three levels: Light Use, Moderate Use, and Intense Use as previously defined.

Table B identifies the allowed uses within each filming area, based upon the potential for effects to resources within each of the proposed filming locations, as discussed in the previous section.

Table B: Recommended Film Activity Level by Filming Area

Filming Area	Light Use	Moderate Use	Intense Use
Sawtooth Canyon	X		
Afton Canyon	X		
Mule Canyon	X	X	
Stoddard Valley	X	X	X
Rasor OHV Areas	X	X	X
Portions of Odessa Canyon	X	X	
Sperry Wash	X	X	

5.1 AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Adherence to policies and provisions identified in the Afton Canyon ACEC Management Plan and WMP will ensure that no substantial adverse effect would occur under the Proposed Action.

5.2 AIR QUALITY

All film activities shall adhere to the following Reasonably Available Control Measures (RACMs) to comply with the State Implementation Plan in the San Bernardino general area of non-conformity:

- Airborne dust resulting from vehicle travel, equipment use, and soil disturbance shall be controlled by:
  - Minimizing vehicle travel (through use of vanpooling film crews to the film sites);
  - Minimizing soil disturbance; and
  - Periodically wetting areas subject to dust creation.

Adherence to the RACM's will ensure that no substantial adverse effects on regional air quality would occur under the Proposed Action.

5.3 CULTURAL RESOURCES

The proposed action would have no effect on cultural resources deemed eligible for inclusion in the National Register.

Based on the results of the surface surveys in the proposed filming locations, filming activities shall not be allowed within 200 meters (approximately 656 feet) of the Afton Cemetery. Whereas avoidance of any cultural resources during construction or ground disturbance is preferred, specific efforts shall be made to avoid the cemetery.

In the event potential cultural or archaeological resources are uncovered or discovered during construction activities within any of the proposed filming locations, no further excavation or disturbance of the area where the resources were found shall occur until a qualified archaeologist evaluates the find. If the find is determined to be a potentially significant archaeological resource, the project applicant shall consult with the BLM to determine the appropriate actions as required by Public Resources Code Section 21083.2(b), (c) and (d). Prior to the continuation of ground-disturbing activities in the vicinity of the find, the project applicant shall provide evidence to the BLM that appropriate measures have been taken to fully satisfy applicable cultural resource protection requirements established by the BLM and/or other authority.

5.4 FLOODPLAINS

Due to the temporary nature of the proposed filming activities, it is anticipated that such activities would not change any existing 100-year flood zones within the filming locations. Therefore, the proposed action would have no effect on floodplains and no measures are required.

5.5 HEALTH AND SAFETY

All film activities shall adhere to the following measures:

- The permittee shall assume responsibility for inspecting the permitted area for any existing or new hazardous conditions (e.g. trail and route conditions, landslides, avalanches, rocks, weather conditions) that present risks for which the permittee assumes responsibility.
- Permittee shall insure that first aid services provided during the filming has the capability to insure that any accident victim may be located, treated, and evacuated as needed in a timely manner. A reliable communication system shall be provided by the permittee sufficient to provide immediate contact for the first aid provider to local emergency dispatch centers.

Adherence to the identified measures will ensure that no substantial adverse effects on health and safety would occur under the Proposed Action.

5.6 NATIVE AMERICAN RELIGIOUS CONCERNS

It is anticipated that American Indian Traditional Practices would not be affected. Therefore, no measures are required.

5.7 RECREATION

Areas used for staging and set up of sets will use the smallest possible area for the minimum length of time to minimize effects to public access to areas containing set locations. Impacts of road closures and access restrictions to the set locations for recreational use are temporary in nature and not anticipated to be an adverse effect to recreation opportunities.

5.8 SOCIOECONOMICS

It is anticipated that the socioeconomics of the area would not be adversely affected. Therefore, no measures are required.

5.9 HAZARDOUS AND SOLID WASTES

No adverse effects to public health and safety are anticipated under light and moderate filming activities. Potentially adverse impacts may be associated with intense filming activities. If hazardous wastes are encountered during filming activities, filming activities shall cease until BLM staff has been contacted and the hazardous materials identified.

5.10 WATER QUALITY, SURFACE AND GROUND

All filming activities shall adhere to the following measures:

- Loose soil during installation activities for moderate and intense filming activities shall be contained to avoid soil loss;
- Immediately upon completion of filming activities, loose soil shall be backfilled and compacted to ensure that site conditions are returned to their original conditions present at the time filming activities occur;
- Vehicle use would occur only on existing roadways and ways designated in the respective land use plan or travel management plan as open to vehicular use;
- Vegetation immediately adjacent to filming areas shall be avoided; and
- All related trash and waste (e.g. oil or fuel from equipment) shall be contained and removed from the filming location at the conclusion of filming activities.

Filming activities proposed under the Proposed Action would not require the withdrawal of groundwater in the area. Therefore, no measures for groundwater are required.

5.11 WETLANDS/RIPARIAN ZONES

Measures identified for water quality would ensure that no adverse effects to wetlands/riparian zones would occur during filming activities. In addition, there would be no dredging or depositing of fill materials within jurisdictional waters. No other filming areas (e.g. Sawtooth Canyon, Rasor OHV Area, Odessa Canyon, Mule Canyon, and Stoddard Valley OHV Area) contain riparian habitat, special status plant communities, or wetlands. As a result, no substantial effects to riparian habitat, wetlands, or associated plant and wildlife species are expected to occur under the Proposed Action.

5.12 WILD AND SCENIC RIVERS

It is anticipated that the Proposed Action would not result in substantial adverse effects to Wild and Scenic Rivers. Therefore, no additional measures are identified.

5.13 WILDLIFE

All film activities authorized within the Stoddard Valley OHV Area shall conform to the stipulations identified in the terms and conditions of the Stoddard Valley OHV biological opinion (1-8-93-F-1). In addition, the following measures shall be implemented for all film locations:

- The BLM will work with the film operator to minimize the number of vehicles needed to conduct the film. Support services (i.e. catering tents) shall be located on previously disturbed land.
- Prior to all filming activities approved under the EA, film crews shall receive desert tortoise information pamphlets (supplied by the BLM) that include information including basic desert tortoise life history and the following requirements:
    - The speed limit on unpaved roads is 25 miles per hour; and
    - All vehicles must remain on designated open routes at all times except when approved by BLM.
    - All trash must be kept in designated trash receptacles inaccessible by ravens and other potential desert tortoise predators;
    - All trash must be removed from the site at least once a week, and following the conclusion of filming activities;
    - Film crew members must check under all vehicles and equipment every time before moving in order to avoid crushing tortoises under vehicle tires; and
    - Tortoise handling is prohibited – unless specifically approved through consultation with USFWS.
    - Conditions and measures for desert tortoise in the WEMO biological opinion shall apply.
- All moderate and intense filming activities proposed shall be reviewed by the BLM to determine if the activities may affect desert tortoise. The BLM shall determine on a case-

by-case basis if desert tortoise surveys are required prior to allowing moderate or intense-use filming activities.

  - If desert tortoise or desert tortoise sign (e.g., burrows, tracks, or scat) are observed in the proposed filming areas, all efforts to avoid impacts to desert tortoise, including changing proposed filming locations or activities, or requiring a desert tortoise monitor to be present during filming activities, shall be implemented.
  - Compensation shall be required for impacts to tortoise habitat that exceed 1 acre. A report shall be completed by the biological monitor and he/she shall submit the report to the Barstow Field Office of BLM within 30 days upon completion of filming activities. The report shall describe any disturbance to suitable habitat created by filming activities.

- Prior to all filming activities in Mojave fringe-toad lizard habitat, crews shall receive Mojave fringe-toed lizard information pamphlets that include information including basic fringe-toed lizard life history and the following requirements:
  - Reduced speed limits on access roads (i.e., 25 miles per hour); and
  - Requirements to keep vehicles on designated access roads at all times except when approved by BLM.
- For moderate and intense use filming activities proposed in suitable Mojave fringe-toed lizard habitat within the Rasor OHV, (areas with fine, windblown sands such as dunes and sand hummocks), the BLM will determine on a case-by-case basis if surveys are required prior to filming. If Mojave fringe-toed lizards are found in proposed filming areas, all efforts to avoid impacts should be implemented. These include changing proposed filming locations and/or requiring a qualified biologist to clear proposed filming areas prior to moderate and intense use filming activities.
- If project activities are planned during the avian nesting season (approximately February 1 to August 31), the BLM will determine whether a nesting bird survey is required on a case-by-case basis. If such a survey is required by the BLM, it will be conducted by a qualified biologist a maximum of one week prior to project activities. If no birds are found nesting within 500 feet of the active filming area, filming activities may proceed as planned. If birds are found nesting within 500 feet of the proposed active filming area, no activity in these areas may proceed until the qualified biologist has determined that the nestlings have fledged and BLM has concurred that activities may commence.
  - If nesting birds are found during the nesting bird surveys, project activities that would create an increased disturbance level shall not be conducted within 500 feet of the active nest until a qualified biologist has determined that the nestlings have fledged or the nest is no longer active.
  - If no nesting birds are found during the nesting bird surveys, filming activities can proceed as planned.
  - In order to provide protection to nesting raptors in Sawtooth Canyon, pyrotechnics are prohibited between February 1 and August 31.
- In order to protect ACEC values, all filming uses are limited to the east portion of Afton Canyon. Filming shall not be approved within 500 ft of the Horseshoe.

5.14 VEGETATION

- If impacts are proposed in areas identified with a moderate or high potential to support sensitive plant species, the BLM will determine on a case-by-case basis if a qualified biologist must conduct focused rare plant surveys according to BLM guidelines for this species prior to filming activities. The surveys shall be conducted at the proper time of year when the plants are evident and identifiable.
    - If no sensitive plant species are found in the proposed filming areas, no further mitigation would be required.
    - If a sensitive plant species are found in the proposed filming areas, the biologist shall flag the population for avoidance. Film employees working in the vicinity of the sensitive plant population shall be made aware of the population.

CHAPTER 6 — CONSULTATION AND COORDINATION

The preparation of the EA was conducted in consultation with the Bureau of Land Management Barstow Field Office and the Inland Empire Film Commission.

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CHAPTER 7 — REFERENCES

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APPENDIX A Biological Resources Assessment

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GENERAL BIOLOGICAL RESOURCES REPORT

INLAND EMPIRE ECONOMIC PARTNERSHIP

COMMERCIAL FILMING

BARSTOW RESOURCE AREA

BUREAU OF LAND MANAGEMENT

LSA

June 2012

GENERAL BIOLOGICAL RESOURCES REPORT

INLAND EMPIRE ECONOMIC PARTNERSHIP

COMMERCIAL FILMING

BARSTOW RESOURCE AREA

BUREAU OF LAND MANAGEMENT

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June 2012

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EXECUTIVE SUMMARY

LSA Associates, Inc. (LSA) was retained by the Inland Empire Economic Partnership (IEEP) to prepare an assessment of biological resources for seven discrete proposed filming areas identified in the Bureau of Land Management's (BLM) Barstow Resource Area (BRA). BLM lands in the BRA provide a variety of unique terrain and conditions that are attractive to the film community. Pursuant to 43 CFR 2920, photography and filming activities regularly occur on public lands in the BRA.

This biological resources report will be used in preparation of an Environmental Assessment (EA) and will be completed to assess the potential environmental effects associated with filming activities. The EA will result in a streamlined permitting process for individuals. Sites included in the study area are identified in Figure 1 (Appendix A) and include Sawtooth Canyon, Rasor Off-Highway Vehicle (OHV) Area, Afton Canyon, portions of Odessa Canyon, portions of Mule Canyon, Stoddard Valley, and the Hollywood Canyon and Sperry Wash portions of Amargosa Canyon.

Filming activities permitted under the EA will be categorized based on the length of film activity, number of people and vehicles at the filming site, and potential degree of environmental disturbance by proposed props and other filming equipment. The three categories to be analyzed in the EA are Light Use, Moderate Use, and Intense Use.

In order to determine the potential impacts of the filming activities within each Filming Area, a literature review and field surveys were conducted December 2009 and January 2010. The results of these surveys were used to determine the potential for sensitive biological resources to occur and to recommend film activity levels that would be suitable within each Filming Area. The following sensitive biological resources were identified in the study areas:

- *Potential Desert Tortoise Habitat.* The Sawtooth Canyon, Afton Canyon, Stoddard Valley, and Rasor OHV Filming Areas contain suitable habitat to support the desert tortoise (*Gopherus agassizii*), a federally and state endangered species. Prior to filming activities in these areas, desert tortoise clearance surveys should be conducted by a qualified biologist.
- *Potential Mojave Fringe-Toed Lizard Habitat.* Portions of the Sperry Wash and Hollywood Canyon Filming Area contain suitable dune habitat to support the Mojave fringe-toed lizard (*Uma scoparia*). This area is adjacent to known habitat associated with Dumont Dunes, where the Mojave fringe-toed lizard is known to occur. While much of the habitat within the Hollywood Canyon/Sperry Wash Filming Area does not have suitable sands to support this species, if direct impacts associated with filming are proposed on areas with fine sands, a survey should be conducted by a qualified biologist prior to filming activities.
- *Potential Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG) Jurisdictional Waters.* The Sperry Wash portion of the Amargosa Canyon Filming Area supports a desert wash that is tributary to the Amargosa River, a significant water source in the Mojave Desert that is potentially under the jurisdiction of the USACE and CDFG. Impacts to jurisdictional areas, including associated wetlands and/or riparian habitat will be not be permitted

under the IEFC's EA. Any areas containing these features will be avoided by filming activities permitted under this EA.

- *Potential Special Status Plant Species.* No federally or state listed plant species are expected to occur in the filming areas where filming activities will occur. Three CNPS list 1B and four CNPS List 2 species have a low or moderate potential to occur. These include Barstow wooly sunflower (*Eriophyllum mohavense*), Mojave monkeyflower (*Mimulus mohavensis*), creamy blazing star (*Mentzelia tridentata*) may occur in the Stoddard Valley Open Area. Ripley's aliciella (*Aliciella ripleyi*) and small-flowered androstephium (*Androstephium breviflorum*) in the Amargosa Canyon Filming Area; Emory's crucifixion thorn (*Castela emoryi*) in the Afton Canyon Filming Area, and jackass-clover (*Wislizenia refracta* ssp. *refracta*) in the Mule Canyon and Odessa Canyon Filming Areas. Since avoidance measures would be implemented during all categories of filming use potential impacts to sensitive plants will not be substantial. Compared to the overall population size of these species, the loss of some individuals by crushing or other surface level impacts would not result in the loss of a large portion of the overall population.
- *Potential Nesting Bird Habitat.* All of the proposed Filming Areas contain suitable habitat to support nesting birds protected under the Migratory Bird Treat Act (MBTA). The BLM will determine if a nesting bird survey is required prior to filming activities that would occur during the nesting season (April 1 to August 15) on a case-by-case basis. If such a survey is required, it will be conducted by a qualified biologist a maximum of one week prior to project activities. If no birds are found nesting within 300 feet of proposed filming areas, filming activities may proceed as planned. If birds are found nesting within 300 feet of proposed filming areas, these areas should not be disturbed until the qualified biologist has determined that the nestlings have fledged and BLM has been notified.

INTRODUCTION

LSA Associates, Inc. (LSA) is under contract to the Inland Empire Economic Partnership (IEEP) to provide a biological resource assessment for seven discrete proposed filming locations within the Bureau of Land Management (BLM)'s Barstow Resource Area (BRA). The Inland Empire Filming Commission (IEFC) is proposing to provide technical resource studies for popular filming areas within the seven discrete locations in order to simplify the permitting process for potential filming and photography users. Information from this report will be included in an Environmental Assessment (EA) in order to facilitate processing of Land Use Permit Applications for commercial filming.

The seven discrete Filming Areas are shown in Figures 1 and 1A through 1E (Appendix A) and include:

- Sawtooth Canyon;
- Rasor Off-Highway Vehicle (OHV) Area;
- Afton Canyon;
- Portions of Odessa Canyon;
- Portions of Mule Canyon;
- Stoddard Valley; and
- Hollywood Canyon/Sperry Wash areas of Amargosa Canyon (referred to as Amargosa Canyon Filming Area throughout this report).

PURPOSE

Various levels of filming have taken place in the BRA since 1935, including such well-known movies as *Tumbling Tumbleweeds* (1935), *The Bagdad Café* (1987), *Erin Brockovich* (2000), *Kill Bill* (2004), and *Letters from Iwo Jima* (2007). Because of the high sensitivity of desert resources and increased demand for desert filming activities, special management actions are necessary to prevent and/or mitigate the effects that filming activities may have on the desert environment. The programmatic assessment will identify the acceptable limits of future filming activities in the identified areas. The EA will assist in the determination of the carrying capacity of the various locations that will in turn dictate the level of permitted filming activity and development of site-specific use parameters and (as warranted) mitigation requirements.

The opportunities afforded to the film industry desert filming locations must be sufficiently balanced to ensure that the sensitive resources and unique character of desert environment are appropriately protected. Past filming activities within the Barstow Resource Area have been successfully managed under standard stipulations identified under a programmatic environmental assessment. The unique scenic, natural, and open space qualities of the Mojave Desert, coupled with the desert's relative

proximity to major film production facilities, has created additional demand for filming in desert locations. This increased demand, typically driven by the characteristically abbreviated time constraints common in the film industry, benefits from a programmatic assessment of the environmental effects of film activities at the locations in question.

This biological resources report will be used in preparation of a Programmatic EA to facilitate processing of Land Use Permit Applications for commercial filming at the proposed Filming Areas. As the identified locations are located on lands under the purview of the BLM, preparation of the EA is required to identify the effect commercial filming activities will have on resources within the BRA. Due to the nature of these projects as specific filming procedures vary on a case-by-case basis; this study is programmatic in nature. As stated above the purpose of this study is to assess the potential for proposed actions allowed under the filming permit to impact biological resources, and make specific recommendations for mitigation measures to be implemented as each specific project is implemented.

PROPOSED ACTION AND ALTERNATIVES

The intensity of film activities to be permitted within the proposed Filming Areas can generally be assigned to one of the three levels of use, defined as follows:

- *Light Use* includes film activity that meets the following conditions:
  - The length of the film activity limited to five days or fewer;
  - A cast and crew of up to 20 persons;
  - All vehicles associated with film activity are restricted to designated routes as identified by BLM staff;
  - A range of up to fifteen vehicles (inclusive of cast, crew and associated services) are utilized during the film activity;
  - No digging, excavation, or augering permitted during filming activity;
  - Use of physical effects that do not result in soil disturbance (e.g., flame bars, ceramic fire logs, squibs, and atmospheric effects equipment for small effects of wind, fog, steam, and so on) permitted; and
  - All props used in filming activity are freestanding.
- *Moderate Use* is more intense than light use and is characterized by:
  - The length of the film activity is greater than five days, but less than 30 days;
  - A cast and crew of up to 60 persons;
  - A range of up to 45 vehicles (inclusive of cast and crew and associated services) are utilized during the film activity;
  - Limited disturbance activities related to staking, posting, or sandbagging for props and any temporary supporting service tents;

- Limited motorized disturbance (i.e., precision driving and stunts), limited set construction (e.g., limited to free-standing sets), and limited use of specialized support equipment (e.g., up to 2 boom vehicles and 5 semi-truck or tracked vehicles);
- Limited use of physical effects permitted with temporary soil disturbance (e.g., small pyrotechnic devices and atmospheric effect equipment for creating fire wind, rain, and snow effects on site); and
- All props used in filming activity are freestanding.

- *Intense Use* includes any film activity that requires or results in any of the following:
  - A filming period in excess of thirty days, inclusive of set up (i.e., base camp and set building activities) and recovery (i.e., tear down base camp and any sets constructed);
  - A cast and crew in excess of 61 persons;
  - An excess of 45 vehicles (inclusive of cast and crew and associated services) are utilized during the film activity;
  - Use of specialized support equipment (e.g., set construction, generators, boom vehicles, semi-truck or tracked vehicle, or water equipment);
  - Limited disturbance activities associated with digging, excavation, or auguring permitted as identified by BLM staff; and
  - All props used in filming activity are freestanding.

REGULATORY FRAMEWORK

West Mojave Plan

The study area is within the BLM's California Desert Conservation Area (CDCA) Plan area. The CDCA Plan covers BLM-managed public lands throughout the California Desert. Management guidance for the study area is provided by the West Mojave Plan (WMP), an amendment to the CDCA Plan.

The WMP is an environmental planning document that was enacted as an amendment to the CDCA. It was designed to streamline the permitting process and compliance with the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) for projects within its planning area. The WMP planning area includes the West Mojave Desert area encompassing 9.3 million acres in Inyo, Kern, Los Angeles, and San Bernardino Counties. The WMP is currently only approved for BLM lands. Alternative B of the Final Environmental Impact Report and Statement for the West Mojave Plan (BLM 2005) defines regulations relating to conservation of biological resources and protects plant and wildlife resources through the creation of Habitat Conservation Areas (HCAs).

National Environmental Policy Act

The National Environmental Policy Act (NEPA) defines procedures for environmental review and impact analysis of projects that need approval by federal agencies. NEPA requires that the potential

environmental impacts of a proposed project be assessed, quantified, disclosed, minimized, and eliminated whenever possible.

Under NEPA, impacts to biological resources such as vegetation communities, plants, and wildlife must be analyzed. Direct, indirect, and cumulative impacts to biological resources protected under the FESA, CESA, Migratory Bird Treaty Act (MBTA), Federal Clean Water Act (CWA), and local policies and ordinances are included in NEPA analysis.

Direct effects are impacts that occur at the same time and in the location of the actual construction work. The associated impacts with construction activities have the potential to result in the destruction, disturbance, and removal of plants, animals, watercourses, and natural communities.

Indirect effects are impacts caused by the project action but are later in time or farther in distance from the actual construction work. Indirect effects include growth inducement, changes in land use patterns, increased human intrusion, population growth, noise, and impacts to air quality, wind movements, water quality, hydrology, plant communities, wildlife movement, and regional ecosystems.

NEPA defines a cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR § 1508.7).

Cumulative impact assessments include the consequences triggered by the impacts affecting resources that function as part of a larger complex natural system, and effects that may be removed in time and space and may not be apparent when only considering the local and short-term direct impacts.

Threatened and Endangered Listed Species

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) may list species as threatened or endangered under FESA and CESA. Under the regulations of FESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Authorization is granted by several means including issuance of 10(a) permit under Section 10(a)(1)(b) of FESA or participation in a Section 7 Consultation. Additionally, the USFWS can designate "critical" habitat that identifies areas, occupied or not, that are essential to the conservation of a listed species. Critical habitat areas may require special management considerations or protections.

The CDFG administers CESA, which prohibits the take of plant and animal species designated by the Fish and Game Commission as either threatened or endangered in the State of California. Sections 2080.1 and 2081 of the Fish and Game Code include provisions to authorize "take" of endangered or threatened species for otherwise lawful projects with approval by the CDFG.

Special Status Species and Natural Communities

The CDFG, USFWS, BLM, local agencies, and special status groups, such as the California Native Plant Society (CNPS) publish watch lists of declining species. Species on these lists are a part of the

special status species assessment. Special status species, species of concern, and candidates for state and/or federal listing are also included in the special status species discussion.

Inclusion of species described in this analysis is based on the following:

1. Direct observation of the species or its sign in the study area or immediate vicinity during surveys conducted for this study or reported in previous biological studies;
2. Sighting by other qualified observers;
3. Record reported by the California Natural Diversity Data Base (CNDDB) published by the CDFG;
4. Presence or location of specific species lists provided by private groups (e.g., CNPS); or
5. Site lies within known distribution of a given species and contains appropriate habitat.

The BLM has identified 37 plants and 56 animals afforded special status in the WMP area. These include BLM sensitive species as well as species listed on watch lists published by the CDFG, USFWS, local agencies, and special status groups, such as the CNPS. All project-related effects to species and natural communities considered special status in the WMP must be considered and minimized or avoided where possible. Non-listed species that are considered sensitive species, species of concern or are candidates for state and/or federal listing are also included in the special status species discussion. Legal protection for sensitive species varies widely, from the comprehensive protection extended to listed threatened/endangered species to no legal status at present.

Protected Bird Species

The MBTA 16 USC §§ 703–712, as amended, governs take, possession, import, export, transport, selling, purchasing, or bartering of migratory birds, their eggs, parts and nests, except as authorized under a valid permit (50 CFR 21.11). The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes, and requiring harvests to be limited to levels that prevent overutilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take but ensuring that take is compatible with the protection of the species.

Most bird species are protected under the MBTA and under the California Fish and Game Code. It is unlawful to take, possess, or needlessly destroy any bird or the nests or eggs of any bird species except as otherwise provided in California Fish and Game Codes and Regulations. Disturbances at the active nesting territories should be avoided during the nesting season, typically February 1 through August 31.

Jurisdictional Waters

Pursuant to Section 404 of the CWA, the USACE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "waters of the United States" is defined in 33 CFR Part 328 and currently includes (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all impoundments of waters mentioned

above, (4) all tributaries to waters mentioned above, (5) the territorial seas, and (6) all wetlands adjacent to waters listed above.

In 2006, the Supreme Court in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (*Rapanos*) addressed CWA jurisdiction over wetlands adjacent or abutting navigable, non-navigable and ephemeral tributaries and jurisdiction over permanent and relatively permanent non-navigable tributaries (126. CT.2208 (2006), 33 USC § 1251 et seq.). While there was no single opinion commanding a majority of the Court, the decision provides two new analytical standards for determining whether water bodies that are not traditional navigable waters (TNWs), including wetlands adjacent to those non-TNWs, are subject to CWA jurisdiction.

The two analytic standards used for jurisdictional nexus determination are (1) RPW Standard: if the water body is relatively permanent and if the water body is a wetland that directly abuts a relatively permanent water body (RPW), and (2) if the water body or wetland proposed to be impacted in combination with all wetlands adjacent to that water body has a significant nexus with a TNW.

For tributaries that are non-navigable and not relatively permanent, a "significant nexus" analysis must be performed to determine whether such waters and its adjacent wetlands are jurisdictional. A "significant nexus" may be found where waters, including adjacent wetlands, have more than an insubstantial effect on the chemical, physical, or biological integrity of TNWs. Application of this standard will involve a comprehensive review of the tributary flow characteristics, functions of the tributary, and functions of any adjacent wetlands to determine if the tributary or wetland significantly affects the hydrological, ecological, chemical, physical, and biological integrity of the downstream navigable water.

Pursuant to Division 2, Chapter 6, Sections 1600–1602 of the California Fish and Game Code, the CDFG regulates substantial diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The CDFG jurisdictional limits closely mirror those of the USACE. Exceptions are the CDFG's addition of irrigation ditches constructed on uplands, and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status. In addition, the lateral extent of streambed may, in some situations, extend to include broader cross-sectional widths of drainages and floodplains above and beyond the area contained within the ordinary high water mark (OHWM), depending on the hydrological regime of a stream or river.

The California Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB also regulates discharges to "waters of the State," including wetlands, under the Porter-Cologne Water Quality Control Act.

Habitat Connectivity, Wildlife Movement, and Nursery Sites

Wildlife movement and habitat connectivity are important issues for ensuring the long-term sustainability of plant and wildlife populations. Linkages to larger tracts of undisturbed natural habitat are necessary for juvenile dispersal, plant seed distribution, foraging, escape from natural or human disturbances, and for supporting sustainable population for genetic diversity.

Land development can fragment habitat and disrupt wildlife movement and plant dispersal. Habitat fragmentation occurs when a proposed project divides a single, unified habitat area into two or more areas. Such division isolates the two new areas from each other. An example is the fragmentation of habitats within and around "checkerboard" residential development. Habitat fragmentation can also occur when a portion of one or more habitats is converted into another habitat, as when scrub habitats are converted into annual grassland habitat because of frequent burning.

The result of fragmentation is that the amount of habitat available to local wildlife populations is reduced. Wildlife and plant population isolation occurs when wildlife cannot move freely or plants cannot be transported from one portion of the habitat to another or from one habitat type to another.

In general, a reduction in available habitat is followed by a reduction in populations if the remaining areas are too small to support pre-fragmentation population levels. If the fragmentation is too great, populations will not be able to persist and some or all of the species in a fragmented habitat area will disappear. This can occur on a local or regional scale, depending upon the degree and type of fragmentation occurring.

Nursery sites may be a grove of trees, cave, cliff, or even man-made structures, such as box culverts and bridges, which are used for rearing young or roosting. Solitary and colonial species, such as raptors, swallows, and bats, return to the same nesting sites year after year. Impacts to protected species, especially large numbers as is the case with colonial nesters, can be considered significant under NEPA.

METHODS

LITERATURE SEARCH

A literature review was conducted to determine special status plant and animal species known to occur in the proposed vicinity of each filming area. Database records for *Dumont Dunes, Saddle Peak Hills, Ibex Pass, Tecopa, White Horse Mountain, Yermo, Nebo, Lane Mountain , Coyote Lake, Barstow SE, Daggett, Stoddard Well, Fairview Valley, West Ord Mountain, Barstow, Hodge, Crucero Hill, West of Soda Lake, Soda Lake South, Soda Lake North, Dunn,* and *Cave Mountain, California* U.S. Geological Survey (USGS) 7.5-minute quadrangles were reviewed on January 31, 2010, and February 17, 2011, using the CDFG's Natural Diversity Data Base application *Rarefind 3* (version 3.1.0, dated August 30, 2010) (CNDDB) and the CNPS *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2011). Maps of USFWS-designated critical habitat were used to determine the location of critical habitats relative to the project site.

Relevant existing biological resource reports were provided by the BLM following the site visit; existing reports used in preparation of this report include:

- Final Environmental Impact Report and Statement for the West Mojave Plan, BLM 2005;
- Afton Canyon Area of Critical Environmental Concern (ACEC) Management Plan, BLM 1989; and
- Final Stoddard Valley OHV Management Plan, BLM 1993.

GENERAL BIOLOGICAL SURVEY

Field surveys were conducted on December 2, 2009, January 18, and February 2, 2010, by LSA Biologists Sarah Barrera and Maria Lum. Notes were taken on general site conditions, vegetation, potential jurisdictional areas of the USACE and CDFG, and suitability of habitat for various special status elements. Vegetation communities were mapped by hand onto a 200-scale (1"=200') aerial photograph. Vegetation community classifications used in this report generally follow the vegetation classifications described in the WMP.

All plant and animal species observed or otherwise detected during this field survey were noted. A complete list of plants and animals observed is provided in Appendix B. The potential for sensitive plant and animal species to occur within each filming area was determined based on the results of the literature review as well as vegetation communities and other habitat elements observed during the field survey. Additional information regarding the potential for sensitive plant and animal species to occur within each filming area was also provided in the BLM-provided resource reports. Appendix C summarizes the special status plant and animal species potentially present on the proposed project site.

Evaluation of Potential Special Aquatic Sites and State/Federal Jurisdictional Waters

A complete delineation of the potential jurisdictional waters and wetlands was not conducted at the time of LSA's 2009/2010 site visits. However, proposed Filming Areas that may contain areas that fall under the jurisdiction of the USACE under Section 404 of the CWA or the CDFG under Sections 1600 et seq. of the California Fish and Game Code were identified during the biological resources field surveys. General site characteristics were noted including presence of any hydrological conditions (including any drainage patterns, surface inundation, or saturated soils) or vegetation potentially indicative of the presence of water for an extended period of time within a site. Soil samples were not collected and wetland data forms were not prepared.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the USACE and CDFG.

RESULTS

LITERATURE REVIEW

Fourteen special status plants, five special status fish, three special status reptiles, fourteen special status birds, and seven special status mammals were identified through the literature review to occur within a five mile radius of the filming areas. Of these, three plants, one fish, three reptiles, three birds, and four mammals were determined to have a potential to occur within the proposed filming areas based on the presence of suitable habitat to support these species. Species with the potential to occur in the filming areas are discussed below. A complete list of species identified in the literature review is included as Appendix C.

Plants

Ripley's Alliciella (*Aliciella ripleyi*). This plant species is a CNPS List 2 species known to occur in Mojavean desert scrub habitat associated with carbonate soils at elevations between 305 and 1,950 meters (1,000–6,400 feet). This species was identified in the vicinity of the Amargosa Canyon Filming Area, which contains suitable habitat and areas with carbonate soils to support this species. However, the filming activities will likely occur in the lower elevation areas of this site (approximately 750–800 feet). Impacts to this species as a result of filming in the Amargosa Canyon Filming Area are not anticipated; however, if filming crews do access higher elevation areas, potential loss of a small number of individuals may occur.

Small-flowered Androstephium (*Androstephium breviflorum*). This plant is a CNPS List 2 species known only from a few areas in the eastern Mojave Desert. It is a perennial herb found in the deserts of eastern California, as well as parts of Nevada, Utah, and Arizona. It occurs on open sandy flats and bajadas with open desert scrub habitat at elevations between 270 and 640 meters (890–2,100 feet). Population information for this species is not well documented, and the BLM species account in the WMP suggests that this species may have always been rare in California. It has a low potential to occur in the Amargosa Canyon Filming Area. Both Hollywood Canyon and Sperry Wash contain large open areas with sandy soils to support this species, but at 750–800 feet elevation the site is outside of the species' elevation range. However, if filming crews do access higher elevation areas, suitable habitat may be encountered.

Emory's Crucifixion Thorn (*Castela emoryi*). Emory's crucifixion thorn is a leafless, densely spiny shrub that grows from 6 to 20 feet tall, and is a CNPS List 2 species. It occurs along washes or other places where water may accumulate on plains or bajadas. Its fruits are held on the plant for several years, and the seeds have thick walls that must be worn down before germination can occur.

Emory's crucifixion thorn is known from only a few widely scattered occurrences in the Sonoran Desert and southern Mojave Desert in eastern California, southwestern Arizona, northern Baja

California, and western Sonora (Mexico). Most populations are fairly small, although one occurrence in Imperial County near the Mexican border includes about a thousand plants. That site is managed by the BLM as "Crucifixion Thorn Natural Area" (Turner et al. 1995).

It is most commonly known from non-saline dry lakes but has been found occasionally along washes and other seasonally wet sites where water accumulates. It is found at elevations between 85 and 770 meters (280–2,530 feet). This species has a low potential to occur in the Afton Canyon Filming Area along the Mojave River as well as seasonal desert washes.

Jackass-clover (*Wislizenia refracta* ssp. *refracta*). This plant is a CNPS List 2 species that occurs in sandy washes and in roadsides with Mojave Creosote Bush Scrub at elevations between 600 and 800 meters (1,950–2,600 feet). It has a moderate potential to occur in both the Mule Canyon and Odessa Canyon Filming Areas due to the presence of sandy washes and dirt roads throughout the filming areas. Most of the sites do not contain Mojave Creosote Bush Scrub habitat, so this species will be limited to small areas within each filming area.

Barstow woolly sunflower (*Eriophyllum mohavense*) This plant is a CNPS List 1B species that occurs in Mojave Creosote Bush Scrub at elevations between 490 and 920 meters (1,600 and 3,025 feet). It has a moderate potential to occur in undisturbed Mohave Creosote Bush Scrub in the Stoddard Valley Filming Area. CNDDB contains a record of this species near Stoddard's Well in 1914. This is the only known occurrence of this species in the Stoddard Valley Filming Area, however it is likely that this occurrence has been destroyed by off-highway vehicle use.

Mojave monkeyflower (*Mimulus mohavensis*). This plant is a CNPS List 1B species that occurs in sandy or gravelly areas within Joshua tree woodland and Mojave Creosote Bush Scrub at elevations between 600 and 1,200 meters (1,950 and 3,950 feet). CNDDB contains records of this species within the Stoddard Valley Filming Area, adjacent to Camp Rock Road and Stoddard Valley Road.

Creamy blazing-star (*Mentzelia tridentata*). This plant is a CNPS List 1B species that occurs in rocky, gravelly and sandy areas within Mojave Creosote Bush Scrub at elevations between 700 and 1,160 meters (2,300–3,800 feet). It has a moderate potential to occur in the Stoddard Valley Filming Area.

Fish

Arroyo Chub (*Gila orcuttii*). This fish is a California Species of Special Concern that is found in perennial streams or intermittent streams with permanent pools. It requires slow-moving water and is known to occur in the Mojave River. This species has a moderate potential to occur in the Afton Canyon Filming Area in the Mojave River. It may be encountered by film crews at crossings that are currently permitted and regulated by the BLM.

Reptiles

Desert Tortoise (*Gopherus agassizzii*). The desert tortoise is a federally and state threatened species. It is most commonly found in desert scrub, desert wash, and Joshua tree communities throughout the Mojave, Sonoran, and Colorado Deserts. The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Colorado Desert in California. Desert tortoise forage on annual plants and grasses and are most active when this food source is available, generally from March through June and September through November. They occur in areas with firm ground that is suitable for digging burrows, which they use to avoid extreme desert temperatures. This species has a moderate potential to forage in the Mojave creosote scrub habitat and to use flat areas within the Sawtooth Canyon Filming Area.

The BLM and USFWS have established management areas to protect habitat critical to the desert tortoise. The USFWS has designated desert tortoise critical habitat and established the Western Mojave Recovery Unit in the WMP [Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994b)]. The USFWS Desert Tortoise Recovery Plan also established Desert Wildlife Management Areas (DWMAs), characterized as areas in which "...recovery actions will be implemented to provide for the long-term persistence of viable desert tortoise populations and the ecosystems upon which they depend."

Mojave Fringe-toed Lizard (*Uma scoparia*). This reptile is a California Species of Special Concern, a BLM Sensitive Species, and is a federal candidate for listing under FESA. It is restricted to areas with fine, aeolian sands such as dunes, riverbeds, washes, and hummocks, with creosote bush scrub habitat. It has a moderate potential to occur in the Rasor OHV, and Afton Canyon Filming Areas. It is known to occur in Dumont Dunes, adjacent to the Amargosa Canyon Filming Area.

Birds

Golden Eagle (*Aquila chrysaetos*). The golden eagle is a California Fully Protected Species and is protected under the Federal Bald and Golden Eagle Protection Act. It is also a BLM Sensitive Species. It is an uncommon permanent resident and migrant throughout California, in a variety of habitats from sea level up to 3,833 m (0–11,500 feet). The golden eagle nests on cliffs and in large trees, usually in rugged open habitats with canyons. It has a moderate potential to occur in the Sawtooth Canyon Filming Area as it has been observed nesting on nearby Stoddard Ridge.

Long-eared Owl (*Asio otus*). This long-eared owl is a California Species of Special Concern that is protected while nesting. It occurs in forests and woodlands and nests in dense riparian woodland habitat. This species has a low potential to nest in riparian habitat adjacent to the Amargosa Canyon Filming Area and therefore may forage in Hollywood Canyon and Sperry Wash. However, nests of this species will not be disturbed, and no loss of foraging habitat will occur as a result of filming activities.

Burrowing Owl (*Athene cunicularia*). This burrowing owl is a California Species of Special Concern that is found in open areas throughout the Mojave Desert associated with creosote bush scrub habitat. It utilizes ground squirrel burrows and avoids tall, thick vegetation and areas with high concentrations of raptors. This species has a moderate potential to occur throughout the Stoddard Valley Filming Area.

Prairie Falcon (*Falco mexicanus*). The prairie falcon is a CDFG Species of Special Concern and BLM Sensitive Species. It is protected by the MBTA while nesting. It is a permanent resident of the southeastern deserts, northwest throughout the Central Valley, and along the inner Coast Ranges and Sierra Nevada. Prairie falcons are primarily associated with perennial grasslands, savannahs, rangeland, agricultural fields, and desert scrub. They usually nest in sheltered areas of cliffs overlooking large, open areas. Prairie falcons have a moderate potential to nest in cliffs or rocky outcrops that occur near the camping/climbing area and adjacent to the western side of the study area. A raptor nest was observed on the cliffs on the southwest end of the proposed filming area, but the inhabitants were not identified.

It has a high potential to occur in the Amargosa Canyon, Mule Canyon, Odessa Canyon, Stoddard Valley, and Sawtooth Canyon Filming Areas. All of these locations contain tall cliffs with suitable nesting areas and adjacent foraging habitat. Direct impacts to nests are not likely to occur as a result of filming, as filming activities will likely occur in lower, flat areas, not in tall cliffs. No loss of foraging habitat is anticipated. Vegetation removal will be assessed on an individual filming permit basis. If deemed necessary by BLM, revegetation will be a requirement of filming permit approval and revegetation standards will be issued on a case-by-case basis..

Mammals

Pallid Bat (*Antrozous pallidus*). This mammal is a California Species of Special Concern and BLM Sensitive Species. It occurs in arid regions with rocky outcroppings and readily available water. It forms day roosts in caves, crevices, mines, and occasionally hollow trees and buildings. Night roosts may be more open sites, such as porches and open buildings. Hibernation sites are probably rock crevices. Foraging habitat includes grasslands, shrublands, woodlands, and forest in western North America. It has a moderate potential to occur in the Amargosa Canyon and Afton Canyon Filming Areas as these areas contain suitable cliff habitat for roosting and open areas with water sources for foraging. Direct impacts to roost sites are not expected as filming activities will not occur in cliffs and no foraging habitat will be removed.

Townsend's Big-eared Bat (*Corynorhinus townsendii*). This mammal is a California Species of Special Concern and BLM Sensitive Species. It requires areas such as caves, crevices, and mines for roosting. It is a colonial cave dweller and roosts within five miles of riparian areas. Its distribution is not well known in the Mojave Desert. Two known roosts occur near Quartzite Peak and within five miles of the Mojave River. This species has a high potential of occurring in the Afton Canyon. This species has a high potential to occur in the Mule Canyon and Odessa Canyon Filming Areas as both Filming Areas contain caves that are likely to be used for filming due to their visual uniqueness. The

Stoddard Valley Filming Area contains potential foraging habitat, but has a low potential to support roosting Townsend's big-eared bats.

Western Mastiff Bat (*Eumops perotis*). This mammal is a California Species of Special Concern and BLM Sensitive Species. It occurs in many open, arid habitats and roosts in crevices in vertical cliff faces, as well as high buildings and tunnels. This species has a high potential to occur in the Sawtooth Canyon Filming Area as this site contains several vertical cliff faces that could support roosts. Direct impacts to roosts are not expected as filming activities will likely only occur in lower, accessible areas, not on vertical cliff faces.

Fringed Myotis (*Myotis thysanodes*). This species is a BLM Sensitive Species that occurs in most brush, woodland, and forest habitats in California. It has a low potential to occur in the Afton Canyon Filming Area. It may roost in riparian habitat associated with the Mojave River, but impacts to this habitat will not occur. However, it may forage in adjacent habitat where filming activities will occur. Loss of foraging habitat will not occur.

Nelson's Bighorn Sheep (*Ovis canadensis nelsoni*). This species is a BLM Sensitive Species that occurs in open, rocky, steep areas with available water and herbaceous forage. This species has a high potential to occur in the Amargosa Canyon and Afton Canyon Filming Areas. This species is found in Afton Canyon where there is perennial water from the Mojave River and escape terrain between the first train trestle located near the camp area and a bend in the Mojave River often referred to as the horseshoe

VEGETATION COMMUNITIES

Vegetation throughout the seven proposed Filming Areas is composed primarily of Mojave Desert creosote bush scrub or desert saltbush scrub as defined by the Holland (1986) classification of plant communities. Desert holly scrub occurs along the wash margins of Sperry Wash in the Amargosa Canyon Filming Area. Disturbed areas are associated with dirt roads and trails, areas adjacent to railroads, and cleared areas from past land uses (e.g., mining).

Table A shows the existing vegetation communities within each filming area.

Table A: Vegetation Communities within Each Filming Area

Filming Area	Creosote Bush Scrub	Saltbush Scrub	Desert Holly Scrub	Disturbed
Sawtooth Canyon	X			X
Rasor OHV Area	X	X		X
Afton Canyon	X	X		X
Portions of Odessa Canyon		X		X
Portions of Mule Canyon		X		X

Table A: Vegetation Communities within Each Filming Area

Filming Area	Creosote Bush Scrub	Saltbush Scrub	Desert Holly Scrub	Disturbed
Stoddard Valley OHV Area	X			X
Amargosa Canyon (Hollywood Canyon and Sperry Wash Sections only)		X	X	X

BIOLOGICAL RESOURCES BY FILMING AREA

Sawtooth Canyon

The Sawtooth Canyon Filming Area is located in the *West Ord Mountain, California* USGS 7.5-minute topographic quadrangle. The site can be accessed by vehicle via a maintained dirt road off State Route 247 that leads west to the main camping area. Current uses within the Sawtooth Canyon study area include camping, rock climbing and off-road vehicle use. Several dirt roads used by off-road vehicles crisscross the site. Vegetation communities on site include disturbed areas where camping, rock climbing, and off-highway vehicle use occur and Mojave creosote scrub in undisturbed areas. The site has several tall cliff faces, many of which are used as recreational climbing routes.

Potential sensitive biological resources within the Sawtooth Canyon Area include prairie falcon, golden eagle, and desert tortoise. Prairie falcons and golden eagles have a potential to nest in cliffs or rocky outcrops and on nearby Stoddard Ridge, adjacent to the western side of the study area. A raptor nest was observed on the cliffs on the southwest end of the proposed filming area, but the species was unknown. At least two prairie falcon nests on Stoddard Ridge and several golden eagle nests were observed in 2008 surveys conducted by the BLM. Additionally, three prairie falcons were seen in the vicinity of Sawtooth Canyon during a BLM site visit on June 22, 2010. Two of these falcons were seen together flying above the east side of the canyon. Another was seen flying along the west side of the canyon. One nest site was encountered during a BLM site visit to Traer Agua Canyon. This nest had a bolted climbing route adjacent to it.

Afton Canyon

The Afton Canyon filming area is located in the *Dunn, California* and *Cave Mountain, California* USGS 7.5-minute topographic quadrangles. Elevations near the campground and Mojave River range from approximately 1,400 feet to 1,450 feet. The site is accessible via Afton Canyon Road and Mojave Road, which is a dirt road with several river crossings within the proposed Filming Area.

Afton Canyon is one of the few locations along the stretch of the Mojave River where the River runs above ground year-round. Due to this permanent water source, the BLM designated Afton Canyon as an Area of Critical Environmental Concern (ACEC). The Afton Canyon Natural Area management plan and the WMP guide the BLM's approach to habitat protection and restoration in this ACEC.

The Mojave River is considered a TNW and is therefore under the jurisdiction of the USACE and CDFG. Additionally, many sensitive plant and wildlife species use the resources provided by the

Mojave River and surrounding canyon. Special status species known to occur in the river portion of the ACEC include southwestern pond turtle (*Clemmys marmorata pallida*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Dendroica petechia*), Lucy's warbler (*Vermivora luciae*), summer tanager (*Piranga rubra*), arroyo chub, and vermilion flycatcher (*Pyrocephalus rubinus flammeus*). Filming activities will not be conducted in areas with riparian habitat or wetlands. Therefore, habitat associated with the Mojave River will be avoided and impacts to these species are not expected.

Special status species with the potential to occur in portions of the Afton Canyon Filming Area where filming activities will occur include small-flowered androstephium, Emory's crucifixion thorn, arroyo chub, desert tortoise, Mojave fringe-toed lizard, pallid bat, fringed myotis, Nelson's bighorn sheep, prairie falcon, and golden eagle.

Mule Canyon Filming Area

The Mule Canyon Filming Area is located in the *Yermo, California* 7.5-minute USGS topographic quadrangle. It lies within the Calico Mountains and is characterized by a narrow canyon bounded by steep cliffs. Most of the canyon is unvegetated, but small areas of saltbush scrub occur in flat areas. The existing access road within the area is a wash that is frequently used by OHVs.

Special status species with the potential to occur in the Mule Canyon Filming Area include jack-ass clover, prairie falcon, golden eagle, and Townsend's big-eared bat.

Stoddard Valley Filming Area

The Stoddard Valley Filming Area is located in the *Barstow SE, California* 7.5-minute USGS topographic quadrangle. It is characterized by a large, open area, which is currently used extensively by OHVs. It is dominated by Mojave Creosote Scrub vegetation and contains many ephemeral desert washes. The area can be accessed from Interstate 15 at Outlet Center Drive or Hodge Road or from State Route 247 off Stoddard Wells Road. Accessible dirt roads occur throughout the area.

Special status species with the potential to occur in the Stoddard Valley Filming Area include Mojave monkeyflower, creamy blazing star, Barstow woolly sunflower, desert tortoise, burrowing owl, prairie falcon, and Townsend's big-eared bat.

Rasor OHV Filming Area

The Rasor OHV Filming Area is located in the *Crucero Hill, California* 7.5-minute USGS Topographic Quadrangle. It can be accessed by vehicle from the Basin Road and Rasor Road exits from Interstate 15. The area consists of a well-established dirt road and adjoining OHV-use area. It is characterized by rock outcroppings and steep cliffs. No sensitive species were identified in the CNDDB records for the *Crucero Hill, California* quadrangle. However, the area contains suitable habitat for desert tortoise, Mojave fringe-toed lizard, burrowing owl, golden eagle, and prairie falcon.

Odessa Canyon Filming Area

The Odessa Canyon Filming Area is located near Calico Road and Doran Scenic Road in the *Yermo, California* 7.5-minute USGS topographic quadrangle. It is located within the Calico Mountains and is characterized by a narrow canyon bounded by steep cliffs. Most of the canyon is unvegetated, but small areas of saltbush scrub occur in flat areas. The existing access road within the area is a wash that is frequently used by OHVs.

Special status species with the potential to occur in the Odessa Canyon Filming Area include jack-ass clover, golden eagle, prairie falcon, and Townsend's big-eared bat.

Amargosa Canyon (Hollywood Canyon/Sperry Wash) Filming Area

The Hollywood Canyon/Sperry Wash Filming Area is located in the *Dumont Dunes, California* 7.5-minute USGS topographic quadrangle. The larger area associated with this filming area is Amargosa Canyon, associated with the Amargosa River. The Filming Area is also adjacent to Dumont Dunes, a recreational area with large sand dunes. Due to the sensitivity of habitats within this area, the BLM has designated Amargosa Canyon as an ACEC, which has specific management strategies in order to preserve the natural resources found in the area. Amargosa Canyon contains high quality cottonwood-willow riparian forest habitat that supports several sensitive wildlife species. However, filming activities will not be permitted within Amargosa Canyon and its associated riparian habitat under the permit this report is prepared for.

Vegetation within the Hollywood Canyon/Sperry Wash Filming Area consists of Desert Holly and Creosote Bush Scrub. Desert Holly occurs along the dry edges of Sperry Wash. Plants species within this community include desert holly (*Atriplex hymenelytra*), creosote bush (*Larrea tridentata*), and white bursage (*Ambrosia dumosa*). Creosote bush scrub occurs adjacent to roads and in areas not adjacent to the wash.

Sensitive species with the potential to occur in the Hollywood Canyon/Sperry Wash Filming Area include Ripley's aliciella, small-flowered androstephium, desert tortoise,,long-eared owl, golden eagle, prairie falcon, pallid bat, and Nelson's bighorn sheep.

IMPACTS AND RECOMMENDED LEVELS OF FILMING

As discussed previously, the intensity of film activities recommended within each area can generally be assigned to one of the three levels of filming use, defined as follows:

- The intensity of film activities to be permitted within the proposed Filming Areas can generally be assigned to one of the three levels: Light Use, Moderate Use, and Intense Use as previously defined.

Table B identifies the proposed allowed uses within each filming area, based upon the potential for threatened, endangered, and/or other special status species to occur, as discussed in the previous section.

Table B: Recommended Film Activity Level by Filming Area

Filming Area	Light Use	Moderate Use	Intense Use	Comments
Sawtooth Canyon	X	X		The BLM will determine on a case-by-case basis if desert tortoise surveys are required in any filming areas prior to allowing Intense Use. BLM will determine on a case-by-case basis if nesting bird surveys are required in any filming areas between February 1 and August 31.
Afton Canyon	X	X		
Mule Canyon	X	X		
Stoddard Valley	X	X	X	
Rasor OHV Areas	X	X	X	
Portions of Odessa Canyon	X	X		
Hollywood Canyon/ Sperry Wash	X	X		

DISCUSSION OF PROJECT EFFECTS

Proposed filming activities would be considered to have a significant effect on biological resources if they result in any of the following:

(1) A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the BLM, CDFG, or USFWS;

(2) A substantial effect on any riparian habitat or other special status natural community identified in local or regional plan, policies, regulations, or by the BLM, CDFG, or USFWS;

(3) A substantial and adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruptions, or other means;

(4) Substantial interference with the movement of any resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impediment of the use of native wildlife nursery sites; and/or

(5) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

The potential for the seven filming areas identified to support biological resources that are considered in the criteria above are discussed below. This analysis is on a programmatic-level only as specific filming activity use levels are not available at this time.

Ground Disturbance and Vegetation Communities

In order to reduce impacts to potential wildlife habitat, all filming activities that result in ground disturbance, as allowed in the Moderate and Intense Use filming levels, will be required to restore disturbed areas to the pre-disturbance state. Revegetation standards will be addressed on a case-by-case basis at the time of application for a filming permit. Revegetation requirements will be based on the level of impact, and may include raking out tracks, reseeding, imprinting, or other established revegetation techniques. No vegetation disturbance will be permitted in the Afton Canyon Filming Area. No vegetation removal will be permitted under this EA; therefore, revegetation plans will not be necessary.

Threatened/Endangered Species

One federally listed species may occur in four of the seven proposed film areas. Appendix C identifies all of these species, their status, habitat, and the filming areas in which they have the potential to occur. Listed species with a moderate or high potential to occur in any filming area are discussed below. Recommendations to avoid unauthorized impacts to listed species are discussed in the Recommendations section.

Desert Tortoise. The desert tortoise has the potential to occur in the Stoddard Valley, Sawtooth Canyon, Afton Canyon and Rasor filming areas. Since the desert tortoise is a federally and state threatened species, any take of desert tortoise would require a Biological Opinion prior to approval of proposed activities. The Bureau was issued a Biological Opinion by the United States Fish and Wildlife Service that addresses the effects of filming on the tortoise and includes Stoddard Valley OHV area and the Sawtooth Canyon Filming Area.

Filming projects occurring in Afton Canyon or the Rasor OHV area that may result in take of a tortoise will need to be addressed on a case-by-case basis. Tortoises can be found along the rim of Afton Canyon and may be encountered in portions of the Rasor OHV area. In general, in order to avoid impacts to the desert tortoise in the Afton Canyon and Rasor Filming Areas, the following measures should be implemented:

Light Use filming activities are not expected to have any impact on desert tortoise if the instructions provided in the desert tortoise information pamphlets are followed.

- Prior to all filming activities approved under this EA, film crews shall receive desert tortoise information pamphlets that include information on basic desert tortoise life history. Film crews shall be required to comply with the following requirements:
    - Reduced speed limits on access roads (i.e., 15 miles per hour);
    - Requirements to keep vehicles on designated access roads or disturbed areas at all times except when approved by the BLM;
    - All trash shall be kept in designated trash receptacles inaccessible by ravens and other potential desert tortoise predators;
    - All trash shall be removed from the site at least once a week, and following the conclusion of filming activities; and
    - Film crew members shall check under all vehicles and equipment every time before moving in order to avoid crushing tortoises under vehicle tires.

Light Use filming activities are not expected to have any impact on desert tortoise if the instructions provided in the desert tortoise information pamphlets are followed.

Moderate Use filming activities may result in temporary disturbance of less than one acre of desert tortoise habitat located away from approved access roads or existing disturbed areas. Intense use filming activities may result in temporary disturbance of large areas of desert tortoise habitat. All filming activities proposed for undisturbed tortoise habitat shall be reviewed by the BLM to determine if the activities will potentially affect the desert tortoise. The BLM will require desert tortoise surveys prior to evaluating moderate or intense use filming activities in Stoddard or Rasor OHV areas. If desert tortoises are observed using the proposed filming areas: all efforts to avoid impacts to desert tortoise, including changing proposed filming locations or activities, or requiring a desert tortoise monitor to be present during filming activities, shall be implemented.

Mojave Fringe-toed Lizard. The Mojave fringe-toed lizard has the potential to occur in the Rasor OHV, and Afton Canyon Filming Areas.

Prior to any filming activities in the Rasor OHV, Amargosa Canyon, and Afton Canyon Filming Areas, film crews shall receive Mojave fringe-toed lizard information pamphlets that include information including basic fringe-toed lizard life history. Film crews shall be required to comply with the following requirements:

- Reduced speed limits on access roads (i.e. 15 miles per hour); and
- Requirements to keep vehicles on designated access roads at all times except when approved by BLM.

Light use filming activities are not expected to have a substantial impact on Mojave fringe-toed lizard as filming activities under this use level will be similar to recreational activities already allowed in the Rasor OHV, and Afton Canyon Filming Areas. Moderate and intense use filming activities may result in temporary disturbance of Mojave fringe-toed lizard habitat and direct take of individuals. If filming activities are proposed in highly suitable habitat within the Rasor OHV, Amargosa Canyon, and Afton

Canyon Filming Areas (areas with fine, wind-blown sands such as dunes and sand hummocks), the BLM will determine on a case-by-case basis if surveys are required prior to filming. If Mojave fringe-toed lizards are found in proposed filming areas, all efforts to avoid impacts shall be implemented. These include changing proposed filming locations and/or requiring a qualified biologist to clear proposed filming areas prior to moderate and intense use filming activities.

Non-listed Special Status Species

Plants. The Stoddard Valley Filming Area supports three CNPS List 1B plant species: Mojave monkeyflower, Barstow woolly sunflower, and creamy blazing star. All three of these species have the potential to occur in undisturbed Mojave Creosote Bush Scrub habitat throughout the Stoddard Valley Filming Area. In order to avoid impacts to CNPS List 1B plants, special status plant surveys shall be required prior to filming activities in the Stoddard Valley Filming Area in all habitats except existing roads or disturbed areas. BLM shall work on a case-by-case basis if CNPS List 1B plant species are found during special status plant surveys to avoid impacts as a result of proposed filming activities.

All special status plants with the potential to occur in the remaining filming areas are CNPS List 2 plants. The CNPS defines List 2 plants as those that are "rare, threatened, or endangered in California, but more common elsewhere" and have up to 50 known populations in California. Due to the widespread nature of these plants and localized potential impacts as a result of filming activities, proposed uses under the light and moderate use filming categories will not have a substantial impact on CNPS List 2 plants. Due to the potential for larger impact areas allowed in the intense use filming category, a rare plant survey shall be conducted prior to allowing disturbance of more than one acre of land in suitable habitat areas to support the CNPS List 2 species that may occur in the Amargosa Canyon, Afton Canyon, Mule Canyon, and Odessa Canyon Filming Areas. If more than 20 individuals of a CNPS List 2 plant species will be affected by proposed filming activities, all efforts shall be made to avoid impacts to the population, including changing the location of proposed filming activities.

Fish: Arroyo Chub. Substantial impacts to this species are not expected as a result of filming activities, because the only action that would occur within the Mojave River for any of the allowed filming use levels would be driving through the Mojave River at crossings that are already permitted and regulated by the BLM. OHV use in the area already uses the Afton Canyon Filming Area in this manner and filming would not result in a substantial increase in such activity.

Birds. Filming activities at any of the allowed filming use levels will not result in loss of habitat for special status bird species identified within the filming areas. In order to avoid direct impacts to special status birds nesting in habitat adjacent to proposed filming activities, the following shall be implemented:

- If project activities are planned during the avian nesting season (approximately April 1 to August 31), the BLM will determine whether a nesting bird survey is required based on the number of personnel, duration of filming, and proposed filming activities. Any required nesting bird surveys should be conducted a maximum of one week prior to disturbance to ensure birds protected under the MBTA are not harmed.

- If nesting birds are found during the nesting bird surveys, project activities that would create an increased disturbance level should not be conducted within 300 feet of the nest until a qualified biologist has determined that the nestlings have fledged.
- If no nesting birds are found during the nesting bird surveys, filming activities can proceed as planned.

Mammals: Pallid Bat. Filming activities in the Amargosa Canyon and Afton Canyon Filming Areas are not expected to result in impacts to these species as they are found in cliff habitat, where filming activities will not occur. Direct impacts to roost sites are not expected as filming activities will not occur in cliffs and no foraging habitat will be removed.

Mammals: Townsend's Big-eared Bat. This species has a high potential to occur in the Mule Canyon and Odessa Canyon Filming Areas as both filming areas contain caves that are likely to be used for filming due to their visual uniqueness. Any filming activities that propose direct use of the caves in these filming areas will be reviewed on a case-by-case basis by BLM to ensure that roosting of the Townsend's big-eared bat are not substantially disturbed.

Mammals: Western Mastiff Bat. This species has a high potential to occur in the Sawtooth Canyon Filming Area as this site contains several vertical cliff faces that could support roosts. Direct impacts to roosts are not expected as filming activities will likely only occur in lower, accessible areas, not on vertical cliff faces.

Mammals: Fringed Myotis. This species has a low potential to occur in the Afton Canyon Filming Area. It may roost in riparian habitat associated with the Mojave River, but impacts to this habitat will not occur. However, it may forage in adjacent habitat where filming activities will occur. Loss of foraging habitat will not occur; therefore, impacts to this species will not be substantial for any of the proposed filming use levels.

Mammals: Nelson's Bighorn Sheep. This species is a BLM Sensitive Species that occurs in open, rocky, steep areas with available water and herbaceous forage. This species has a high potential to occur in the Amargosa Canyon and Afton Canyon Filming Areas. This species is found in Afton Canyon where there is perennial water from the Mojave River and escape terrain between the first train trestle located near the camp area and a bend in the Mojave River often referred to as the horseshoe. Filming activities will not result in permanent loss of foraging habitat or migration corridors for this species; therefore, substantial impacts to Nelson's bighorn sheep are not expected for any of the proposed filming use levels.

USACE and CDFG Jurisdictional Areas

Portions of the Amargosa Canyon and Afton Canyon Filming Areas are potentially under the jurisdiction of USACE and CDFG. Hollywood Canyon/Sperry Wash includes tributaries to the Amargosa River, which is a TNW and is also designated as a *Wild and Scenic River*. Due to the perennial water source, the Amargosa River has a large amount of associated riparian vegetation within the boundaries of the proposed filming area.

Afton Canyon includes one of the few areas where the Mojave River occurs as a perennial, aboveground water source. Due to the perennial water, the Mojave River has a large amount of associated riparian vegetation within the boundaries of the proposed filming area.

In order to avoid unauthorized impacts to USACE and CDFG jurisdictional areas during projects associated with the Amargosa and Mojave Rivers, filming impacts requiring jurisdictional permits are not recommended. These potential impacts include dredge or fill of any streambed or bank and removal of riparian vegetation. If impacts to these areas are permitted, a jurisdictional delineation report would be required prior to filming activities. Specific details regarding further work related to jurisdictional areas are discussed in the Recommendations section.

Riparian Habitat, Special Status Plant Communities, and Wetlands

The Afton Canyon Filming Area contains the Mojave River, which supports riparian habitat and potential wetlands. No impacts will be permitted under the IEFC Filming Areas Management Plan in areas containing riparian habitat or wetlands. No other filming areas contain riparian habitat, special status plant communities, or wetlands. As a result, no impacts to riparian habitat, wetlands, or associated plant and wildlife species are expected.

Habitat Fragmentation and Wildlife Movement

One objective of the EA is to create a single management plan in order to reduce the cumulative impacts to sensitive habitats in the proposed filming areas. Filming activities associated with the EA are not likely to impede wildlife movement permanently as they are short-term activities that would only have temporary impacts. Filming crews shall be required to return habitat to pre-filming conditions following the end of filming activities; therefore, long-term effects would be minimal.

Indirect and Cumulative Effects

Implementation of the recommendations described in the Discussion of Project Effects Section, above, and Recommendations Section, below, will reduce the potential for indirect and cumulative impacts as a result of filming activities. Due to the short-term nature and minimal footprint of the proposed actions, cumulative effects are not expected to result in significant negative impacts to any special status biological resources identified in the region. Indirect effects can be almost completely avoided through implementation of the recommendations described below and the use of Best Management Practices during filming activities.

RECOMMENDATIONS TO REDUCE IMPACTS TO BIOLOGICAL RESOURCES

Filming in tortoise habitat

All film activities authorized within the Stoddard Valley OHV Area shall conform to the stipulations identified in the terms of conditions of the Stoddard Valley OHV biological opinion (1-8-93-F-1). In addition, the following measures shall be implemented for all film locations:

The BLM will work with the film operator to minimize the number of vehicles needed to conduct the film. Support services (i. e. catering tents) shall be located on previously disturbed lands.

- Prior to all filming activities approved under the EA, film crews shall receive desert tortoise information pamphlets that include basic desert tortoise life history. Film crews shall be required to comply with the following requirements:
    - The speed limit on access roads is 15 miles per hour; and
    - All vehicles must remain on designated access roads at all times except when approved by BLM.
    - All trash shall be kept in designated trash receptacles inaccessible by ravens and other potential desert tortoise predators;
    - All trash shall be removed from the site at least once a week, and following the conclusion of filming activities; and
    - Film crew members shall check under all vehicles and equipment every time before moving in order to avoid crushing tortoises under vehicle tires. If a tortoise is found beneath a vehicle, the vehicle operator shall wait until the tortoise has left of its own accord.
    - Tortoise handling is prohibited.
- All filming activities proposed in suitable habitat for desert tortoise will be reviewed by the BLM to determine if the activities will potentially affect desert tortoise.
    - If desert tortoise or desert tortoise sign (e.g., burrows, tracks, or scat) are observed in the proposed filming areas during the desert tortoise survey, all efforts to avoid impacts to desert tortoise, including changing proposed filming locations or activities, or requiring a desert tortoise monitor to be present during filming activities, shall be implemented.
- Prior to all filming activities in Mojave fringe-toed lizard habitat crews should receive Mojave fringe-toed lizard information pamphlets that include information including basic fringe-toed lizard life history. Film crews shall be required to comply with the following requirements:
    - Reduced speed limits on access roads (i.e., 15 miles per hour); and

  - Requirements to keep vehicles on designated access roads at all times except when approved by BLM.
- Light use filming activities are not expected to have a substantial impact on Mojave fringe-toed lizard.
- If filming activities are proposed in suitable MFTL habitat within the Rasor OHV, and Afton Canyon Filming Areas (areas with fine, windblown sands such as dunes and sand hummocks), the BLM will determine on a case-by-case basis if surveys are required prior to filming. If Mojave fringe-toed lizards are found in proposed filming areas, all efforts to avoid impacts should be implemented. These include changing proposed filming locations and/or requiring a qualified biologist to clear proposed filming areas prior to moderate and intense use filming activities.
- If project activities are planned during the avian nesting season (approximately April 1 to August 31), the BLM will determine whether a nesting bird survey is required based on the number of personnel, duration of filming, and proposed filming activities. Any required nesting bird surveys should be conducted a maximum of one week prior to disturbance to ensure birds protected under the MBTA are not harmed.
  - If nesting birds are found during the nesting bird surveys, project activities that would create an increased disturbance level should not be conducted within 300 feet of the nest until a qualified biologist has determined that the nestlings have fledged or the nest is no longer active.
  - If no nesting birds are found during the nesting bird surveys, filming activities can proceed as planned.
- If impacts are proposed in areas identified with a moderate or high potential to support CNPS List 1B or list 2 plant species, the BLM will determine on a case-by-case basis if a qualified biologist should conduct focused rare plant surveys according to BLM guidelines for this species prior to filming activities. The surveys shall be conducted at the proper time of year when the plants are evident and identifiable.
  - If no sensitive plant species are found in the proposed filming areas, no further mitigation would be required.
  - If a sensitive plant species is found in the proposed filming areas, the biologist shall flag the population for avoidance. Film employees working in the vicinity of the sensitive plant population shall be made aware of the population.

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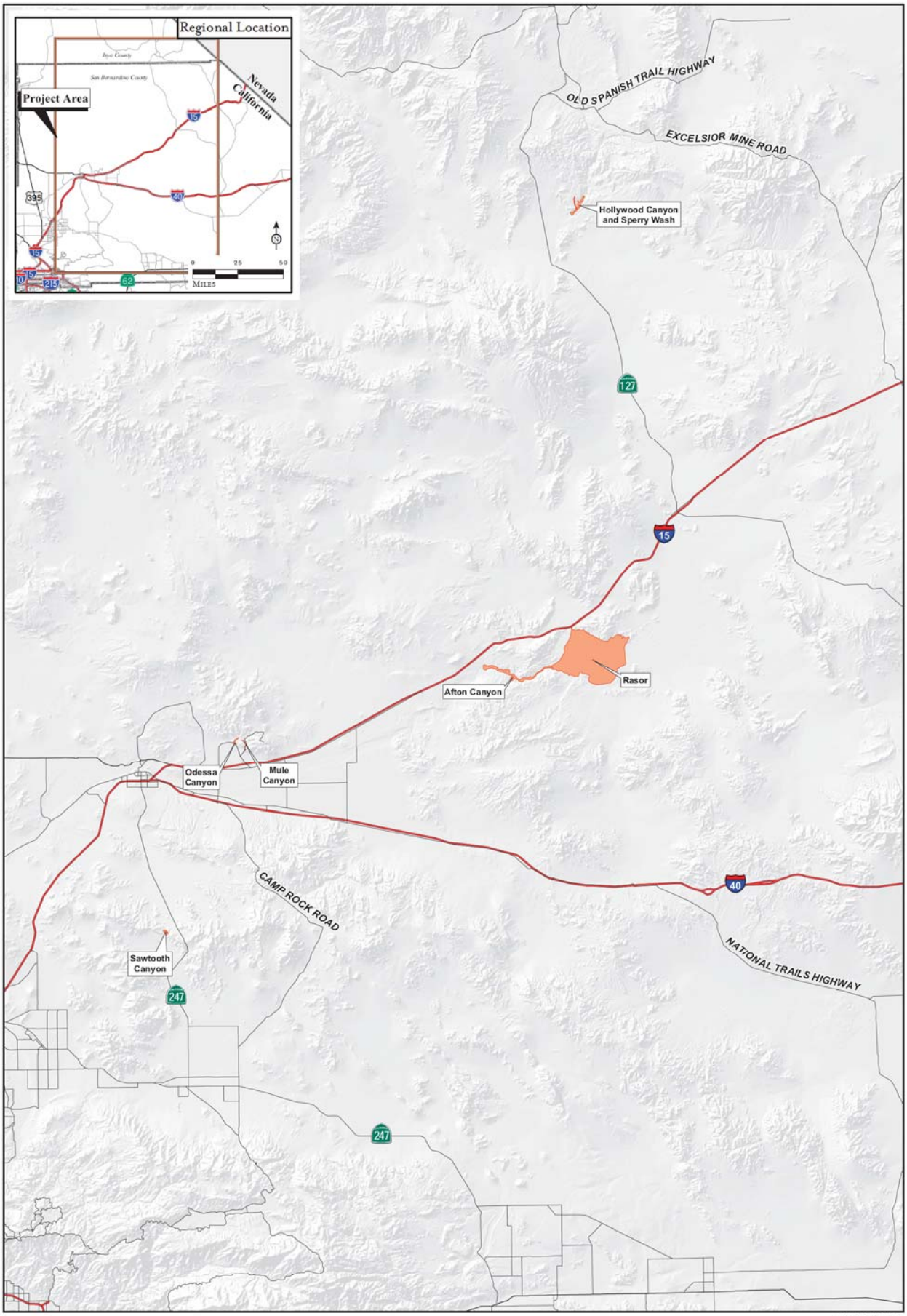
APPENDIX A

FIGURES



LSA

FIGURE 1

Project Locations

0 4.5 9
Miles

SOURCE: Federal Registry Critical Habitat, 1996: BLM, 2000; ESRI data, 2004

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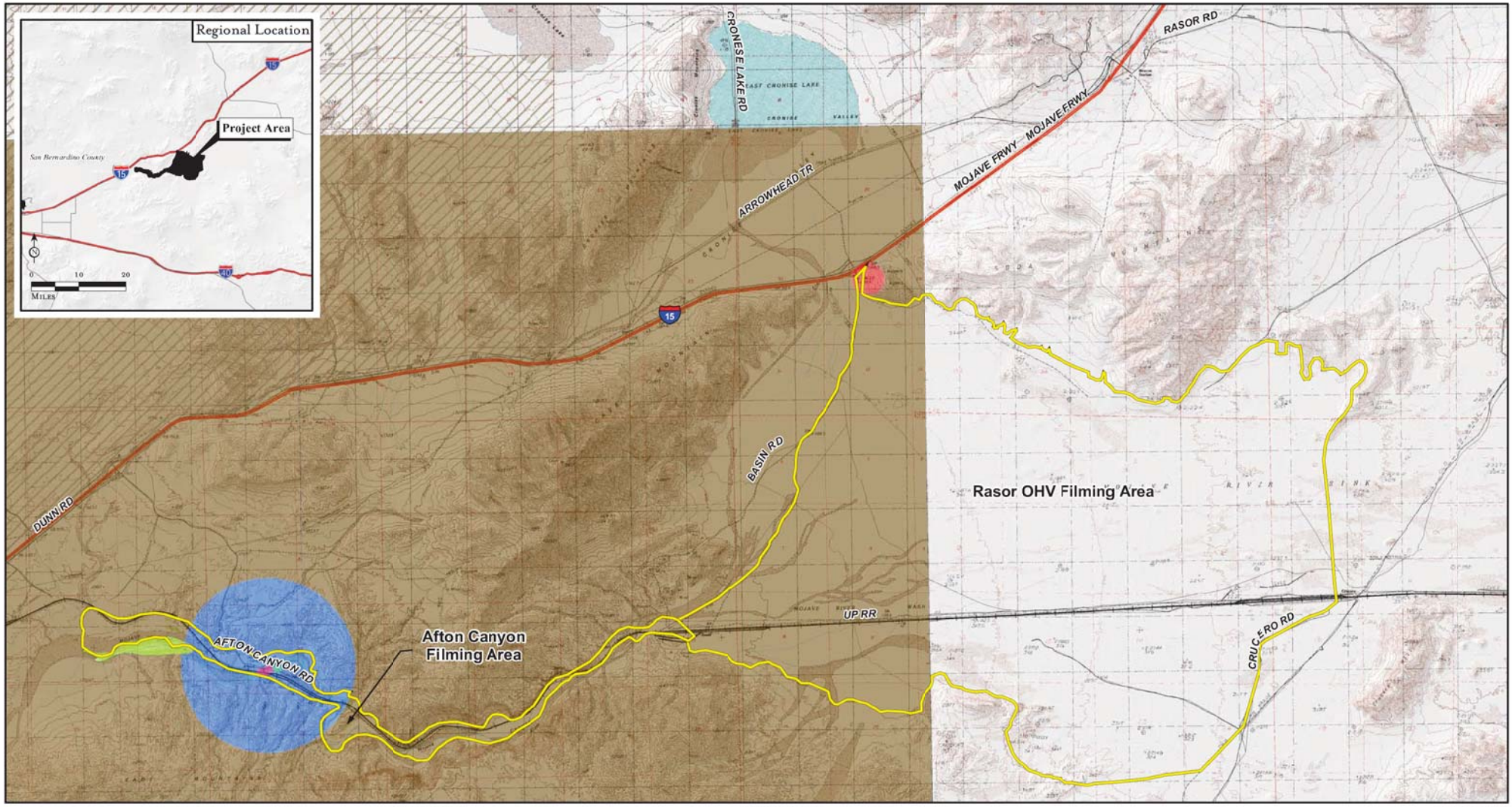
Inland Empire Film Commission
Biological Resources Report

Regional and Project Location



Filming Area Boundary

CNDDB Data

- Mojave Riparian Forest, Mojave Riparian Forest
- Arroyo Chub, Gila orcuttii
- Pallid Bat, Antrozous pallidus
- Small-Flowered Androstephium, Androstephium breviflorum
- Southwestern Pond Turtle, Actinemys marmorata pallida
- Summer Tanager, Piranga rubra

Critical Habitat

- Desert Tortoise

N

0 2,800 5,600
Feet

FIGURE 2

Inland Empire Film Commisison
Afton Canyon, Rasor West Filming Area
Biological Resources Report

CNDDB and Critical Habitat Map

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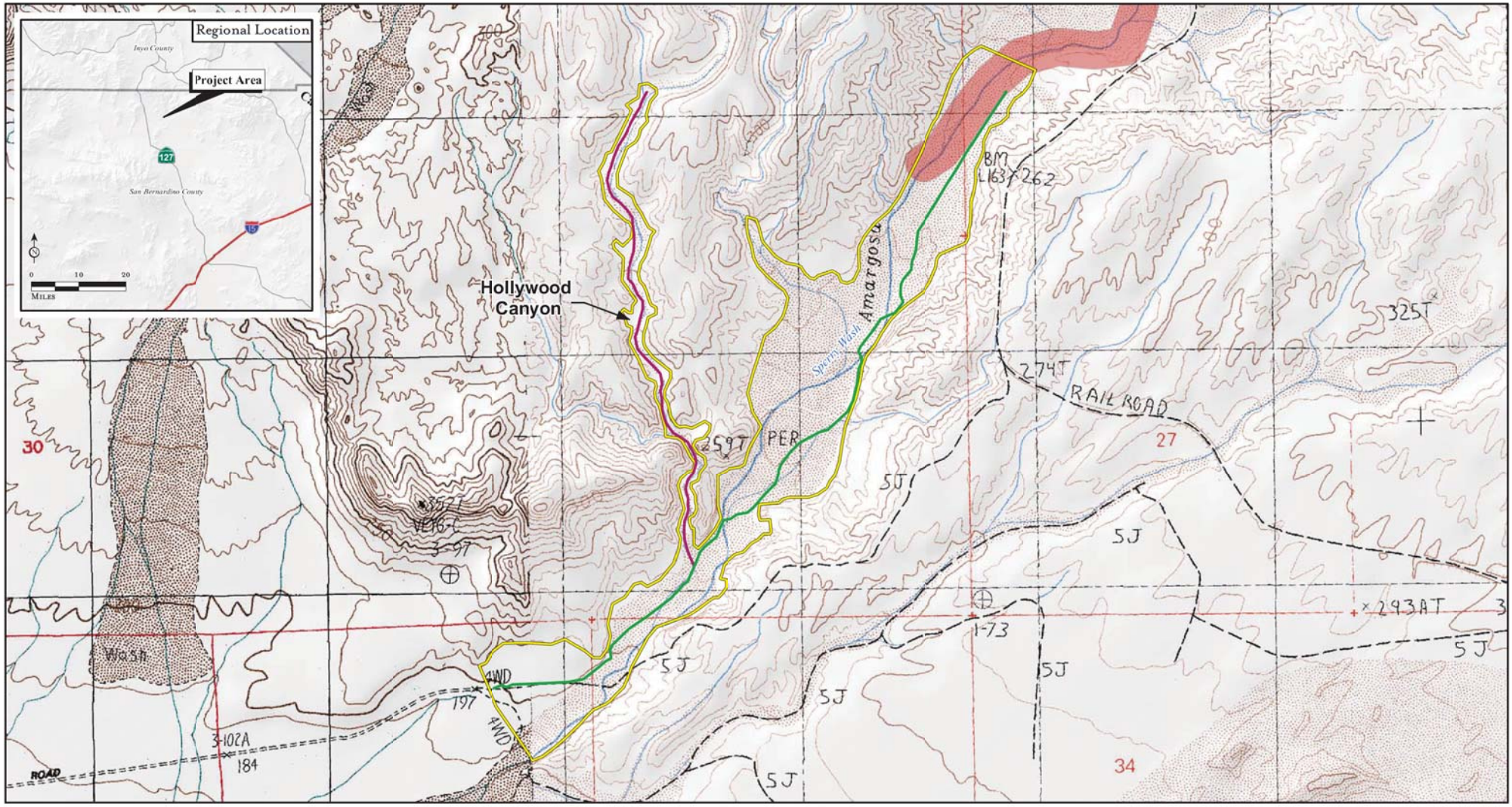

FIGURE 2

Areas Surveyed For Cultural Resources and Biological Resources

- Filming Area Boundary
- Hollywood Canyon North
- Sperry Wash North End

Note: Survey corridors have been enhanced to increase visibility. They are not to scale. Precise survey limits are summarized in table.

CNDDB Data

- Amargosa River, Amargosa River

Critical Habitats

Note: No Critical Habitats are located within the area.

N

0 650 1,300
Feet

Inland Empire Film Commission
Amargosa Canyon (Sperry Wash) Filming Area
Biological Resources Report

CNDDB and Critical Habitat Map

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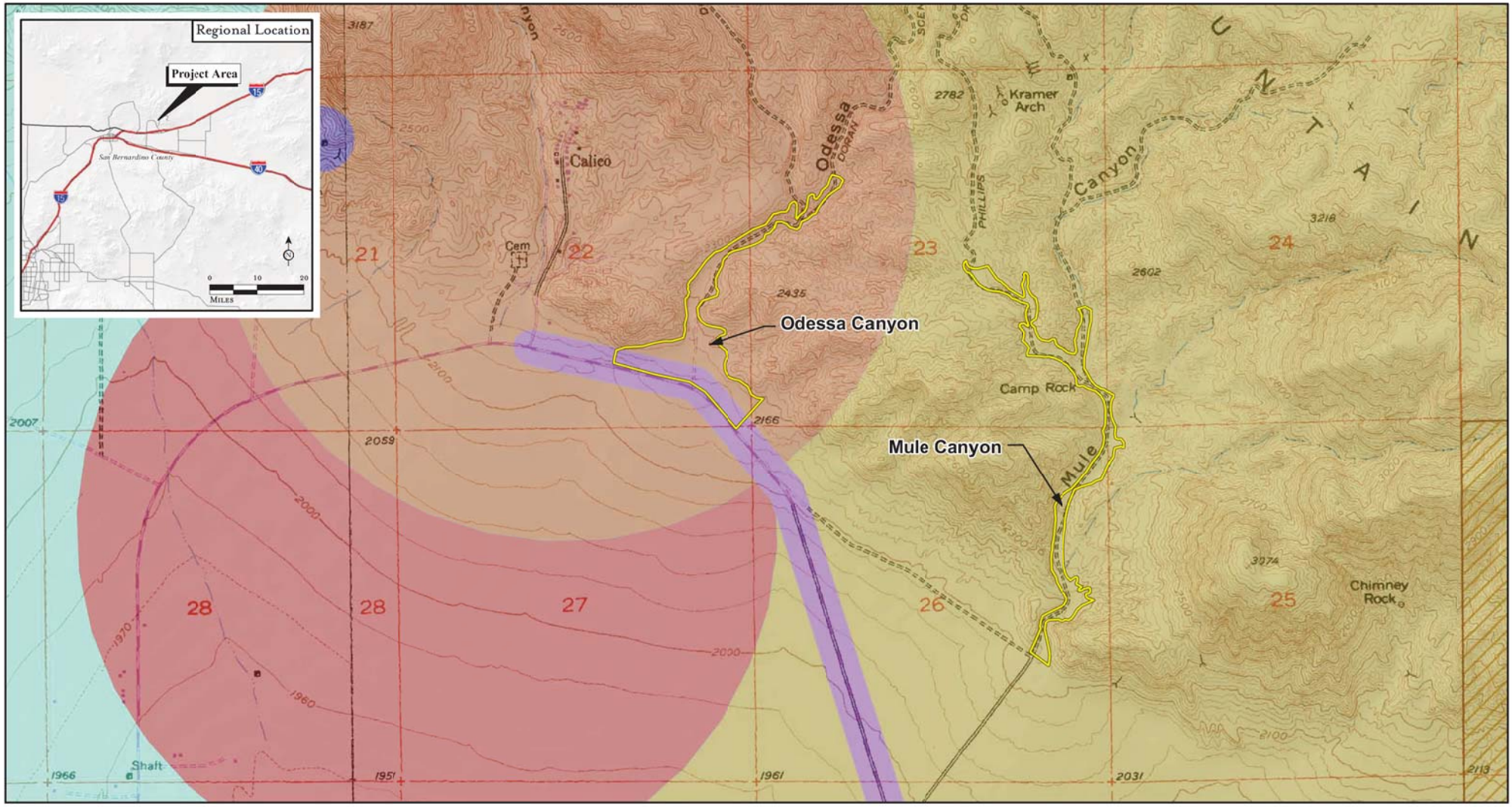

CNDDB Data

- Mojave monkeyflower, Mimulus mohavensis
- Parish's phacelia, Phacelia parishii
- Townsend's big-eared bat, Corynorhinus townsendii
- creamy blazing star, Mentzelia tridentata
- desert tortoise, Gopherus agassizii
- prairie falcon, Falco mexicanus

Critical Habitat

- Desert Tortoise

Filming Area Boundary

0 700 1,400 Feet

FIGURE 2

Inland Empire Film Commission
Mule Canyon, Odessa Canyon Filming Area
Biological Resources Report

CNDDB and Critical Habitat Map

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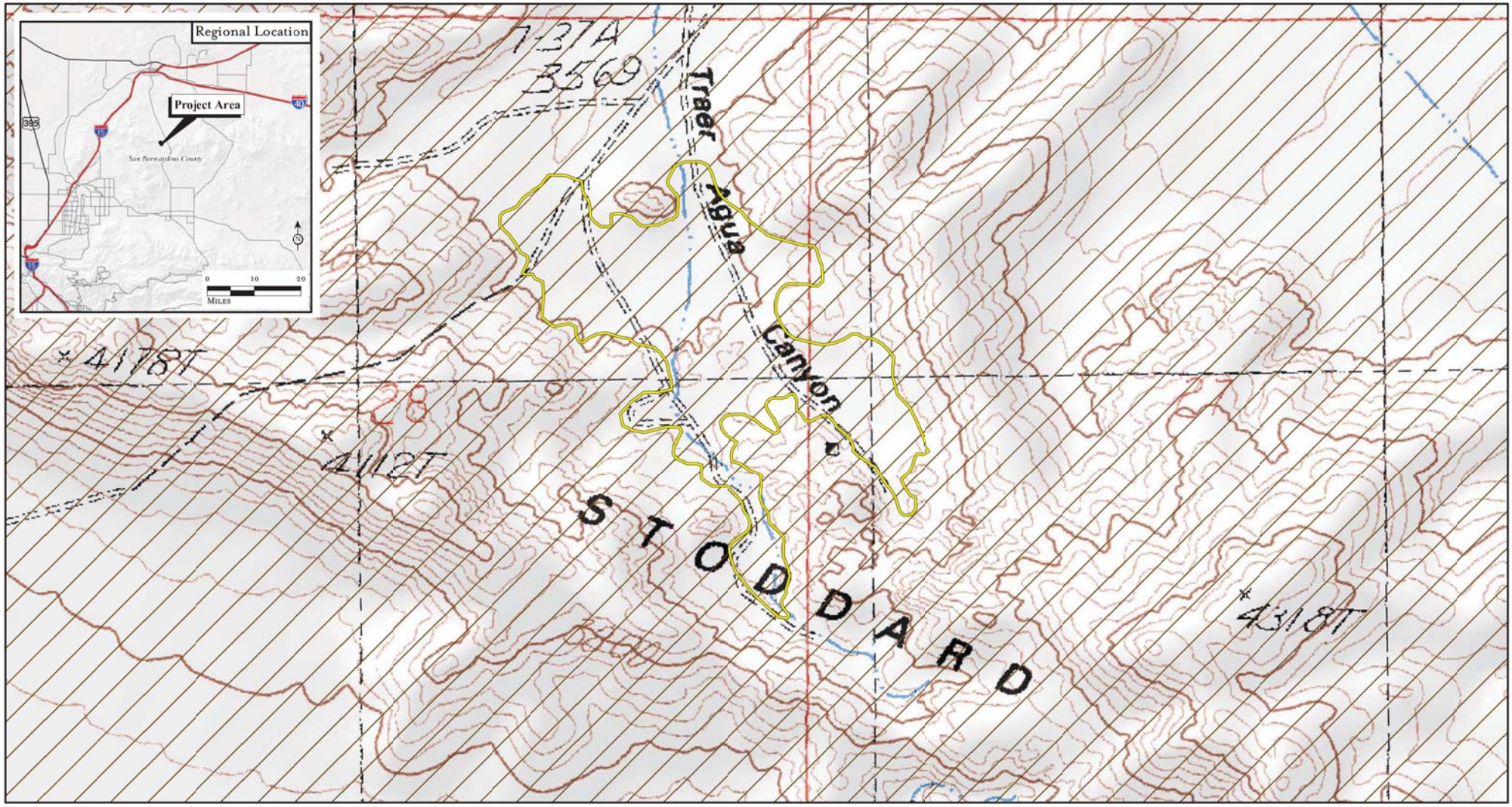

FIGURE 2

CNDDB Data

Filming Area Boundary

Prairie Falcon, Falco mexicanus

Critical Habitat

Note: No Critical Habitats are located within the area.

N

0 300 600

Feet

Inland Empire Film Commission
Sawtooth Canyon Filming Area
Biological Resources Report

CNDDB and Critical Habitat Map

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APPENDIX B

PLANTS AND ANIMALS OBSERVED

Appendix B: Plants and Animals Observed

Scientific Name	Common Name
PINOPHYTA	**GYMNOSPERMS**
Ephedraceae	**Ephedra family**
Ephedra nevadensis	Nevada jointfir
MAGNOLIOPHYTA: MAGNOLIOPSIDA	**DICOT FLOWERING PLANTS**
Apiaceae	**Carrot family**
Lomatium mohavense	Mojave lomatium
Asteraceae	**Sunflower family**
Ambrosia dumosa	Burrobush
Baccharis salicifolia	Mule fat
Chaenactis fremontii	Fremont chaenactis
Chrysothamnus nauseosus	Rubber rabbitbrush
Encelia farinosa	Brittlebush
Ericameria cooperi	Cooper's goldenbush
Ericameria linearifolia	Narrowleaf goldenbush
Geraea canescens	Hairy desertsunflower
Gutierrezia californica	California matchweed
Lasthenia sp.	Goldenfields
Malacothrix glabrata	Desert dandelion
Rafinesquia neomexicana	Desert chicory
Boraginaceae	**Borage family**
Amsinckia tessellata	Bristly fiddleneck
Cryptantha intermedia	Common cryptantha
Cryptantha micrantha	Redroot cryptantha
Pectocarya sp.	Pectocarya
Brassicaceae	**Mustard family**
Brassica tournefortii (non-native species)	Sahara mustard
Descurainia sp.	Tansy mustard
Cactaceae	**Cactus family**
Cylindropuntia acanthocarpa	Buck-horn cholla
Chenopodiaceae	**Saltbush family**
Atriplex polycarpa	Cattle saltbush
Convolvulaceae	**Morning-glory family**
Convolvulus sp.	Bindweed
Euphorbiaceae	**Spurge family**
Chamaesyce albomarginata	Rattlesnake weed
Croton californicus	California croton

Appendix B: Plants and Animals Observed

Scientific Name	Common Name
Fabaceae	**Pea family**
Astragalus sp.	Astragalus
Malvaceae	**Mallow family**
Eremalche rotundifolia	Desert fivespot
Sphaeralcea ambigua	Desert mallow
Onagraceae	**Evening primrose family**
Camissonia brevipes	Yellow cups
Oenothera deltoides	Birdcage evening primrose
Papaveraceae	**Poppy family**
Eschscholzia minutiflora	Pygmy poppy
Plantaginaceae	**Plantain family**
Plantago ovata	Desert Indianwheat
Polygonaceae	**Buckwheat family**
Eriogonum deflexum	Flatcrown buckwheat
Eriogonum fasciculatum var. *polifolium*	California buckwheat
Salicaceae	**Willow family**
Populus fremontii	Fremont cottonwood
Salix gooddingii	Goodding's willow
Salix lasiolepis	Arroyo willow
MAGNOLIOPHYTA: LILIOPSIDA	**MONOCOT FLOWERING PLANTS**
Poaceae	**Grass family**
Achnatherum hymenoides	Indian ricegrass
Achnatherum speciosum	Desert needlegrass
Bromus madritensis ssp. *rubens* (non-native species)	Red brome
Schismus barbatus (non-native species)	Common Mediterranean grass
REPTILIA	**REPTILES**
Iguanidae	**Iguanid Lizards**
Dipsosaurus dorsalis	Desert Iguana
Phrynosomatidae	**Phrynosomatid Lizards**
Callisaurus draconoides	Zebra-tailed lizard
Sceloporus occidentalis	Western fence lizard
Xantusiidae	**Night Lizard**
Xantusia vigilis	Desert night lizard
Teiidae	**Whiptails**
Aspidoscelis tigris tigris	Great Basin whiptail

Appendix B: Plants and Animals Observed

Scientific Name	Common Name
AVES	**BIRDS**
Cathartidae	**American Vultures**
Cathartes aura	Turkey vulture
Accipitridae	**Kites, Hawks, and Eagles**
Buteo jamaicensis	Red-tailed hawk
Falconidae	**Falcons**
Falco sparverius	American kestrel
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Cuculidae	**Cuckoos and Roadrunners**
Geococcyx californianus	Greater roadrunner
Corvidae	**Crows and Ravens**
Corvus corax	Common raven
Alaudidae	**Larks**
Eremophila alpestris	Horned lark
Emberizidae	**Emberizines**
Amphispiza bilineata	Black-throated sparrow
Zonotrichia leucophrys	White-crowned sparrow
Fringillidae	**Finches**
Carduelis psaltria	Lesser goldfinch
MAMMALIA	**MAMMALS**
Leporidae	**Rabbits and Hares**
Lepus californicus	Black-tailed jackrabbit
Sciuridae	**Squirrels**
Ammospermophilus leucurus	White-tailed antelope squirrel
Spermophilus beecheyi	California ground squirrel
Heteromyidae	**Pocket Mice and Kangaroo Rats**
Dipodomys sp.	Kangaroo rat

APPENDIX C

SPECIAL STATUS SPECIES SUMMARY

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Plants					
Abronia villosa var. *aurita* **Chaparral sand-verbena**	US: – CA: 1B BLM: –	Sandy areas in chaparral and coastal sage scrub and improbably in desert dunes or other sandy areas, below 1,600 meters (5,300 feet) elevation. In California, reported from Riverside, San Diego, Imperial, Los Angeles, and Ventura Counties. Believed extirpated from Orange County. Also reported from Arizona and Mexico (Baja California). Plants reported from desert communities are likely misidentified.	Blooms mostly March through August (annual or perennial herb)	Stoddard Valley	**Not Expected.** No suitable chaparral or coastal sage scrub habitat in Stoddard Valley Filming Area.
Aliciella ripleyi **Ripley's aliciella**	US: – CA: 2 BLM: –	Mojavean desert scrub associated with carbonate soils; 305–1,950 meters (950–6,400 feet)	May –July	Amargosa Canyon	**Moderate:** Amargosa Canyon contains carbonate soils and suitable Mojavean desert scrub habitat associated with Sperry Wash and Hollywood Canyon.
Androstephium breviflorum **Small-flowered androstephium**	US: – CA: SP/2 BLM: –	Occurs on open sandy flats and bajadas with open desert scrub; 270 to 640 meters (890 to 2,100 feet) elevation. Only known from eastern Mojave Desert in California.	March through April	Amargosa Canyon Afton Canyon	**Low:** In Amargosa Canyon, large open sandy areas with open desert scrub occur in both Hollywood Canyon and Sperry Wash but sites are just outside of species' elevational range. **Not Expected:** In Afton Canyon, sandy soils are present, but no large open areas. According to BLM account, species observed northwest of Afton, outside of filming area.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Arctomecon merriamii **White bear poppy**	US: – CA: 2 BLM: –	Occurs in a wide variety of soils including alkaline clay and sand, gypsum, and carbonate rock outcrops associated with Mojave Creosote bush scrub and chenopod scrub; 490-1800 meters (1,600–5,300 feet).	April–May	Amargosa Canyon	**Not Expected:** The Amargosa Canyon Filming Area is outside of this species' elevation range.
Astragalus jaegerianus **Lane Mountain milk-vetch**	US: FE CA: 1B BLM: –	Joshua tree "woodland" and Mojavean desert scrub with granitic, sandy or gravelly soils; 945–1280 m (3,100–4,200 feet)	Blooms April through June	Mule Canyon Odessa Canyon	**Not Expected:** Both Mule Canyon and Odessa Canyon Filming Areas are outside of species' elevational range.
Castela emoryi **Emory's crucifixion-thorn**	US: – CA: SP/2 BLM: –	Non-saline dry lakes and less frequently along washes (especially among basalt flows) or similar non-saline seasonally wet sites where water accumulates, at 85 to 770 meters (280 to 2,530 feet) elevation in desert scrub. Occurs rarely if at all on upper alluvial slopes or rocky slopes. In California, known only from Imperial, Riverside, and San Bernardino Counties. Also occurs in Arizona and Mexico (Sonora).	Blooms mostly June through July (deciduous shrub)	Afton Canyon Mule Canyon Odessa Canyon Stoddard Valley	**Low:** Species has a low potential to occur in Afton Canyon due to the presence of desert washes that are seasonally wet. No vegetation trimming will occur as a result of filming activities; therefore, this species will not be affected. **Not Expected:** No suitable washes that are seasonally wet occur in the Mule Canyon, Odessa Canyon, or Stoddard Valley Filming Areas.
Chloropyron tecopense **Tecopa bird's-beak**	US: – CA: 1B BLM: S	Occurs in mesic, alkaline areas associated with Mojavean desert scrub and meadows and seeps; 60–900 meters (100–2,350 feet).	July–October	Amargosa Canyon	**Not Expected:** No filming activities will occur in areas with riparian habitat or wetlands; therefore, if this species occurs within the Amargosa Canyon Area, its habitat will be avoided.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Eriophyllum mohavense **Barstow woolly sunflower**	US: – CA: SP/1B BLM: S	Historically occurred within 50 kilometers (30 miles) of the City of Barstow in the Mojave Desert. Occurs in sandy or rocky places, and on playas, in creosote bush scrub and saltbush scrub habitat. Most often found on sandy margins of alkali depressions; elevations 600 to 1,100 meters (2,000 to 3,600 feet).	April through May	Mule Canyon Odessa Canyon Stoddard Valley Sawtooth Canyon	**Moderate:** This species is known from the Stoddard Valley Filming Area and may occur in undisturbed Mojave Creosote Scrub throughout this Filming Area. **Not Expected:** All other sites are outside of this species current range, between Fort Irwin Road and Edwards AFB near Barstow.
Mentzelia tridentata **Creamy blazing star**	US: – CA: SP/1B BLM: –	Mojavean desert scrub at 700 to 1,160 meters (2,300 to 3,800 feet) elevation in Imperial, Inyo, Kern, Riverside, San Bernardino, and San Diego Counties.	March through May (annual herb)	Mule Canyon Odessa Canyon Stoddard Valley Sawtooth Canyon	**Moderate:** This species is known from the Stoddard Valley Filming Area and may occur in undisturbed Mojave Creosote Scrub throughout this Filming Area. **Not Expected:** All other sites are outside of the species' elevation range.
Mimulus mohavensis **Mojave monkeyflower**	US: – CA: SP/1B BLM: S	Gravelly banks of desert washes; 580 to 1,200 meters (1,900 to 3,900 feet). Known only from around Barstow in the Mojave Desert.	April through June	Mule Canyon Odessa Canyon Stoddard Valley Sawtooth Canyon	**Moderate:** This species is known from the Stoddard Valley Filming Area and may occur in undisturbed Mojave Creosote Scrub throughout this Filming Area. **Not Expected.** All other sites are outside of the species' elevation range.
Nitrophila mohavensis **Amargosa nitrophila**	US: FE CA: SE/1B BLM: –	Known in California from fewer than five occurrences near Carson Slough in the Amargosa Desert. Occurs on salt-encrusted alkaline flats.		Amargosa Canyon	**Not Expected:** Species restricted to small area at border of California and Nevada. No highly alkaline areas in Amargosa Canyon Filming Area.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Phacelia parishii **Parish's phacelia**	US: – CA: 1B BLM: –	Known only from unvegetated alkali flats (dry lakebeds) at 540 to 1,200 meters (1,770 to 3,940 feet). In California, known only from San Bernardino County. Also occurs in Nevada and Arizona.	Blooms April through July (annual herb)	Mule Canyon Odessa Canyon Stoddard Valley	**Not Expected:** No alkaline flats in any of the three sites.
Wislizenia refracta ssp. *refracta* **Jackass-clover**	US: – CA: 2 BLM: –	Occurs in sandy washes and roadsides in desert dune, Mojavean desert scrub, playas, and Sonoran desert scrub habitat; 600–800 meters (1,950–2,600 feet).	April – November	Mule Canyon Odessa Canyon	**Moderate:** Mule Canyon and Odessa Canyon both contain sandy washes and roads with creosote bush scrub habitat to support this species.
Fish					
Cyprinodon nevadensis amargosae **Amargosa pupfish**	US: – CA: SSC BLM: –	Occurs in permanent water sections of the lower Amargosa River in two types of habitat: broad marshes fed by hot springs, and a narrow, steep-sided canyon area with swift flows.	Year-round	Amargosa Canyon	**Not Expected:** No filming activities will occur within the Amargosa River. No other suitable habitat in Amargosa Canyon Filming Area.
Gila orcuttii **Arroyo chub**	US: – CA: SSC BLM: –	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams.	Year-round	Afton Canyon	**Moderate:** While this species is known to occur in Afton Canyon, no filming activities will occur within the Mojave River. Potential impacts to this species may occur while driving through wet washes. However, this currently occurs as part of allowed recreational use of the Afton Canyon area.
Rhinichthys osculus ssp. 1 **Amargosa Canyon speckled dace**	US: – CA: SSC BLM: S	Found only in Amargosa Canyon and tributaries of the Amargosa River, especially Willow Creek and Willow Creek Reservoir. Prefers pools with relatively deep water (0.5–0.75 m) and slow water velocity.	Year-round	Amargosa Canyon	**Not Expected:** No filming activities will occur within the Amargosa River. No other suitable habitat in Amargosa Canyon Filming Area.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Siphateles bicolor mohavensis **Mohave tui chub**	US: FE CA: SE BLM: –	Endemic to the Mojave River basin, adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas and vegetation for spawning.		Afton Canyon	**Not Expected:** No filming activities will occur within the Mojave River. No suitable habitat in Rasor OHV or Stoddard Valley Filming Areas.
Reptiles					
Actinemys marmorata (pallida) **Western pond turtle**	US: – CA: SSC BLM: S	Inhabits permanent or nearly permanent water below 1,830 meters (6,000 feet) from central California, west of the Sierra-Cascade crest south to north-western Baja California. Absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Requires basking sites such as partially submerged logs, rocks, or open mud banks.	Year-round with reduced activity November through March	Afton Canyon Mule Canyon Odessa Canyon	**Not Expected:** While this species is known to occur in Afton Canyon, no filming activities will occur within the Mojave River. Potential impacts to this species may occur while driving through wet washes. However, this currently occurs as part of allowed recreational use of the Afton Canyon area. **Not Expected:** No suitable habitat for this species occurs in the Mule Canyon or Odessa Canyon Filming Areas.
Gopherus agassizii **Desert tortoise**	US: FT CA: ST BLM: –	Historically found throughout the Mojave and Sonoran Deserts into Arizona, Nevada, and Utah. Occurs throughout the Mojave Desert in scattered populations. Found in creosote bush scrub, saltbush scrub, thornscrub (in Mexico), and Joshua tree woodland. Found in the open desert as well as in oases, riverbanks, washes, dunes, and occasionally rocky slopes.		All Filming Areas	**Moderate:** Suitable desert tortoise habitat occurs in all filming areas and this species has been observed in several of the filming areas.
Uma scoparia **Mojave fringe-toed lizard**	US: FC CA: SSC BLM: S	Areas with fine, loose, windblown sands such as dunes, riverbeds, washes, and hummocks within creosote bush scrub.		Rasor OHV Amargosa Canyon Afton Canyon	**Moderate:** All three of these filming areas contain suitable fine aeolian sandy areas that could support this species.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Birds					
Asio otus (nesting) **Long-eared owl**	US: – CA: SSC (breeding) BLM: –	Scarce and local in forests and woodlands throughout much of the Northern Hemisphere. Rare resident in coastal southern California. Nests and roosts in dense willow-riparian woodland and oak woodland, but forages over wider areas. Breeds from valley foothill hardwood up to ponderosa pine habitat.	Nocturnal Year-round	Amargosa Canyon	**Low:** May occur in riparian habitat associated with the Amargosa River. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur.
Aquila chrysaetos (nesting) **Golden eagle**	US: EA CA: CFP BLM: S	Uncommon permanent resident and migrant throughout California, except center of Central Valley. Ranges from sea level up to 3,833 m (0–11,500 ft). Occupies a wide variety of habitats, including foothills, mountain areas, sage-juniper flats, and desert. Nests in high places such as cliffs, trees, or telephone poles and forage widely in various open habitats.	Year-round diurnal	Sawtooth Canyon	**Moderate:** Species has been observed during BLM surveys on Stoddard Ridge, adjacent to the Sawtooth Canyon Filming Area.
Athene cunicularia (burrow sites) **Burrowing owl**	US: – CA: SSC BLM: S	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Year-round	Mule Canyon Odessa Canyon Stoddard Valley	**Not Expected:** Steep cliff walls with several identified raptor perches would likely prevent burrowing owl from establishing in these areas due to high predator presence. **Moderate:** Stoddard Valley Filming Area contains suitable habitat to support burrowing owl although high OHV use may prevent species from establishing burrows.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Coccyzus americanus occidentalis (nesting) **Western yellow-billed cuckoo**	US: FC CA: SE BLM: S	Breeds and nests in extensive stands of dense cottonwood/ willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	May through September	Amargosa Canyon Stoddard Valley	**Not Expected:** May occur in riparian habitat associated with the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur. **Not Expected:** No suitable habitat occurs in the Stoddard Valley Filming Area.
Falco mexicanus (nesting) **Prairie falcon**	US: – CA: SSC BLM: –	Open country in much of North America. Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Rare in southwestern California.	Year-round diurnal	Amargosa Canyon Afton Canyon Mule Canyon Odessa Canyon Stoddard Valley Sawtooth Canyon	**High:** Species has been observed during BLM surveys in Sawtooth Canyon and all other sites provide high quality habitat with tall cliffs and nests for perching. Filming activities will likely not occur in cliffs where species will nest.
Icteria virens (nesting) **Yellow-breasted chat**	US: – CA: SSC BLM: –	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	Summer in California	Afton Canyon Amargosa Canyon Mule Canyon Odessa Canyon	**Not Expected:** May occur in riparian habitat associated with the Mojave River in the Afton Canyon Filming Area and the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur. No suitable habitat in the Mule Canyon or Odessa Canyon Filming Areas.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Junco hyemalis caniceps **Gray-headed junco**	US: – CA: SSC BLM: –	Breeds locally in pinyon-juniper in White and Grapevine Mountains, and on Clark Mountain in southeastern California.	Year-round, more widespread in winter	Afton Canyon	**Not Expected:** No suitable habitat occurs in the Afton Canyon Filming Area.
Myiarchus tyrannulus (nesting) **Brown-crested flycatcher**	US: – CA: – BLM: –	In California, this species occurs in desert riparian areas dominated by cottonwoods and willows, usually in a climax stage, along the Colorado River and at a few scattered localities throughout the deserts.	Present in California May through July.	Amargosa Canyon	**Not Expected:** May occur in riparian habitat associated with the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur.
Piranga rubra (nesting) **Summer tanager**	US: – CA: SSC BLM: –	Uncommon and local in Southern California. Breeds in riparian woodland along the Colorado River and at widely scattered locations, in desert regions, from Inyo County and northeast Kern County southward. Breeds along the Santa Clara River in northern Los Angeles County, but is unknown closer to the coast.	Year-round, diurnal activity	Amargosa Canyon Afton Canyon	**Not Expected:** May occur in riparian habitat associated with the Mojave River in the Afton Canyon Filming Area and the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Pyrocephalus rubinus **Vermillion flycatcher**	US: – CA: SSC BLM: –	A rare, local, year-long resident along the Colorado River, especially in vicinity of Blythe, Riverside County. Sporadic breeder in desert oases west and north to Morongo Valley and the Mojave Narrows, San Bernardino County. Formerly bred in coastal San Diego County. Nesters inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas. Rare fall and winter visitor throughout the lowlands of Southern California from Santa Barbara and Inyo Counties south. Formerly much more common and widespread, but has disappeared entirely from Imperial and Coachella Valleys.	Fall or winter visitor or rare and local breeder	Amargosa Canyon Afton Canyon	**Not Expected:** May occur in riparian habitat associated with the Mojave River in the Afton Canyon Filming Area and the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur.
Toxostoma bendirei **Bendire's thrasher**	US: – CA: SSC (breeding) BLM: S	Inhabits Joshua tree woodland with scattered desert shrubs such as creosote bush and sweet bush. Also occurs in the eastern Mojave in areas with plentiful cholla (*Cylindropuntia* spp.) (Garret and Dunn 1981). Common summer resident in Joshua Tree National Monument (Remsen 1978).		Sawtooth Canyon	**Not Expected:** No suitable habitat occurs in the Sawtooth Canyon Filming Area.
Toxostoma crissale **Crissal thrasher**	US: – CA: SSC (year round) BLM: –	Dense thickets of shrubs or low trees in desert riparian and desert wash habitats. Southeastern California to Texas and northern Mexico.	Year-round	Amargosa Canyon	**Not Expected:** May occur in riparian habitat associated with the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Vireo bellii pusillus **Least Bell's vireo**	US: FE CA: SE BLM: –	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 feet (0.6–3.0 m) above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September	Amargosa Canyon	**Not Expected:** May occur in riparian habitat associated with the Amargosa River in the Amargosa Canyon Filming Area. However, filming activities will not be allowed in riparian habitat; therefore, direct impacts to habitat for this species will not occur.
Vireo vinicior **Gray vireo**	US: – CA: SSC (breeding) BLM: S	Breeds on arid brushy slopes covered by pinyon and juniper. Desert ranges, drier northeastern slopes of the San Bernardino Mountains, San Jacinto Mountains, and southern slopes of the Laguna Mountains.	Summer resident	Amargosa Canyon	**Not Expected:** No suitable habitat for this species occurs in the Amargosa Canyon Filming Area
Mammals					
Antrozous pallidus **Pallid bat**	US: – CA: SSC BLM: S	Day roosts in caves, crevices, mines and occasionally hollow trees and buildings. Night roosts may be more open sites, such as porches and open buildings. Hibernation sites are probably rock crevices. Grasslands, shrublands, woodlands, and forest in western North America.	Year-round Nocturnal	Amargosa Canyon Afton Canyon	**Moderate:** Suitable habitat for this species occurs in the Amargosa Canyon and Afton Canyon Filming Areas.
Corynorhinus townsendii **Townsend's big-eared bat**	US: – CA: SSC BLM: S	Requires caves, mines, tunnels, buildings, or other similar structures for roosting. May buildings or bridges for roosting. Often uses use separate sites for night, day, hibernation, or maternity roosts. Ranges from southwestern Canada through the western United States to southern Mexico.	Year-round; nocturnal	Mule Canyon Odessa Canyon Stoddard Valley	**High:** High quality suitable habitat for this species occurs in the Mule Canyon and Odessa Canyon Filming Areas associated with caves that are likely to be a focal point of filming activities in these areas. **Low:** The Stoddard Valley Filming Area provides suitable foraging habitat for this species.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Eumops perotis **Western mastiff bat**	US: – CA: SSC BLM: S	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	Year-round; nocturnal	Sawtooth Canyon	**High:** Suitable habitat for this species occurs in the Sawtooth Canyon Filming Area.
Microtis californicus scirpensis **Amargosa vole**	US: FE CA: SE BLM: –	Known only from bulrush marshes along the Amargosa River. Burrows in soft soil, nests constructed in the burrows. Creates runway system through grasses from burrow.		Amargosa Canyon	**Not Expected:** No filming activities will be conducted in riparian (bulrush marsh) habitat associated with the Amargosa River. No other suitable habitat in the Amargosa Canyon Filming Area.
Myotis thysanodes **Fringed myotis**	US: – CA: – BLM: S	Found in most brush, woodland, and forest habitats in California except in the Central Valley and southeastern deserts. Pinyon-juniper, valley foothill hardwood, and hardwood-conifer habitats are apparently preferred.	Primarily the warmer months	Afton Canyon	**Low:** Suitable habitat for this species occurs in the riparian areas of the Afton Canyon Filming Area. However, no filming activities will be conducted in riparian habitat; therefore, direct impacts to this species' habitat are not expected. May forage in adjacent areas.
Ovis canadensis nelsoni **Nelson's bighorn sheep**	US: – CA: – BLM: S	Occurs in open, rocky, steep areas with available water and herbaceous forage; widely distributed from the White Mountains in Mono County to the Chocolate Mountains in Imperial County.		Amargosa Canyon Afton Canyon	**High:** Known to occur in both Amargosa Canyon and Afton Canyon. Generally found on slopes and along ridge tops.

Appendix C: Special Status Species Summary

Species*	Status	Habitat and Distribution	Activity Period	Applicable Resource Area(s)	Occurrence Probability
Xerospermophilus mohavensis **Mohave ground squirrel**	US: – CA: ST BLM: S	Flat to moderate terrain in sandy alluvial, gravelly, or rocky soils in major desert scrub habitats, having been observed in creosote bush scrub, desert saltbush scrub, desert sink scrub, desert greasewood scrub, shadscale scrub, Joshua tree woodland, and Mojave mixed woody scrub (typically occurring on hilly terrain and composed of a variety of shrub species) ("Mohave ground squirrel [*Spermophilus mohavensis]*." West Mojave Plan species account by D. Laabs, 1998.). Commonly found in association with the white-tailed antelope squirrel, a sympatric species.	generally March to August	Stoddard Valley	**Not Expected:** The Stoddard Valley Filming Area is located outside of this species' known range.

LEGEND	
US: Federal Classifications	
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
FC	Candidate for listing as Threatened or Endangered.
EA	Protected under the Federal Bald and Golden Eagle Protection Act
CA: State Classifications	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP	California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
SP	Special Plant. Refers to any other plant monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
1B	California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
2	California Rare Plant Rank 2: Rare, threatened, or endangered in California, but more common elsewhere.

California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status.

BLM: Bureau of Land Management Status	
S	Sensitive. Identified as (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that Federal listing my become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. Two conditions that must be met before a species may be considered as BLM sensitive: (1) a significant population of the species must occur on BLM-administered lands, and (2) the potential must exist for improvement of the species' condition through BLM management. Does not include federally listed species, proposed species, candidate species, or State listed species. It is BLM policy to provide sensitive species with the same level of protection that is given federal candidate species.

APPENDIX B Cultural Resources Assessment

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FINAL

CLASS I INVENTORY REPORT AND CLASS III CULTURAL RESOURCES ASSESSMENT

PROGRAMMATIC ENVIRONMENTAL ASSESSMENTS FOR FILMING ACTIVITIES

BARSTOW FIELD OFFICE JURISDICTION

BUREAU OF LAND MANAGEMENT

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

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LSA Project No. IFC0901

National Archaeological Data Base Information:
Type of Study: Class I Inventory and Class III Cultural Resources Assessment
Sites Recorded: CA-SBR-1910/H (update) SBR-14818H, SBR-14819H, CA-SBR-2910H, SBR-14820H
Acres Surveyed: 104,605
Key Words: Afton Canyon, Historic sites, cemetery, Fresno scraper, gravel scrapes, rock piles
USGS Quadrangles: 7.5-minute *Stoddard Wells, West Ord Mountain, Hodge, Saddle Peak Hills, Dumont Dunes, Nebo*

LSA

August 2011

MANAGEMENT SUMMARY

LSA Associates, Inc. (LSA) is under contract to the Inland Empire Economic Partnership (IEEP) to conduct a Class I Inventory and Class III Cultural Resources Assessment on lands under the jurisdiction of the Barstow Field Office (BFO) of the Bureau of Land Management (BLM) for the development of Programmatic Environmental Assessment(s) (EAs) for the IEEP Filming Activities project. The project is in five different locations in the Mojave Desert region of the BLM's California Desert District (CDD) near the towns of Barstow, Calico, and Baker in San Bernardino County, California**.**

BLM lands under the Barstow Field Office's jurisdiction (BFO) provide a variety of unique terrain and conditions that are attractive to the film industry. Pursuant to 43 CFR 2920, photography and filming activities regularly occur on public lands under the BFO's jurisdiction. The activities are permitted subject to the parameters established in local management plans with stipulations tailored to the specific location.

An EA will be completed to assess the potential environmental effect associated with filming activities at eight discrete locations within the BFO's jurisdiction. These areas are:

- Sawtooth Canyon;
- Rasor Off-Highway Vehicle (OHV) Area;
- Afton Canyon;
- Portions of Odessa Canyon;
- Portions of Mule Canyon;
- Stoddard Valley OHV; and
- The Hollywood Canyon and Sperry Wash sections of Armargosa Canyon.

The intensity of film activities within these areas can generally assigned to one of the three levels of use, defined as follows:

- <u>Light Use includes film activity that meets the following conditions:</u>
    - The length of the film activity limited to five days or less;
    - All vehicles associated with film activity are restricted to designated routes;
    - No more than six vehicles (one ton or less) are utilized during the film activity;
    - All equipment utilized is handheld;
    - No activity occurs within designated Critical Habitat or Desert Wildlife Management Areas (DWMA);
    - No digging, excavation, or auguring permitted during filming activity;

- No use of explosives permitted during filming activity; and
- All props used in filming activity are freestanding.

- Moderate Use, more intense than light use, including:
  - The length of the film activity is greater than five days, but less than 30 days;
  - Between fifteen and thirty vehicles associated with the film activity;
  - Disturbance of less than two acres;
  - Limited motorized disturbance;
  - Use of specialized support equipment (e.g., set construction, generators, boom vehicles, or water equipment); and
  - Use of special effects (e.g., pyrotechnics, flame bars, electrical, water, wind, or explosions).
- Intense Use includes any film activity that requires or results in any of the following:
  - A filming period in excess of thirty days, inclusive of set up and recovery;
  - A cast and crew in excess of 150 or more persons;
  - Use of more than fifteen large vehicles (e.g., semi-truck or tracked vehicle);
  - Use of specialized support equipment (e.g., set construction, generators, boom vehicles, or water equipment);
  - Use of major special effects (e.g., pyrotechnics, electrical, water, wind, or explosions);
  - Disturbance of more than two acres;
  - Use of hazardous substances; and
  - Activity that affects sensitive species or habitat as determined by BLM staff biologists.

PURPOSE

The purpose of this project is to facilitate processing of Land Use Permit Applications for commercial filming at various locations within the Barstow Field Office Jurisdiction (BFO). As the identified locations are located on lands under the purview of the BLM, preparation of this Programmatic Environmental Assessment is required to identify the effect commercial filming activities will have on resources within the BFO.

NEED

The opportunities afforded to the film industry by desert filming locations must be sufficiently balanced so that the sensitive resources and unique character of desert environment are appropriately protected. Past filming activities within the BFO have been successfully managed under standard stipulations identified under a programmatic environmental assessment. The unique scenic, natural, and open space qualities of the Mojave Desert, coupled with the desert's relative proximity to major film production facilities, has created additional demand for filming in desert locations. This increased demand, typically driven by the characteristically abbreviated time constraints common in

the film industry, benefits from a programmatic assessment of the environmental effects of film activities at the locations in question.

Because of the high sensitivity of desert resources and increased demand for desert filming activities, special management actions are necessary to prevent and/or mitigate the effects that filming activities may have on the desert environment. The programmatic assessment will identify the acceptable limits of future filming activities in the identified areas. The EA will assist in the determination of the carrying capacity of the various locations that will, in turn, dictate the level of permitted filming activity and development of site-specific use parameters and (as warranted) mitigation requirements.

The field survey took place on various days from December 2009 to February 2010. The local segment of one linear historic site (CA-SBR-1910H) was re-located and updated; four cultural resources (three historic—SBR-14818H, SBR-14819H, and CA-SBR-2910H—and one prehistoric, SBR-14820H) were subsequently recorded on December 11, 2010. The records search concluded that a total of 87 previous cultural resource surveys have been conducted and 314 cultural resources have been recorded within the one-mile radius of the IEEP Filming Activities project's 5 areas of potential effects (APEs). During the field survey, LSA was able to re-locate only one of the previously recorded resources with certainty, mainly due to natural processes (erosion in canyon bottoms) and off-highway vehicle (OHV) activity in other areas. No built architecture resources were recorded or updated.

LSA was under contract to survey a maximum of 1,500 acres, but through efficient use of field time and a focused survey strategy developed in consultation with the Barstow office of the BLM, the project evaluated approximately 104,605 acres in 5 different locations. The Class I and Class III Inventory were conducted according to the procedures detailed in the BLM Cultural Resources Guide, Section 8100 (BLM 2004). The LSA archaeologists were accompanied by the Barstow Field Office archaeologist (Jim Shearer) for both the survey and site recording tasks and, therefore, a BLM Field Authorization was not required. The assessments were carried out pursuant to the National Historic Preservation Act of 1966 (NHPA) (36 CFR Part 800). The BLM is the lead agency for compliance with regulations implementing the NHPA.

Per Section .2.21C.4 and Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, this Class III report documents (1) the kind of resources looked for; (2) survey boundaries; (3) methods employed and extent of survey coverage; (4) a record of the precise locations of all resources that meet or exceed the National Map Accuracy Standard; (5) information on the appearance, significance, integrity and boundaries of each property sufficient to permit an evaluation of its significance; (6) information on the cultural setting; (7) a summary of previous research in the area; and (8) treatment recommendations. This report includes a thorough discussion of the records search, natural and cultural setting, field survey, research domains, and specific research questions related to the Class III Cultural Resources Assessment of the project.

A paleontological resources assessment was also in the original scope of work; however, LSA was excused from this task by the BLM Barstow Field Office archaeologist (Jim Shearer) because of the extremely low potential for paleontological resources in the areas that were finally defined as survey objectives (washes and canyon bottoms, and heavily disturbed OHV areas).

The report also presents evaluations and recommendations regarding whether or not the resources recorded during the survey are recommended eligible for the National Register. Previously recorded

Site CA-SBR-1910/H (Union Pacific railroad) was updated with the addition of recorded information regarding gravel scrapes associated with the construction of the railroad grade.

FINDINGS

- SBR-14818H, the Afton cemetery, with 5 intact graves and one disturbed grave was recorded and LSA recommends that the cemetery and surrounding area be protected in the future, even though the cemetery is not recommended eligible for the National Register.
- SBR-14819H is a segment of a dirt road that appears to connect the Afton cemetery with an undefined nearby location. The research value of the dirt road segment has been exhausted through recordation and the segment is not recommended eligible for the National Register.
- CA-SBR-2910H is a segment of an historic railroad grade that runs north of the Afton cemetery and parallel to the modern Union Pacific railroad tracks. The historic grade can be seen continuing along the lower slope of mesa-like topography east of the Afton cemetery. The research value of the Afton segment of the historic railroad grade has been exhausted through recordation and the segment is not considered eligible for the National Register.
- SBR-14820H consists of two rock piles that are examples of rock pile features that are increasingly being recorded throughout the Mojave Desert region, and also in Imperial County and other desert settings. There is still a wide range of opinion as to whether or not these rock piles are graves, water control devices, or of multiple functions. LSA has tentatively concluded that the two rock piles near the Afton cemetery fall into the potential water control category.

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APPENDICES

A. DPR 523 SITE FORMS NEWLY RECORDED RESOURCES

CHAPTER 1.0: INTRODUCTION

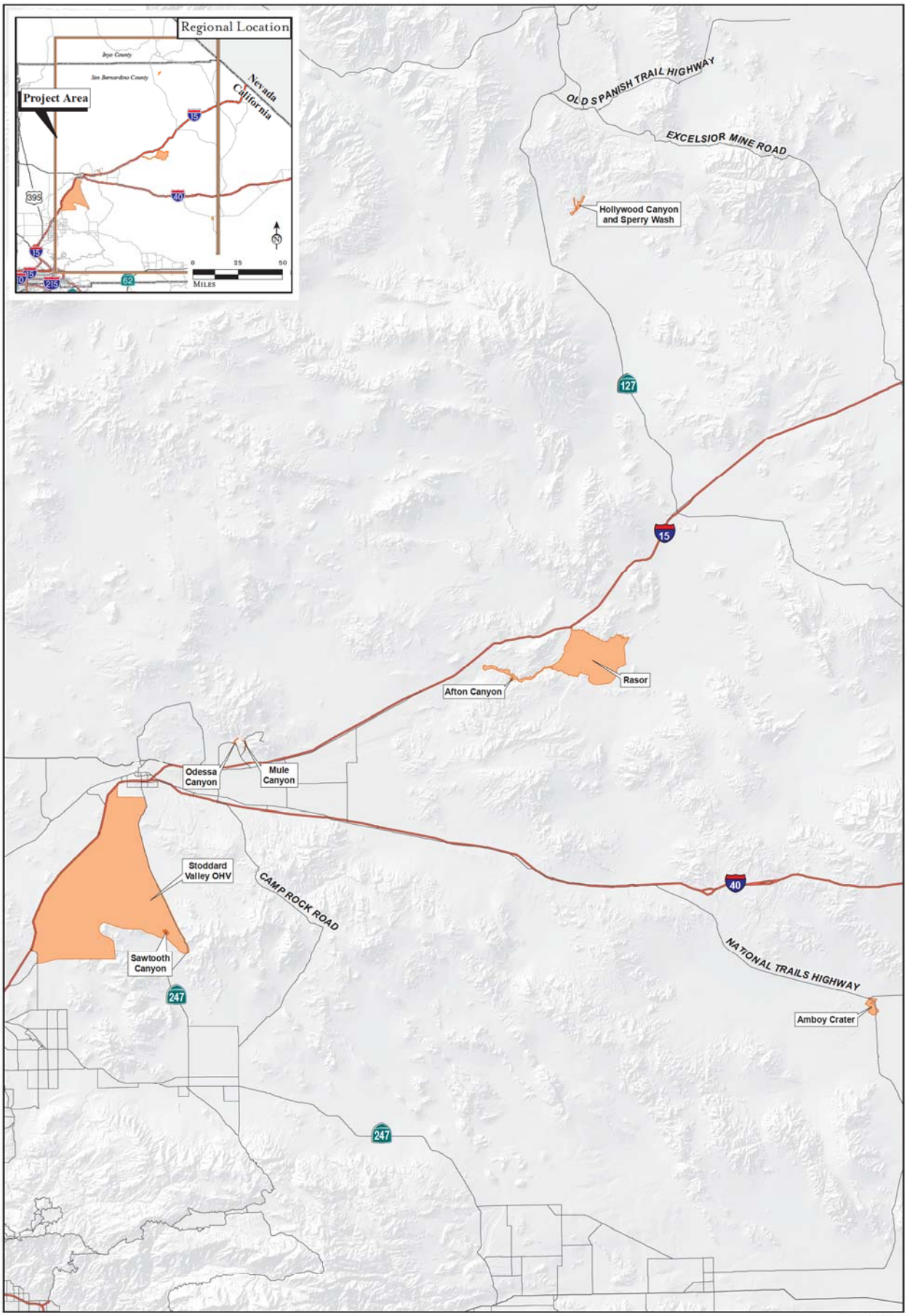
LSA Associates, Inc. (LSA) has been contracted by the Inland Empire Economic Partnership (IEEP) to conduct a Class I Inventory and Class III Cultural Resources Assessment for the Programmatic Environmental Assessment(s) (EAs) for the IEEP Filming Activities project in the Barstow Resource Area (BFOJ) on lands administered by the Bureau of Land Management (BLM) in San Bernardino County, California. The survey areas were located in Sawtooth Canyon, Afton Canyon, Mule Canyon, Stoddard Valley, and Rasor Off-Highway Vehicle (OHV) areas, and portions of Odessa Canyon see Figures 1 and 1A through 1E). These areas are located on the *Nebo, Saddle Peak Hills, Dumont Dunes, Stoddard Well, West Ord Mountain,* and *Hodge, California* USGS 7.5-minute topographic quadrangles. Because of survey organization and efficiency and the BLM's directed focus on the lowest elevations of the bottoms of the canyon drainages in the survey target areas, a total of 104,605 acres were surveyed, approximately 8,700 percent of the originally contracted 1,500 acres.

Various levels of filming have taken place in the BFO since 1935, including such well-known movies as *Tumbling Tumbleweeds* (1935), *The Bagdad Café* (1987), *Erin Brockovich* (2000), *Kill Bill* (2004), and *Letters from Iwo Jima* (2007). Because of the high sensitivity of desert resources and increased demand for desert filming activities, special management actions are necessary to prevent and/or mitigate the effects that filming activities may have on the desert environment. This programmatic assessment identifies the acceptable limits of future filming activities in the identified areas. The EA will assist in the determination of the carrying capacity of the various locations that will in turn dictate the level of permitted filming activity and development of site-specific use parameters and (as warranted) mitigation requirements.

The purpose of this project is to facilitate processing of Land Use Permit Applications for commercial filming at various locations within the BFO. As the identified locations are located on lands under the purview of the BLM, preparation of this Programmatic Environmental Assessment is required to identify the effect commercial filming activities will have on resources within the BFO.

The opportunities afforded to the film industry desert filming locations must be sufficiently balanced to ensure that the sensitive resources and unique character of desert environment are appropriately protected. Past filming activities within the Barstow Resource Area have been successfully managed under standard stipulations identified under a programmatic environmental assessment. The unique scenic, natural, and open space qualities of the Mojave Desert, coupled with the desert's relative proximity to major film production facilities, has created additional demand for filming in desert locations. This increased demand, typically driven by the characteristically abbreviated time constraints common in the film industry, benefits from a programmatic assessment of the environmental effects of film activities at the locations in question.

The Class I Inventory and Class III Cultural Resources Assessment were conducted according to the procedures detailed in the BLM Cultural Resources Guide, Section 8100 (BLM 2004). The LSA archaeologists were accompanied at all times during the survey and subsequent site recording tasks by the Barstow Field Office archaeologist (Jim Shearer) and, therefore, a BLM Field Authorization



LSA

FIGURE 1

0 4.5 9
Miles

Project Locations

SOURCE: Federal Registry Critical Habitat, 1996; BLM, 2000; ESRI data, 2004

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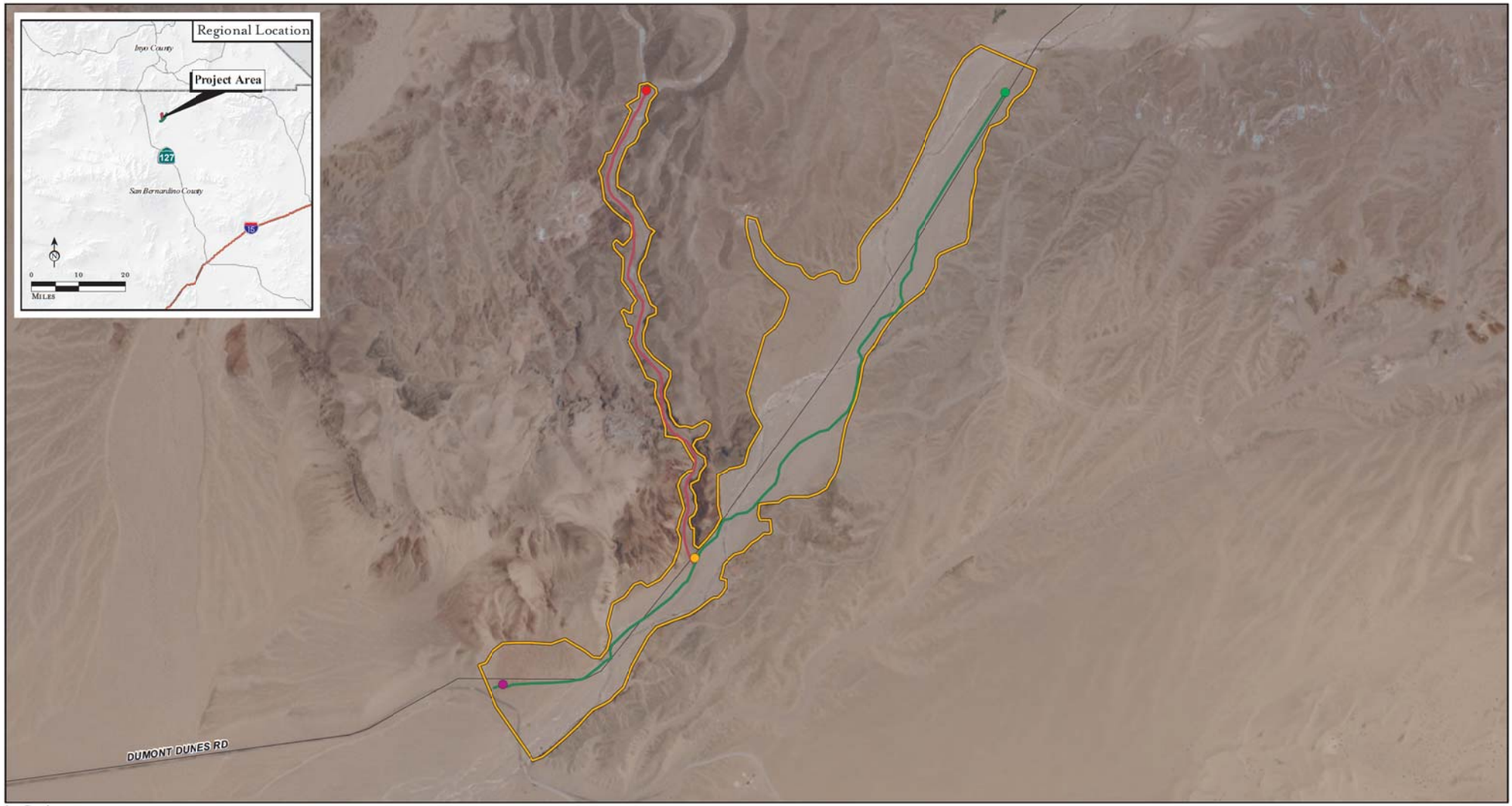
Inland Empire Film Commission
Cultural Resources Report

Regional and Project Location



LSA

Areas Surveyed For Cultural Resources and Biological Resources

- Hollywood NW
- S End Hollywood Canyon
- N Sperry Canyon
- Sperry Wash Begin (SW End)
- Hollywood Canyon North
- Sperry Wash North End
- Survey Boundary (309.4 Ac)

Note: Survey corridors have been enhanced to increase visibility. They are not to scale. Precise survey limits are summarized in table.

0 650 1,300
Feet

SOURCE: ESRI World Imagery, 2010; Thomas Bros, 2009

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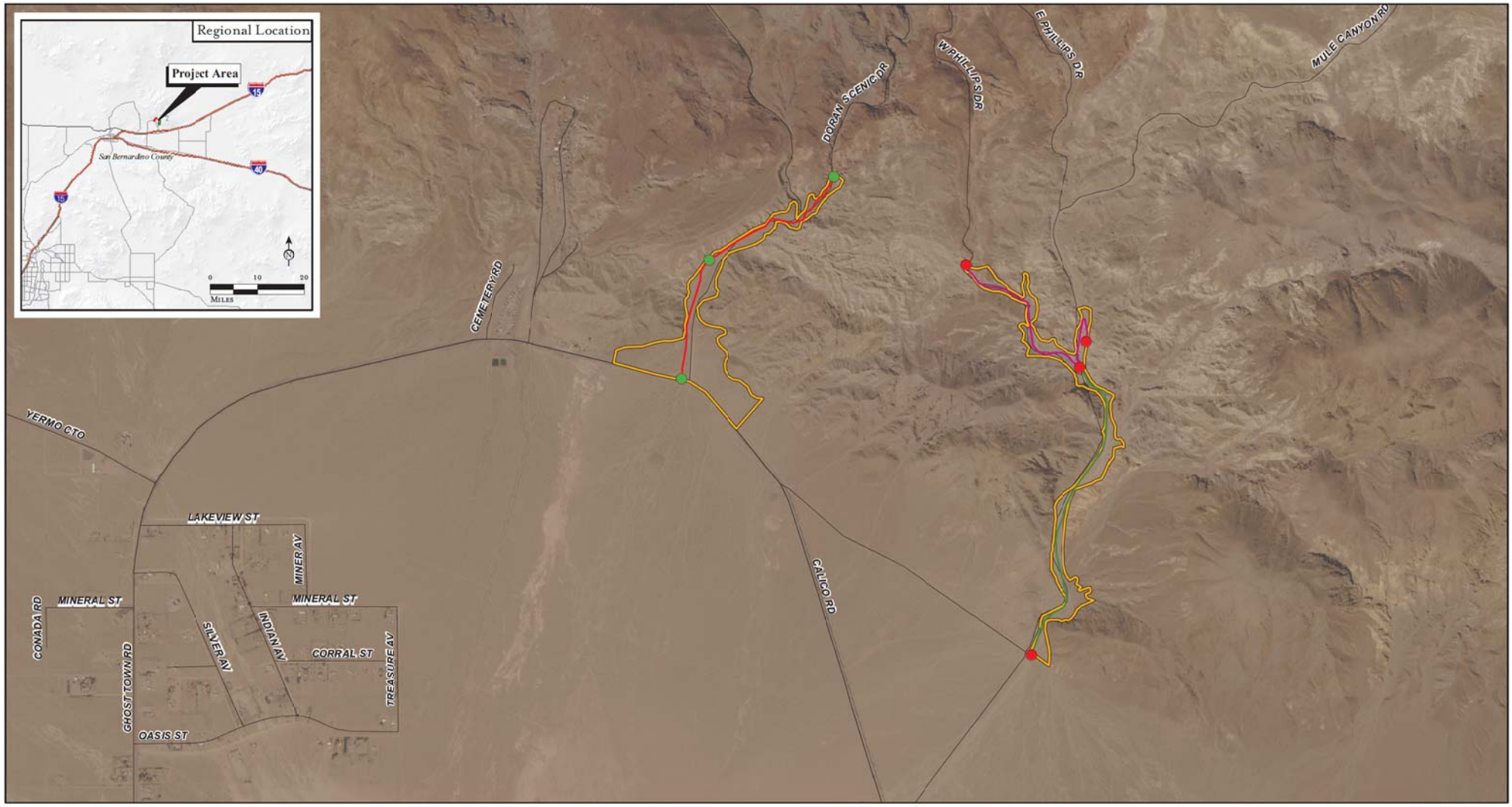
FIGURE 1A

Inland Empire Film Commission
Hollywood Canyon TK3933
Sperry Wash TK3976

Sperry Wash and Hollywood Canyon



Areas Surveyed For Cultural Resources and Biological Resources

- Mule — Mule Canyon Side Loop
- Odessa — Odessa Canyon North
- Spur from TK4370
- Survey Boundary

Note: Survey corridors have been enhanced to increase visibility. They are not to scale. Precise survey limits are summarized in table.

N

0 700 1,400
Feet

FIGURE 1B

Mule Canyon Side Loop TK4355
Odessa Canyon North TK4287
Spur from TK4370 - TKA1

Mule and Odessa Canyons

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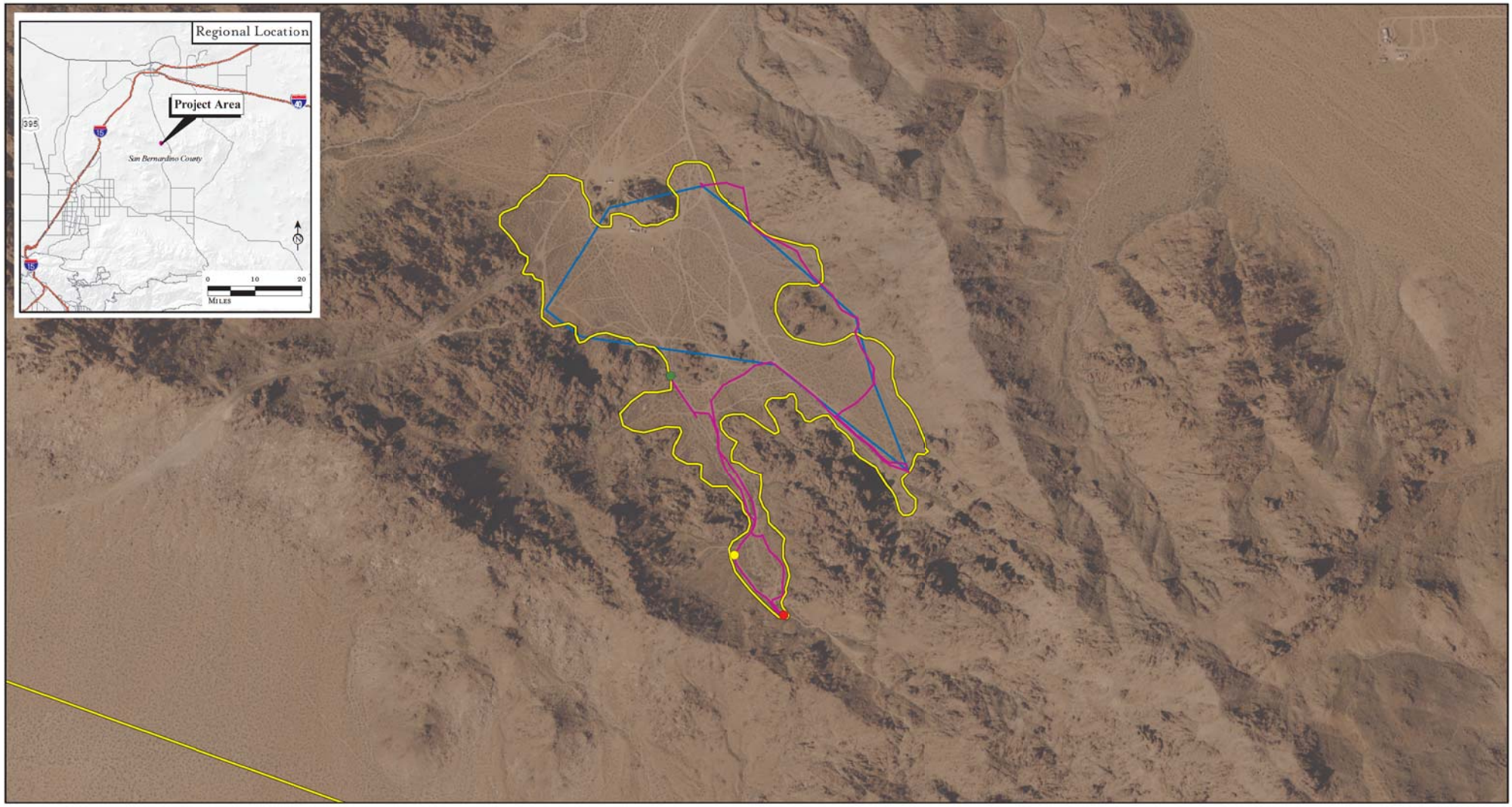

Survey Boundary
Sawtooth Rd A
Sawtooth Rd B
Sawtooth Rd C
Sawtooth Road
Sawtooth Staging area A

Note: Survey corridors have been enhanced to increase visibility. They are not to scale. Precise survey limits are summarized in table.

0 300 600
Feet

FIGURE 1C

Inland Empire Film Commission
Sawtooth Canyon TK4079
Biological Resources Report

Sawtooth Canyon

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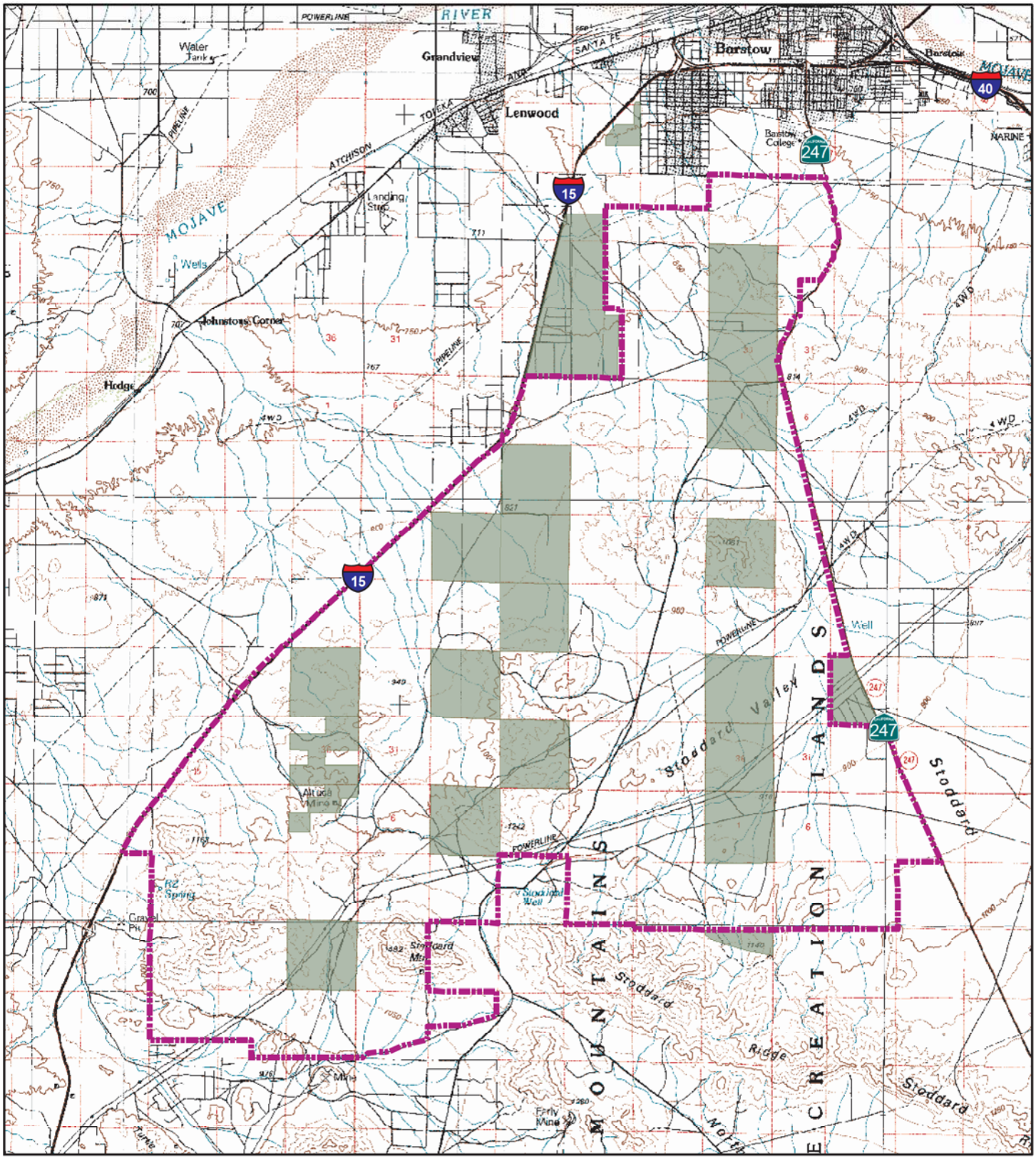

LSA

FIGURE 1D

Open Area Boundary 2009

Private Land

0 1 2

Miles

Inland Empire Film Commission
Cultural Resources Report

Stoddard OHV Area

SOURCE: USGS30x60' Quads: Newberry Springs (71), CA; Victorville (70), CA; Thomas Bros., 2009; Bureau of Land Management California Desert District Barstow Resource Area.

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Areas Surveyed For Cultural Resources and Biological Resources

- Afton Start
- Afton Canyon Points
- Afton Cemetery (35° 2.10' N, 116° 22.80' W NAD83)
- Old Rail Road Grade in Afton Canyon
- Rasor
- Rasor OHV
- Afton Canyon East End
- Afton Canyon West End
- Rasor West End. No work west of track line
- Survey Boundary

N

0 2,800 5,600
Feet

Note: Survey corridors have been enhanced to increase visibility. They are not to scale. Precise survey limits are summarized in table.

FIGURE 1E

Afton Canyon West TK4410
Afton Canyon East TK4531
Rasor West TK4611

Afton and Rasor Canyons

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was not required. The assessments were carried out pursuant to the National Historic Preservation Act of 1966 (NHPA) (36 CFR Part 800). The BLM is the lead agency for compliance with regulations implementing the NHPA.

The records search concluded that a total of 5 previous cultural resource surveys have been conducted and 18 cultural resources have been recorded within the one-mile radius of the proposed project's area of potential effects (APE) in Sperry Wash and Hollywood Canyon; a total of 10 previous cultural resource surveys have been conducted and 39 cultural resources have been recorded within the one-mile radius of the proposed project's APE in Mule and Odessa Canyons; a total of 8 previous cultural resource surveys have been conducted and 5 cultural resources have been recorded within the one-mile radius of the proposed project's APE in Sawtooth Canyon; a total of 34 previous cultural resource surveys have been conducted and 188 cultural resources have been recorded within the one-mile radius of the proposed project's APE in the Stoddard OHV area; and a total of 23 previous cultural resource surveys have been conducted and 43 cultural resources have been recorded within the one-mile radius of the proposed project's APE in Afton/Razor Canyons.

The resources in the five project areas included ceramic or lithic isolates, ground stone isolates, historic and prehistoric trails, segments of the Mormon trail, segments of the Salt Lake/Santa Fe Trail, a segment of the Mojave Road, a segment of the National Old Trails Road, cremation and habitation sites, lithic reduction sites, cairns, small temporary camps, a site identified only as being on desert pavement, cairns, stone circles, rock shelters, historic mines, can scatters, a railroad, and two historic artifact scatters. During the field survey, LSA was able to re-locate only one of the previously recorded resources with certainty, mainly due to the canyon bottom focus of the surveys, natural processes (erosion and alluviation in canyon bottoms) and off-road vehicle activity in other areas.

The local segment of one linear historic site (CA-SBR-1910H) was re-located and updated, four cultural resources (three historic—SBR-14818H, SBR-14819H, and CA-SBR-2910H— and one prehistoric, SBR-14820H) were subsequently recorded. The field survey took place on different dates from December 2009 to February 2010, and four cultural resources were subsequently recorded on December 11, 2010. The appropriate State of California Parks and Recreation DPR 523 forms are attached to this report as Appendix A. This report includes a thorough discussion of the records search, natural and cultural setting, field survey, research domains, and specific research questions related to the Class III Cultural Resources Assessment.

The results of the survey include approximately 104,605 acres in five different potential filming locations in Sperry Wash and Hollywood Canyon, Mule and Odessa Canyons, Sawtooth Canyon, the Stoddard OHV area, and Afton/Rasor Canyons. The Class III Cultural Resources Assessment was conducted according to the procedures detailed in the BLM Cultural Resources Guide, Section 8100 (BLM 2004). The assessment was carried out pursuant to the National Historic Preservation Act of 1966 (NHPA) (36 CFR Part 800). The BLM is the lead agency for compliance with regulations implementing the NHPA.

Prior to initiating the inventory, a project scoping meeting was held in the BLM Barstow Field Office on December 3, 2009 and was attended by William (Mickey) Quillman, Jim Shearer (BLM), Larry Blaine (BLM), Sheri Davis (IFC), Don Taylor (IFC), Sarah Barrera (LSA), Frederick Lange (LSA), and Curt Duke (LSA). At the project scoping meeting, the objectives of the IEEP project were summarized, as were the results of LSA's completed Class I Record Search Results and projected Class III Cultural Resources Assessment Plan.

This report includes a thorough discussion of the records search, field survey, natural and cultural setting, important research domains, specific research questions, and National Register of Historic Places (National Register) eligibility determinations. The BLM is conducting government-to-government Native American consultation process for the project.

1.1 OBJECTIVES

LSA's objectives were (1) to observe and accurately document all resources greater than 50 years in age in the five separate APEs in order to comply with Section 106 of the NHPA and BLM requirements, (2) to provide the needed data for planning purposes, and (3) to provide a report that meets the federal cultural resources standards.

Following this Introduction, Chapter 2.0 summarizes the Native American scoping efforts for the project, Chapter 3.0 discusses the project's setting, Chapter 4.0 summarizes the project methodology, Chapter 5.0 presents the research results, Chapter 6.0 presents LSA's responses to the Research Domain questions, Chapter 7.0 presents LSA's Conclusions and Recommendations for National Register eligibility for selected project resources and regarding further research, and Chapter 8.0 contains the References Cited for the report.

1.2 PROJECT TEAM

- Project Manager
  - Curt Duke, M.A., Anthropology, RPA, 20 years experience in California archaeology.
- Principal Investigator/Field Director
  - Frederick W. Lange, Ph.D., Anthropology, RPA, 45+ years experience in archaeology and 10 years experience in California archaeology.
- Field Crew
  - Brooks Smith, B.S., Geology and Archaeology, 17 years experience in California archaeology.

CHAPTER 2.0: NATIVE AMERICAN CONSULTATION

2.1 NATIVE AMERICAN HERITAGE VALUE

It is possible that sites, features, or objects from sites may possess sacred or ceremonial value to local Native Americans. Research into each site and its constituent cultural remains will provide a basis for analysis of its potential heritage value.

2.2 NATIVE AMERICAN SCOPING

The National Environmental Policy Act (NEPA) (47 CFR Section 1.1307[a][5]) mandates that Indian religious sites be considered in the planning process. In addition to NEPA, Section 106 of the NHPA requires federal agencies to consult with Indian tribes to determine if there are historic properties of religious or cultural significance (36 CFR 800.2[c][2][A-F] and 36 CFR 800.3[f]). Native American consultation is the responsibility of the BLM.

CHAPTER 3.0: SETTING

3.1 NATURAL SETTING

3.1.1 Biology

All project locations are situated within the Upper Sonoran Life Zone. The Upper Sonoran Life Zone ranges from about 500 feet above mean sea level (AMSL) to an elevation of approximately 5,000 feet AMSL and is represented in cismontane valleys and low mountain slopes with a predominantly chaparral community. Common native plants include oak and scrub oak, sycamore, chamise, cacti, agave, yucca, species of sage, chía, and various grasses. Common animals include deer, coyotes, jack rabbits, cottontail rabbits, skunks, ground squirrels, and voles, as well as birds and reptiles (Jaeger and Smith 1971). Ground visibility was excellent (approximately 100% at all six locations with the surface covered by sparse vegetation.

3.1.2 Geology

The project is located in the southwestern portion of the Mojave Desert on sediments referred to as the Victorville Sequence of fanglomerates (Meisling and Weldon 1989). Previous geologic mapping has been summarized by Bortugno and Spittler (1986). The Pleistocene Older Alluvial sediments of the Victorville Sequence (Bortugno and Spittler 1986; Meisling and Weldon 1989) underlie a thin surficial layer of Holocene sediments. All six project locations are within the Eastern California shear Zone (ECSZ). The importance of the ECSZ was first suggested on the basis of historical seismic patterns in eastern California and Nevada (Wallace 1984). The ECSZ plays a major role in balancing the discrepancy between predicted plate motion and San Andreas Fault activity (Miller et al. 2001). The San Andreas Fault system, in turn, forms the transform boundary that separates the North America and Pacific Plates at the latitude of California, but deformation occurs in a zone much broader than the fault itself (Atwater 1970). This deformation has created what is called the Basin and Range geological province, which extends from southern California to central Utah, and from southern Idaho into the State of Sonora in Mexico. One project location (P-582) is located in the basin sector of the Basin and Range Province, while the other five are located on prominent sedimentary, volcanic, or metamorphic high points of the range topography.

3.1.3 Hydrology

Precipitation at all of the project locations is toward the lower end of the range from 5 to 15 inches annually, with the majority occurring from January through April (Jaeger and Smith 1971).

3.2 CULTURAL SETTING

3.2.1 Prehistory

The development of a regional chronology marking the major stages of cultural evolution in the southern California area has been an important topic of archaeological research. In general, cultural developments in southern California have occurred gradually and have shown long-term stability; thus, developing chronologies and applying them to specific locales have often been problematic. Southern California researchers have used changing artifact assemblages and evolving ecological adaptations to divide regional prehistory into four stages. Wallace (1955) and Warren (1968) have developed the two chronologies most commonly cited.

Wallace (1955) uses major cultural developments to divide area prehistory into four time periods, or "cultural horizons":

- The Early Period;
- The Milling Stone Period;
- The Intermediate Period; and
- The Late Period.

3.2.2 Ethnography

Prehistorically, there was a large movement of people across the Mojave Desert and ethnographically several groups are associated with the five Project APEs and surrounding Mojave Desert region. The Kawaiisu, Kitanemuk, Southern Piute, Serrano, Chemhuevi, Tabtulabal, and Panamint occupied the Mojave Desert region, north, south, west, and east of the project. In this region there were four major linguistic groups originating from northern Uto-Aztecan groups; Tubatulabalic, Hopic, Numic, and Takic (Sutton et al., 2007:243). The Mojave River appears to have been a major boundary between Takic and Numic speaking groups during prehistoric times. Groups occupying the Central Mojave Desert were of the Takic and Numic linguistic groups. Takic speaking groups originated in the southwestern Mojave Desert, expanding south and east sometime around 500 cal. B.P, and include the Serrano and Kitanemuk (Sutton et al., 2007:243). At time of contact, groups south of the Mojave River and much of southern California were part of the Takic linguistic group. The groups north and east of the project were of the Numic linguistic group, which included the Kawaiisu, Chemhuevi, and Southern Piute.

During the ethnographic period, the Serrano, Vanyume (Beñeme) and the Chemehuevi occupied the region in which the five project APEs are located. The Vanyume were a small division of the Serrano, about whom little ethnographic information is known. The Chemehuevi entered the Mojave Desert much later in time. Other groups that could have entered the project area were the Kawaiisu, the Kitanemuk, the Southern Piute, the Mohave, and the Ancestral Pueblo. Eerkens (1999:301) states that the area around Fort Irwin, northeast of the project site, was inhabited by the Kawaiisu, Chemehuevi, Las Vegas Paiute, and the Vanyume, although he acknowledges that all groups in the area maintained flexible settlement patterns based on availability of resources (1999:302). The project APE and surrounding valleys were not conducive for large scale inhabitation based on the fluctuating

environmental conditions and overall arid nature of the region; therefore, groups occupying/utilizing the area would have been small and nomadic (Zigmond 1986:398).

Serrano. The five project APEs are situated within the traditional boundaries associated with Mission San Gabriel during the Spanish Period (1769–1821) (Bean and Vane 1979). The natives in this area were known as the Yucaipaiem clan of the Serrano (Altschul, Rose and Lerch 1984; Kroeber 1925; Strong 1929; Bean and Smith 1978). They spoke a language that falls within the Takic family of the Uto-Aztecan language group. This language family is extremely large and includes the Shoshonean groups of the Great Basin. Due to the proximity of the Serrano and Gabrielino bands in the area and their linguistic similarities, ethnographers have suggested that these two bands shared the same ethnic origins (Kroeber 1925; Bean and Smith 1978). For this reason, they will be referred to as the Serrano.

According to Kroeber (1976:611), the Serrano comprised five groups or bands: Kitanemuk, Alliklik, Vanyume, Kawaiisu, and Serrano. They inhabited lands from the San Bernardino Mountains, part of the Transverse Mountains east of the Cajon Pass, across the Mojave Desert east as far as Twentynine Palms, and from the Tehachapi Mountains to the northern Colorado Desert. They occupied most of modern-day San Bernardino County (Bean and Smith 1978). Relatives of the Serrano included the Gabrielino and Luiseño to the west at the Pacific Coast, and the Cahuilla inhabiting the Colorado Desert. For much of the Late Prehistoric Complex, the Serrano band of the much larger Serrano tribe were the likely inhabitants of the western Mojave Desert, what is today the Cajon Pass and Barstow area. Most of what is known about the Serrano has been based upon the work done by Hicks (1958) and by later researchers working on a site known as CA-SBR-1000, located near Yucaipa, San Bernardino County, California. Studies indicate that the village had been occupied for thousands of years and that it was a major trading center both prehistorically and historically. Little is known about early Serrano social organization because the band was not studied until the 1920s (Kroeber 1925) and enculturation had seriously compromised their native lifeway. Kroeber (1925) indicates that the Serrano were a hierarchically ordered society with a chief who oversaw social and political interactions both within their own culture and with other groups. The Serrano had multiple villages ranging from seasonal satellite villages to larger, more permanent villages.

Resource exploitation was focused on village-centered territories and ranged from gathering and hunting with occasional fishing. The primary staple varied depending on locality. Acorns and piñon nuts were gathered by groups in the foothills; honey mesquite, piñon nuts, yucca roots, mesquite, and cacti fruits were gathered by groups in or near the desert (Bean and Smith 1978). Hunting activities consisted of deer, mountain sheep, antelope, rabbits, other small rodents, birds, with the most desired game bird quail (Bean and Smith 1978).

Serrano structures were situated near water sources and consisted of large, circular thatched and domed structures of willow and covered with tule thatching. These living structures were often sufficient to house a large family. In addition to the living structure, a ramada, an open air structure for outdoor cooking, was located adjacent to the home (Benedict 1924; Kroeber 1925; Drucker 1937; Bean and Smith 1978). A large ceremonial structure was often present and was used as the religious center where the lineage leader resided. Additional structures, such as granaries for food storage and sweathouses for ritual activities, were often located adjacent to pools or streams (Strong 1929; Bean 1962–1972; Bean and Smith 1978).

The Serrano, like the neighboring groups, were primarily semi-nomadic, hunter-gatherers. Because of their inland location, Serrano society was left relatively intact during the period of initial Spanish colonization, unlike the Gabrielino, who inhabited the coastal area. In 1772, Spanish explorer Pedro Fagès traveled through the Cajon Pass to the Mojave Desert in an attempt to identify the native groups in this region. Fagès' ultimate goal was to place the Serrano under supervision of a mission. By 1819, the Serrano were relocated to the Estancia of the Mission San Gabriel in Redlands (Bean and Smith 1978:573). At the time of relocation, there were likely on the order of 3,500 Serrano inhabiting the Mojave Basin. Between 1840 and 1860, a smallpox epidemic decimated the population. By 1885, there were only "390 Serranos [sic] remaining in all of southern California" (AccessGenealogy.com 2005) and the census of 1910 recorded only 100 Serrano (Kroeber 1976:616).

Vanyume (Beñeme). Limited information is available on the Vanyume during the historic period. What information exists describes the Vanyume as a small division of the Serrano living in the Mojave Desert, north of Serrano territory. They were referred to as the "Serrano of the Mohave River" (Kroeber 1925:614). The name Vanyume is a Mohave word; the name Beñeme was given to the entire Serrano cultural group by Father Garcés. The Vanyume spoke a Takic language related to the Kitanemuk to the west and the Serrano to the South. Kroeber reported that the Vanyume were occasionally friendly with the Mohave and Chemehuevi, but hostile to the Serrano (Kroeber 1925:614). Kroeber also stated that the population of the Vanyume was very small at the time of historic contact. The "chief" of the Vanyume reportedly lived in one of the villages at the upper reaches of the Mojave River near Victorville. The Vanyume were hunters and gatherers, and shell beads and millingstones were known to have been used. The Vanyume are generally associated with similar life ways as the Serrano to the south (Yohe II and Sutton 1991).

Chemehuevi. The Chemehuevi were a band of the Southern Paiute that possibly entered the eastern Mojave Desert area from the north in fairly recent prehistoric times. The Chemehuevi, also called the Pah-Utes, were closely related to the Southern Paiute in Death Valley and the Southern Nevada region. At the time of ethnographic contact, the Chemehuevi claimed a large portion of the eastern and central Mojave Desert, perhaps as far west as Afton Canyon on the Mojave River (Kelly and Fowler 1986:368). Although the Chemehuevi territory boundaries are unclear, it is certain that they inhabited the Providence Mountains. Based on archaeological data, the Chemehuevi entered the Mojave Desert sometime in the 17th century (Yohe II and Sutton 1991).

The Chemehuevi were strongly influenced by the Mohave. It is possible that they displaced the Desert Mohave, a Yuman speaking group (Kelly and Fowler 1986:368). Many Chemehuevi words are related to Mohave vocabulary, along with agricultural practices, house construction, warfare, and other cultural elements such as religious practices. Like the Mohave, the Chemehuevi used square metates, paddle and anvil pottery techniques, and hair dye (Kelly and Fowler 1986:369). In addition to their close association with the Mohave, the Chemehuevi traded widely with the Shoshone, Kawaiisu, Serrano, Vanyume, Cahuilla, and Diegueno (Kelly and Fowler 1986:369).

Influence from the Pueblo area to the east is seen in the form of agricultural practices of many of the Southern Paiute groups. The Chemehuevi, in more well watered areas and floodplains, grew yellow maize, gourds, beans, and winter wheat, combining Mohave and Pueblo practices (Kelly and Fowler 1986:371). Kroeber reported that the Chemehuevi occasionally farmed small areas of corn, beans, melon and pumpkins and wheat. In more arid areas the Chemehuevi were hunter-gatherers. They

hunted large game, such as deer and mountain sheep, along with rabbits, rodents, lizards, and other small game (Kroeber 1925:597). Plant foods were of great importance and included a variety of grass seeds, pinyon, and mescal (yucca).

The Chemehuevi had a large range associated with seasonal food practices and traveled through most of the Mojave Desert as far as the Tehachapi area and the San Bernardino Mountains. Occasionally they traveled to the Pacific coast to collect Haliotis shells (Kelly and Fowler 1986:377). It was also reported that they would travel as far east as Hopi territory, about a two-month round trip (Kelly and Fowler 1986:377).

Little is known about the Chemehuevi material culture. However, in historic times they used basketry, primarily willow, to a great extent both for storage and for carrying possessions (Kroeber 1925:97). They also made basketry hats. The Chemehuevi used some pottery but relied more on basketry.

Spanish colonization had little effect on the Chemehuevi until the early 1800s. Although other Southern Paiute groups were enculturated earlier by the Spanish, the Chemehuevis' isolated territory protected them from being assimilated into the mission system. With the opening of the Old Spanish Trail, the Chemehuevi became more affected by the Spanish, and were brought to the missions to work (Kelly and Fowler 1986:386).

In 1874, the United States government established the Colorado River Reservation in an effort to move the remaining Chemehuevi onto the reservation. However, the reservation was shared with the Mohave band, with whom the Chemehuevi had differences and from 1865 to 1871, the Chemehuevi were at war with the Mohave. They were therefore, reluctant to move to the reservation (Kelly and Fowler 1986:388). Some of them were forced to move to the reservation, while some of them would not move. Many stayed in their historic locations, finding work on farms and ranches and in mines. In 1901, the Chemehuevi received their own reservation in the Chemehuevi Valley.

Other Native American Groups Associated With the Region. In addition to those groups affiliated with the project area, many other groups occupied and utilized the Mojave Desert in a variety of ways. For example, it appears that the Anasazi of southern Nevada greatly influenced the cultures within the region. By 1450 B.P., the Anasazi were exploiting turquoise deposits at Halloran Springs, approximately 25 miles northeast of Barstow. The Anasazi Pueblo was 150 miles across the desert; therefore, Anasazi miners must have spent a considerable amount of time in the area based on the amount of turquoise mined and the abundance of "Basketmaker III" pottery found near the springs (Fagan 2003: 310). Turquoise was mined up to twelve feet below the ground and for centuries Mojave turquoise was traded to the east of its source, throughout the Southwest; however, it does not appear that turquoise was traded to the west as evidence of it does not appear in the material cultural of California tribes.

About 1450 B.P., the use of bow and arrow technology spread throughout California's eastern deserts, eventually becoming the dominant hunting technology throughout California. The bow and arrow has many advantages over spears and atlatls and made hunting much more efficient. Bow and arrow technology could have been introduced to California by the Anasazi or by another Great Basin group, during this time. In addition, by 1200 B.P., buff, gray, and brownware pottery, made by Ancestral Pueblo groups and other surrounding tribes of the Lower Colorado River region, entered the Mojave Desert. The trade of technology along with items such as sea shells and steatite objects

probably took place along the Mojave Trail (Fagan 2003:311). Bow and arrow technology is appropriate, however, only if larger animals that can be hunted that way are available for the taking. Such game was usually unavailable in the valley of the project, but would have been more useful in the project area of analysis as there was larger game in the Cady Mountains and around the pluvial lakes or short-term water holes in the old lake beds.

Other tribes in the region included the Mohave, who lived along both the east and west banks of the Colorado River. During the winter, they inhabited semi-subterranean houses and depended upon maize agriculture for subsistence (Kroeber 1902; 1925). Throughout the rest of the year, they were a hunting and gathering group, often traveling west far into the Mojave Desert. The Mohave traveled throughout southern California and northern Arizona utilizing a large network of trails (King and Casebier 1976:281). Two major geographical features influenced the Mohave's trade routes: the location of their villages along the Colorado River, and the waterless portions of the desert, also known as the Mojave Sink or Mojave Trough. Two major trade routes were used which started at villages along the Colorado River. The first route was the Pah-Ute Creek to Soda Springs route, which later became known as the Mojave Road wagon train. The other route ran south of the Mojave Road route through Poshay Pass and the Mojave River floodplain to the southeast corner of Soda Lake. The more northern route, the Mojave Road, was more heavily used, both prehistorically and in more recent historic times by Native Americans and European and American settlers alike (King and Casebier 1976:282).

Although the Mohave lived southeast of the project area, they potentially exercised a great amount of influence over the Mojave Desert region. They were skilled traders and traveled long distances to either fight or trade with other groups (Fagan 2003:297). Their movement across the southwest promoted the spread of new technologies, beliefs, and ideas throughout the desert and southwestern regions. These Mohave transhumant patterns may have may have facilitated the knowledge, introduction, and sharing of arid lands water management techniques in the form of fields of rock piles to the project area of analysis and the broader desert region.

The Mohave were divided into three localities occupied by three named sub-groups. These include the northern Matha lyathum, who lived from Black Canyon to the Mojave Valley; the central Hutto-pah, who occupied the central Mojave Valley; and the Kavi lyathum who inhabited the area between the southern Mojave Valley and the Needles Peaks to the south. The Mohave have retained legal title to the majority of their aboriginal territory in the form of the Fort Mojave and Colorado River Indian Reservations and currently number approximately 2,900 (Tsosie 1997). Ancestors of the Mohave probably lived along the Colorado River for most of the past 1,000 years. Archaeological excavations have revealed little change in local material culture since A.D. 1100 (Tsosie 1997).

The Mohave practiced floodwater agriculture, growing corn, beans, and curcurbits in the wake of the Colorado's annual overflow. They hunted small game and gathered several varieties of wild plants, the most important of which was the honey mesquite bean and screwbean mesquite bean (Tsosie 1997). The Mohave people were great swimmers and, although much of their livelihood depended on the river, they never developed any great use for boats. Fish were an important source of food and were procured using drag and dip nets, as well as basketry scoops of willow. Weirs, sieves, bow and arrow, and occasionally willow poles and cactus-spine hooks were also used (Stewart 1983).

Traditionally, the Mohave formed pottery out of clay mixed with crushed sandstone harvested from the banks of the river. The clay was coiled, dried, painted, and fired in open pits or kilns. In addition

to the geometrically painted utilitarian items (pots, bowls, ladles, and dishes) the women made pottery dolls for their children who dressed and decorated them to resemble people. The Mojave were expert basket makers and also produced a variety of projectile points. Their lithic industry also included knives, scrapers, choppers, and hammer stones (Smith 1977). They lived in large rancheria style settlements scattered up and down the river, rather than in compact villages. Houses were each separated by 100 or more meters. Their houses were low, semi-subterranean, rectangular structures constructed with cottonwood frames, slatted with arrow-weed wattle and daub and covered with earth (Stewart 1983; Moratto 2004).

The Mohave people claim the Mojave and Colorado River Valleys as ancestral homelands. They were hostile to many of their neighbors, with the exception of the Quechan, with whom they formed an alliance. This alliance was so fearsomely regarded that the Halyikwamai, Kachwan, Halchidhoma, Kavelchadom, and Maricopa tribes formed their own union to parry constant badgering (Stewart 1983). Rather than defending localized villages with skirmishes and raids, the Mohave tended more toward a military spirit, and unified to carry out military conquests against groups hundreds of miles distant (Moratto 2004; Kroeber 1925).

Warriors received their power during “great dreams,” which bestowed skill, as well as responsibilities to be carried out during wartime. These dreams also conveyed a pecking order within warrior groups necessary to organize effective assaults. The Mohave arsenal included non-tipped arrows made from arrow weed, and hardwood clubs. The clubs, which often had mallet-shaped heads, were commonly wielded and did the most damage. On certain occasions, scalps were procured by a special warrior whose status had also been conferred by a dream (Stewart 1983).

Although the Mohave recognized skilled leaders within each community, sociopolitical offices rarely exacted authoritative control. In spite of an informal social organization free from strict hierarchic structure, the Mohave exhibited the peculiar ability to unify as a nation, when necessary.

> They think in terms of themselves as a national entity. … They think also of their land as a country, and of its numberless places. They do not think of its settlements. Where a man is born or lives is like the circumstance of a street number among ourselves, not part of the fabric of his career. The man stands in relation to the group as a whole, and this group owns a certain tract rich in associations; but the village does not enter into the scheme (Kroeber 1925: 727).

European contact with the Mohave first occurred in 1775, at which time Father Francisco Garcés recorded a friendly encounter during his sojourn from Sonora, Mexico to Monterey, California. Jedediah Smith was the first American to pass through the area. This occurred in 1827, during a trek in which he appraised the trapping potential of the region south and west of Salt Lake. He followed a southerly route along the Colorado River from its confluence with the Virgin River, until reaching Mohave territory. Smith’s interactions with the Mohave were cordial for the most part, and he departed their territory for the Pacific without incident (Tsosie 1997). Subsequent encounters with Americans, however, were not always so benign. The Mohave, who had earned fierce reputations in wars with their aboriginal neighbors, occasionally took exception to wanton passages across their territory by white immigrants and explorers. They penalized irreverent invaders by conducting raids on their encampments (Tsosie 1997). This culminated in what the Mohave call the “bitterness road.”

In 1857, the United States War Department ordered Edward Fitzgerald Beale to secure military access for excursions through the desert. Hordes of immigrants followed the new route, and were commonly

greeted with violence from the Mohave. The United States responded by establishing Fort Mojave on the Colorado near Beale's Crossing. Lieutenant Colonel William Hoffman subdued the Mohave using overwhelming military force (Sherer 1994). In 1865, the U.S. government set aside 75,000 acres as the Colorado River Indian Reservation and ordered the Mohave to relocate. Only a small percentage complied, while the majority of the tribe remained in the Mojave Valley. Although they still occupy non-contiguous areas along the river, the groups retain a strong sense of cultural unity. In 1890, the U.S. government forced the Mohave into a compulsory education system centered at Fort Mojave.

3.3 HISTORICAL OVERVIEW

3.3.1 Spanish Period

The historic period in California began with the establishment of Spanish Colonial military outposts, the first of which was Mission San Diego de Alcalá, built in 1769 (McDowell 2005). The current project occupies land that, during the Spanish era, was administered by Mission San Gabriel Arcangel. Mission San Gabriel was established by Franciscan fathers in the San Gabriel Valley in 1771. The fathers also set up 27 outlying *estancias* (ranchos) to supply the mission with meat, hay, grain, vegetables, and fruits (Wright 1992). The Valley of San Bernardino was visited and determined to be an excellent location to establish some of these outposts.

3.3.2 Rancho Period

The Decree of Secularization passed in 1834 and ended the Mission period in California (McDowell 2005). The following years were marked by the proliferation of cattle ranching throughout the region, as the Mexican Governor granted vast tracts of land to Mexican (and some American) settlers. The mission lands were then opened for grants by the Mexican government to citizens who would colonize the area and develop the land, generally for grazing cattle and sheep. Due to the natural flow of water from the various canyons, all the ranchos in the area were located on the north hills of the Pass (Lech 2004:37–38). However, many new settlers entered into the Pass and simply squatted on the old Spanish land, hoping to be granted a part of the property.

3.3.3 American Period

Following the signing of the Treaty of Guadalupe Hildago in 1848, the United States took possession of California. The treaty bound the United States to honor the legitimate land claims of Mexican citizens residing in captured territories. The Land Act of 1851 established a board of Land Commissioners to review these records and adjudicate claims and charged the Surveyor General with surveying confirmed land grants. In order to investigate and confirm titles in California, American officials acquired the provincial records of the Spanish and Mexican governments, located in Monterey. Those records, most of which were transferred to the U. S. Surveyor General's Office in San Francisco, included land deeds and sketch maps (Gutierrez et al. 1998).

From 1852 to 1856, a board of Land Commissioners determined the validity of grant claims. Rejected land claims reverted the land to the public domain, and the land then became fair game for squatters. Ranch titles represented little as collateral. Although the claims of some owners were eventually substantiated, many of the owners lost their lands through bankruptcy or the inability to meet the

exorbitant interest on their legal debts (Atkinson 1933). Many of the original rancho owners eventually lost their land to the United States. Unsurveyed land boundaries created a loophole through which squatters could occupy plots on the fringes of land grants and eventually come to own those plots through squatters' rights (Gutierrez et al. 1998).

Needles. The City of Needles, named for the needle-like peaks 15 miles south of town, was founded in 1883 to accommodate the new alignment of the Santa Fe Railroad (Gudde 1998). The railroad represented the earliest westward rail crossing of the Mojave Desert (Robinson 2005). It helped furnish California with immigrants and goods, and formed a vital crossroads with the Colorado River inside the city limits. The first train station burned to the ground in the early part of the 20th century, giving way to the new El Garces Train Depot, which opened in 1908. The depot was named after Father Francisco Garcés, who crossed the Mojave and the Needles area during his 1776 sojourn to the Colorado River (Weiser 2004). A fine hotel-restaurant was connected to the train depot. Named for proprietor Fred Harvey, the so called Harvey House became one of the City's main attractions. It was the most extravagant of many similar establishments Mr. Harvey opened along the Santa Fe Line, but its days were numbered. As the automobile became the preferred mode of transportation, the Old National Trails Highway became an important route through the desert, largely supplanting passenger train travel, and forcing the 1949 closure of the Harvey House. Eventually the Old National Trails Highway became linked with others to form U.S. Route 66 (Route 66), connecting Chicago, Illinois, to Santa Monica, California (Gudde 1998).

By the 1930s, Route 66 had become a vital transportation artery enabling Midwesterners fleeing the dustbowl to seek work out west. The automobile's growing popularity came at the expense of passenger rail travel. As a result, the Santa Fe Line's routes began to cater almost exclusively to cargo transport. During the 1950s, several dams constructed along the Colorado River made modern agriculture possible, providing a new industry for Needles (Weiser 2004). By the early 1960s, Interstate 40 replaced Route 66 and helped keep the City's main industries of farming, cargo railroad, and tourism alive.

CHAPTER 4.0: PROJECT METHODOLOGY

4.1 COMPLIANCE WITH THE SCOPE OF WORK

This section summarizes LSA's compliance with the scope of work from the IEEP for an EA and Technical Studies for Cultural and Paleontological Resources Assessments for commercial filming in the Barstow Resource Area on lands managed by the BLM public lands in San Bernardino County, California. The scope was organized to reflect LSA's project approach and strategy to conduct technical studies and is described below.

This report summarizes LSA's completion of the cultural and paleontological resources tasks contained in the RFP that focus on the resources within the 5 of the 6 areas identified in Table A as being of interest for film making in the Barstow area of the BLM. It was recommended that the sixth area (Lucerne Dry Lake) be omitted because of arsenic leaching from the mine tailings. LSA consulted with the BLM Barstow field office to determine whether a Class I cultural resources inventory would still required for the Lucerne Dry Lake area and LSA was instructed by Jim Shearer and Larry Blaine to omit this location from the Class I inventory since filming would not take place there because of the contamination issues. Because of the multi-location nature of the project and the varied status of completion of previous studies and their acceptance or pending acceptance by the appropriate BLM officials, LSA developed a number of project stipulations, some of a general nature to the project and others specific to a particular discipline. Those stipulations that are pertinent to the cultural and paleontological resources investigations presented in this report are summarized after this scope of work.

Table A: Required Tasks in Specific Project Areas

Barstow Resource Area (SC Part 1)	Task Completed by BLM for Cultural/Paleontological	Task Requested
1. Sawtooth Canyon	N/A	Class I inventory and Class III intensive pedestrian survey for cultural resources required. Paleontological field studies may be required.
2. Afton Canyon	N/A	Class I inventory and Class III intensive pedestrian survey for cultural resources required. Paleontological field studies may be required.
3. Portions of Mule Canyon	N/A	Class I inventory and Class III intensive pedestrian survey for cultural resources required. Paleontological field studies may be required.
4. Stoddard Valley	Partial paleontological field studies completed.	Class I inventory and Class III intensive pedestrian survey for cultural resources required. Additional paleontological field studies may be required.

Table A: Required Tasks in Specific Project Areas

Barstow Resource Area (SC Part 1)	Task Completed by BLM for Cultural/Paleontological	Task Requested
5. Rasor OHV Areas	Partial paleontological field studies completed.	Class I inventory and Class III intensive pedestrian survey for cultural resources required. Additional paleontological field studies may be required.
6. Portions of Odessa Canyon	Partial surveys completed. Odessa Canyon has had a recent Class I inventory and Class III intensive pedestrian survey by the Barstow Field Office; no further cultural resources investigation is necessary.	Additional field studies work for paleontological field studies may be required.

4.2 CULTURAL RESOURCES

4.2.1 Class I Inventory

LSA performed Class I Inventory (regional) overviews of the Stoddard, Mule and Odessa Canyons, Sawtooth Canyon, and Afton Canyon/Rasor OHV areas in the Barstow Resource Area. To complete this task, LSA compiled and analyzed all reasonably available cultural resource data and literature. Data were synthesized resulting in a management focused, interpretive, narrative overview. Existing cultural resources, the study area environment, the status of past field studies and research, recorded sites and their National Register status were addressed. Additionally, important research, domains, regional research questions, and treatment options were defined. Data were collected from published and unpublished sources, BLM records (including available site files), institutional sources, and California and National Registers.

LSA conducted records searches as necessary through the California Historical Resources Information System (CHRIS) and at the San Bernardino Archaeological Information Center (SBAIC), located at the San Bernardino County Museum, Redlands. Comprehensive synthesis by LSA of all extant cultural resource data resulted in the depiction of human presence in the study area from the Late Pleistocene to the present. Sacred sites and other places of traditional cultural or religious importance were identified and discussed employing National Register Bulletin No. 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (King 1990; Revised 1992 and 1998).

A Class I inventory report was developed and the required overview has been written in accordance with BLM Manual 8110 – *Identifying and Evaluating Cultural Resources* (Section .2, Gathering Cultural Resources Information [Class I – Existing Information Inventory]). The results of the Class I inventory were incorporated into the background material for the Class III Intensive Survey report. The purpose of the Class I Inventory is to provide cultural resource specialists and managers an informed basis for understanding the study area in terms of:

- Range of variety, known extent and probable (potential) importance of cultural resources;
- Natural setting;

- Potential land use issues at cultural resources locations;
- Areas where surface surveys are needed; and
- Human uses of the land through time and how they apply to decision-making regarding proposed land use.

Per BLM, Manual 8110 (.2.21A.2., Regional Overview), the narrative overview includes a discussion of study area orientation, environmental factors (geographic system of the study area), prior cultural resource investigations and research, cultural resource narrative (including cultural setting), synthesis of all available cultural resource data, management classification of resources to facilitate evaluation, and management options (including research directions). The report includes an abstract, management summary, bibliography and supporting documentation, and compilation of data (including maps, forms, and the Part II report). Additionally, per Section .2.21A.4 (Reason for Detailed Class I Direction), a Class I Inventory is an important tool for the field office manager for decision-making and cultural resource management.

LSA coordinated with the BLM to establish what record search information was on file at the BLM and this information was provided to LSA. In addition, LSA expended three person-days at the SBAIC to fill the gaps between existing data on file at the BLM and the SBAIC.

4.2.2 Class III Intensive Field Survey

Prioritization/Strategy for the Class III Intensive Field Survey. Upon completion of the records search and the preparation of the Class I Inventory (BLM 2004), LSA coordinated with the BLM Barstow field office and with the Inland Empire Film Commission (IEFC) to prioritize the areas for the Class III Intensive Survey. LSA/BLM developed the APE for each proposed film location. LSA stipulated that not all areas could be surveyed for the available funding and that a priority ranking including the locations in the Barstow and Needles Resource Areas totaling a maximum of 1,500 acres and acceptable to both the BLM and the IEFC must be agreed upon before the pedestrian survey was initiated. LSA also stipulated (C-2) that a combined maximum of no more 30 new cultural resources and 10 previously recorded cultural resources would be located. However, as noted in the Management section of this report, it was indicated that LSA, in cooperation with the BLM, managed to survey a total of 104,605 acres.

Field Survey. LSA is familiar with the BLM Manual 8110, Section .2.21C that mandates thorough survey coverage consistent with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 FR44716, September 29, 1983) in order to locate and record all historic properties including property (resource) distribution, quantities, condition, physical extent, and resource types and classification.

All cultural resources with physical surface manifestations in the five project APES in the Barstow region were identified. In accordance with Section .2.21C.3, a total inventory and complete record were completed to a level where no further surface surveys were necessary. Based on the guidance in the BLM Manual 8110, Section .2.21C, LSA conducted a Class III intensive field survey of transects at 15-meter intervals.

Documentation of Cultural Resources. LSA was tasked to record up to 30 new cultural resources and, as required, update up to 10 previously recorded cultural resources, on Department of Parks and Recreation (DPR 523 Series) Primary and appropriate supplemental forms, such as Archaeological Site Record, Rock Art, Linear Feature, Milling Station, and any other forms as warranted by the resource. LSA noted the current condition of each site and any potential threats/impacts to the observed cultural resources. State Trinomial and Primary numbers will be provided on the final set of DPR site forms.

Within the 40 cultural resources limit, LSA was tasked to record all cultural resources entirely or partially within the APE defined for the five designated areas, including isolated finds, prehistoric and historic sites, historic structures, potential traditional cultural properties (TCPs), and places important in past human events. Historic sites are defined as being 45 years or older, including transmission lines, irrigation features, roads, trails, and railroads. Dirt roads or trails that were historic in age were only documented if there was a clear association with an important event or person. Only that segment of a road or trail that was within the APE was recorded.

LSA used a mapping grade GPS unit (+ or – 3-meter accuracy) to determine Universal Transverse Mercator (UTM) location information for each site, its features, and significant artifacts. The location information was collected in accordance with BLM GIS guidelines. GPS data were incorporated into the BLM GIS cultural resources geodatabase in accordance with the BLM 8100 Manual Guidance, as stated in BLM National and California Permit Stipulations (C-5).

The original field strategy proposed by LSA was to complete the field survey and the recordation of cultural resources simultaneously; however, when it became clear that the recordation of cultural resources was going to be very limited, the BLM agreed to a shift in strategy in which the survey was completed and the recordation was conducted later. The collection of artifacts was not anticipated and none was collected. LSA was tasked to document the condition of all previously and newly identified resources and to note observed threats and impacts to the integrity of the resources. LSA had stipulated that a combined maximum of 30 new cultural resources and 10 previously recorded cultural resources would be identified in the areas prioritized for the Class III Intensive Field Survey in the Barstow Resource Area.

LSA's site maps clearly indicate site boundaries, topography, data, and the location of features, diagnostic artifacts, clusters of artifacts, and areas of disturbance. At least one color photograph is included with each site form. All features were photographed and sketched using appropriate scales.

4.2.3 Class Iii Intensive Field Survey Report

Cultural Resources Eligibility Recommendations. LSA has made recommendations for each previously and newly recorded cultural resource within the Afton/Rasor OHV APE as to whether it would be eligible for inclusion in the National Register. All eligibility recommendations have been based on surface manifestations and integrity of the resource as well as the potential for intact subsurface cultural deposits. LSA has extensive experience applying National Register criteria and has provided a detailed justification for all evaluation decisions. No excavations were included in this scope of work.

Mitigation and Avoidance Recommendations. In the cases where LSA has recommended that a cultural resource is considered eligible, appropriate recommendations have been provided (e.g., redesigning the route of travel or protective capping of the cultural resource) for minimizing, mitigating, or avoiding impacts to these sites during filming activities.

4.3 PALEONTOLOGICAL RESOURCES

Geologic mapping and staff experience indicate that the Barstow area contains older Pleistocene alluvium, late Pleistocene silty soils and playas, and late Pleistocene "lacustrine" groundwater discharge sediments with a high potential to contain significant, nonrenewable paleontological resources.

4.3.1: Records Search

The records search for paleontological resources was initially scheduled to be conducted through the San Bernardino County Museum in Redlands and with the Natural History Museum of Los Angeles County, California. However, when the BLM Barstow Office instructed LSA to omit the paleontological survey from the field survey, the records search was not conducted.

4.3.2: Field Survey

In accordance with the prioritization of areas developed for the Class III Intensive Field Survey for cultural resources, LSA paleontologists were scheduled to conduct a surface survey of as much of the five designated areas as time and funding would permit. However, when the BLM Barstow Office instructed LSA to omit the paleontological survey from the field survey, the field survey was not conducted.

4.3.3: Report

When the BLM Barstow Office instructed LSA to omit the paleontological survey from the field survey, the scoped report was not prepared.

4.4 METHODOLOGICAL AND THEORETICAL ORIENTATION

Research designs provide the structural framework that guide fieldwork and analysis. The research design begins with a discussion of the theoretical and methodological approach.

4.4.1 Theoretical Orientation

The research designs adequate to address the Research Domain questions outlined below are structured in three hierarchical levels. Level 1 is the theoretical premise or paradigm on which the design is based and by which it is guided. Modeling and interpretation of the archaeological record is always based on the partial and disintegrated remnants of material items from past cultures. Because these cultural remnants are usually material in nature, especially at prehistoric sites, and consist of non-perishable artifacts made from stone and clay, one of the basic models of cultural study is

Cultural Materialism. As stated by Harris (1968:659), the premise of Cultural Materialism is to link material culture, as represented by the items in the archaeological record, to the action of human behavior within specific environments. Cultural Materialism is considered here as a basic premise under which other assumptions are encompassed. In the case of the IEEP Filming Activities project, the database is skewed by the arbitrary limits of the APE, which closely follow the canyon bottoms and do not incorporate the adjacent flat areas or ridges above the canyons.

Based on a comparison of the patterns of sites within the IEEP Filming Activities APEs and the site patterns in the region surrounding the APE, it is apparent that particular categories of sites, and the densities of these sites, are not equal inside and beyond the APE. For example, in relation to the project APE and the Afton Canyon area, the historic railroad occupies a route along the edge of the canyon bottom, while there are no railroad traces in the adjacent higher elevations.

Level 2 within this research design presents a set of domains relating to human behavior, structured in terms of the assumptions embedded in the Level 1 paradigm (Cultural Materialism). At Level 2, those domains that can be further explored are identified, given the constraints of the project and the nature of the data. In recent LSA studies (cf. Mesquite Regional Landfill [Lange 2006], McSweeny Farms [McLean et al. 2005, Duke 2006], Mid County Parkway [MCP; Delu 2007], Ocotillo Sol Sub-Station [Lange and Smith 2010]), just as in the IEEP Filming Activities study, domains include settlement patterns, chronology, site structure, site function, subsistence, site formation processes, trade and exchange, ritual and ceremony, and gendered behavior. These domains form the processual basis for research questions asked at the subsequent level of the research design.

Level 3 deals with the implementation of the research design and addresses how questions relating to the sites and past human behavior can be answered. This portion of the research design considers specific research questions and determines how these questions could be addressed by data collection or extraction techniques and specialized analyses. Mid-range archaeological theory attempts to link more general research domains with specific testable hypotheses. This portion of the research design presents a framework by which to analyze and assess archaeological material after its recovery from a cultural deposit. In the past 40 years, two archaeological theories both used for this purpose have emerged: (1) systems analysis and (2) archaeological patterning.

The systemic approach, as formulated by Binford (1980), seeks to identify differences in external organization of formally differentiated elements present in the archaeological record in order to understand the dynamics of the cultural adaptation system from which the elements originated. Aside from understanding this theory as a view of an adaptation system, the key to understanding this approach is to identify the relationship of the elements, which in this case are the archaeological items and possibly less easily identifiable characteristics such as spatial relationships among the elements. Since the systemic approach requires equal emphasis on all components of the system, it is not the most appropriate theoretical base for the study of areas with arbitrary boundaries such as the five APEs for the IEEP Filming Activities Project.

The theory of archaeological patterning is more easily applied to the IEEP Filming Activities Project sites. Archaeological patterning has been discussed by Schiffer (1972, 1976) and also by Binford (1972), who generally concurs concerning this theory. More simplistic than the previously described cultural systems approach (Binford 1980), archaeological patterning employs the theoretical perspective that culture groups produce cultural material that, when deposited at a site, leaves evidence for patterns of social behavior. Where Binford and Schiffer disagree about archaeological

patterning is in relation to the degree of correlation between these behaviors and the physical deposition, curation, recovery, analysis, and interpretation of cultural material from a given cultural deposit.

The degree of post-depositional disturbance to archaeological materials has led Schiffer (1972, 1976:12) to doubt the direct relationship between cultural groups and the resulting deposits. Schiffer believes that, due to intervening disturbances such as bioturbation, moderate and heavy erosion, and the cultural recycling of surface materials, the relationship between human behavior and the resulting artifacts recovered from archaeological sites is seldom direct. Most importantly, in the case of project APEs such the IEEP Filming Activities Project, archaeological patterns can also be studied as subsets of a cultural system, when all components of the system are not available. Schiffer (1976:12) suggests that archaeological remains are a distorted projection of past behavioral systems. This concept seems to hold true even outside of the constraints of a survey areas with arbitrary boundaries that do not coincide with any natural area. However, Schiffer (1976:12) also writes "because the cultural and non-cultural processes responsible for these distortions are regular, there are systematic (but seldom direct) relationships between archaeological remains and past cultural systems."

Thus, the theory of archaeological patterning postulates that past cultural behavior will have left identifiable patterns in the archaeological record. This theoretical orientation can be used to form the basis for discussions of research domains, goals, and questions raised in the archaeological literature, as well as assist with the development of specific research questions and testable hypotheses that can form the basis for methodological orientation, analysis, and interpretation of cultural material recovered from sites.

4.5 RESEARCH DOMAINS

The regional context for the project area has been updated by Sutton et al. (2007) and Schaefer and Laylander (2006). Two focused themes that follow through from the Cultural Resources Overview (von Till Warren 1981) to the more recent regional summaries are (1) the human adaption to the arid Colorado Desert through time and (2) the human adaptation to the changing levels of ancient dry lakes. As noted previously, the interrelated push-pull and Ancient Lake Cahuilla Interaction Sphere concepts (Lange 2010) have been applied to Ancient Lake Cahuilla region research and the reach of the interaction sphere certainly included portions of the Mojave Desert. The previous studies provided the background for the development of the following research domains for the project research methodology and analysis.

4.5.1 Settlement Patterns

Settlement pattern is the term used for a spatially ordered system of land use; depending on the subsistence base of a given group and its relations with neighbors, local environmental variables, plus historical factors, people use and leave patterned distributions on their landscape (Hester et al. 1997). Settlement patterns are similar to site structure and function as described below, but on an intersite rather than intrasite scale. Settlement patterns are, thus, based upon the relationship between sites rather than the relationship between factors within one site. Recognition of settlement patterns in the archaeological record is difficult and is being constantly reconsidered and reexamined (Willey 1953; Thomas 1983; Kelly 1985; Shackley 1987; Kelly and Todd 1988; Parr and Sutton 1991), with the

increased use over the past decade of GIS as a tool in spatial analysis. In the California Desert, the seasonal and few permanent bodies of water were magnets for settlement. In the Filming Activities study, GIS was used to look at the distribution of archaeological sites included in the Class III intensive field study, relative to available information on surrounding site types, landform, soil type, water proximity, vegetation cover, and naturally occurring resources such as source outcrops for tool stone. The use of GIS facilitates the definition of the relationships among known sites within their environmental context and their spatial relationships to particular resources.

With adequate storable resources, such as mesquite beans, or piñon nuts or acorns, the collector strategy may have utilized seeds during the fall and winter months and focused on other resources during the remainder of the year.

Studies of other hunter-gatherer/optimum forager peoples have demonstrated that group membership is not stable from season to season and even less so from year to year (McGuire and Hildebrandt 2004; Lange 1980). As we imagine native groups exploiting the diverse and dispersed resources of the project area (and beyond), we may need to visualize habitational groups with fluid memberships, and, thus, with different residual settlement patterns than that would be left by a more traditionally conceived “family” or “clan.”

Using recent models of human settlement behavior, it may be possible to discern similarities between the current IEEP Filming Activities APE and nearby areas. The theory of Resource Intensification was first formulated by Wallace (1955) as a shift along the coast of southern California from earlier gathering and processing of the Milling Stone Period to the more diversified subsistence of the Intermediate Period. The theory was formally proposed by Raab (1996:66) who stated that this trend shows two hallmarks: (1) the addition of increasingly “marginal” food species to the diet; and (2) increasing investments in the technologies required to exploit the new food items in a cost-effective manner. Resource Intensification theory describes an increased reliance over time on small, often difficult-to-gather and/or process foods. Such intensification may result from population growth, environmental change, or both, and is appropriate to the study of arid areas.

Previous research in Afton Canyon (Schneider 1989), the Central Mojave and Colorado Desert Regions (Gallegos 1980), and the Owlshead/Armagosa Mojave Basin Planning Units (Brooks et al 1981) have provided additional background.

4.5.2 Chronology

Site chronology issues are of basic importance in the framework of archaeological research and interpretation. Understanding the chronology of sites within the proposed IEEP Filming Activities project APE is fundamental to examining questions of cultural process and diachronic change in cultural patterns. Precision and accuracy of age determinations are critical to the analytical strategies and research objectives, since the dating of site occupation and the accompanying artifacts and ecofacts provides the baseline by which all other research topics are addressed.

There are two kinds of dating, or chronometric control, utilized in archaeology: relative and absolute. Prior to 1948 and the archaeological revolution sparked by the application of radiocarbon dating to archaeological contexts, the only absolute chronometric method available was dendrochronology, or tree-ring dating. Thus, prior to 1948, all chronological ordering of sites was based on relative dating

(also referred to as cross-dating). Since 1948, radiocarbon measurements have gradually accumulated for Southern California, but they are still limited in number when compared with the number of dates from many other cultural areas. Obsidian is also used for absolute dating in Southern California, although it occurs with limited frequency.

Southern California archaeology, and specifically that of the project area, is heavily dependent on relative and cross-dating and has only a limited number of contexts with absolute dates attributable to temporally diagnostic artifacts. In the case of the IEEP Filming Activities project, projectile points and various ceramic types are essential elements in the cross-dating process for prehistoric contexts, while amethyst glass, nails, and distinctive metal can manufacturing techniques are fundamental for dating historic contexts. The need to improve chronological control as rapidly as possible is exemplified by Rockman and Lerch's statement (2005:8.2) that "… the record of human occupation … has great time-depth, and has the potential to provide information not only about site-specific activities, but also about long-term human responses to environmental, social, and technological changes." The understanding and interpretation of responses and changes cannot be improved without better chronological control, first absolute and then leading to better use of relative and cross-dating.

4.5.3 Site Structure

Once a site has been located and an attempt has been made to place it in a chronological context, its structure and function can be addressed. Structure and function relate to the spatial manner in which a site was occupied and utilized, both horizontally and vertically, and provide the intra-site context for subsistence and other categories of data. Archaeological patterns of social behavior may be identified through the remains of material discovered at the sites, and this patterning may help to provide information concerning site structure and function. It must be noted that archaeological remains are a distorted and partial remnant of past human behavior. Much of what was discarded in both antiquity and historically was not only broken and fragmented but it may be completely missing, eroded away, or disintegrated over the millennia. What is found during survey and excavation is always only a fragment of what originally existed at the site.

The structure and function of all sites revisited and those that are newly recorded will be considered within the regional context. Site structure will be assessed by identifying site size and the existence of visible features. By considering the use wear patterns of what is found at the site, it should be possible to develop ideas concerning site function. For example, at a site that is thought to be a lithic quarry site, if there is an abundance of flaked stone lithic material without visible edge-wear recovered, then the data may help to reinforce the designation of the site type as a lithic quarry. Metates, on the other hand, may indicate the prehistoric function of food processing.

4.5.4 Subsistence

Through time, the consensus view of subsistence in the California Desert has changed to a more generally known pattern of hunters and gatherers, where vegetal resources were used in the amounts that were available by direct access in particular locations, or by moving to areas for direct access. The basis of the subsistence pattern is the vegetal resources that required a minimum of preparation (in comparison with the intensive processing required by acorns) (Basgall 2004). The animal component of the diet was apparently from small animals, with a minimum of large animal hunting.

An effort will also be made to use all cultural materials, artifacts, and ecofacts to determine subsistence base at each site. At grinding station or chipping station sites, this may be difficult to identify, although, in general, it is thought that milling sites are the remnant of primarily plant food processing (Basgall 2004) and, in the desert, a technology similar to seed processing in the mountains and valleys was utilized to process mesquite beans. Nonetheless, an attempt to locate and identify all cultural material from a site will be made, so that the full spectrum of site use can be identified. For instance, if unifacial flake scrapers are found to the exclusion of any other formal tool type, then analysis at the site will be directed toward discovering the use of the unifacial flake tools. At food processing sites, the same effort will be made using those artifacts, ecofacts, and features that are encountered.

4.5.5 Site Formation Processes

Closely related to the research domains of site structure and function, site formation processes consist of the various forces that create archaeological deposits at a particular location, primarily erosion and deposition. Many materials are preserved when protected from the weathering effects of ultraviolet sunlight and from the eroding qualities of wind and rain. Desert pavement matures with time and over thousands of years to create an impenetrable barrier to the extent that in situ cultural material is assumed not to occur below it. In other areas, windblown or waterborne sediment creates a depositional environment that tends to bury surface material over time. In other areas, wind, rain, or other mechanisms can create either a deflationary or depositional environment that removes or adds surface sediment and tends to lower or increase the ground surface over time. In deflationary settings, archaeological remnants are typically situated atop the ground surface, with any original stratigraphic organization completely compacted. In a depositional environment, on the other hand, cultural material will be buried. It is possible that a site can be located in a depositional environment near the edge of a drainage that is eroding into the site and, thus, the environment is both adding and removing sediment. Many of the site formation processes are combined into the study of the geomorphology of a site. The determination of whether or not a certain locale is in a depositional or erosional environment is of paramount importance in determining if an archaeological site has the potential to contain valuable information.

It has been shown that complex formation processes at sites can transform material formally, spatially, quantitatively, and relationally, and will create patterns in the archaeological record that are unrelated to past human behavior (Schiffer 1987:11; Grenda 1997:141). Some of the more problematic sets of formation processes are those that mix the deposits, such as flood episodes and resulting erosion, bioturbation, and varying rates of sedimentation. These factors homogenize and blur distinctions in the stratigraphic profile, the result of which is a mixed deposit that is stratigraphically indistinct.

4.5.6 Trade and Exchange

The protohistoric and historic record for southern California indicates that seasonally cyclical and geographically dispersed foodstuff were perhaps the principal commodities in prehistoric and historic trade and exchange networks. This domain overlaps with the previously described subsistence domain (4.5.4). In addition, lithic materials utilized for both hunting and grinding were both obtained locally

and through regional trade networks. An effort will also be made to use all cultural materials, artifacts, and ecofacts to determine trade and exchange activities at each site.

4.5.7 Ritual and Ceremony

In cultures throughout the world, from birth to death, people's lives are surrounded by ritual and ceremony. Specific rites vary by age and gender, and a good portion of the prayers, songs, and chants that were created (or adapted) on a cyclical or as-needed basis have been lost forever from pre-literate or non-literate societies. Birth, coming of age, and death associated rituals and ceremonies are the most common rituals conducted universally, regardless of cultural affiliation. Archaeology can contribute to the understanding of the importance of ritual and ceremony in the lives of the native peoples who inhabited the region that the project crosses. Ephemeral personal ceremonies such as those related to the exploitation of particular resources may leave no archaeological traces.

4.5.8 Gendered Behavior

When gender studies became more popular in archaeology approximately two decades ago, the initial efforts were to "catch-up" for lost time and to emphasize the need to pay more attention to feminine presence and behavior in the archaeological record (Joyce and Claassen 1997). With the passage of time, the use of the term "gender" has become more broadly applied to both male and female behaviors in the archaeological record. The study of gender and archaeology has matured to trying to distinguish between behaviors performed by the different genders, or to identify behaviors in which gender assignment was fluid, or not possible to characterize at all.

Studies citing the relationship of gender with specific tools are not common for the project area, although gender-related information for prehistoric California exists as a whole (Kroeber and Barrett 1960:95; Wallace 1978). Willoughby (1963) and Koerper et al. (2002:27–28) state that activities performed primarily by men included those that used tools such as projectile points, fishhooks, cores, flakers (flint-knappers), and biface preforms, while female activities included those that used tools such as ground stone and awls. Koerper et al. (2002:28) state that the Late Holocene Period specialized activity sites appear to be gender-related activity areas, most of which contain projectile points, biface preforms, and cores. A second type of gender-based activity area, thought to have been used by women, contained ground stone tools and angular hammerstones and abraders used to maintain the ground stone. Projectile points, biface preforms, and cores are entirely absent at these small specialized activity sites. As McGuire and Hildebrandt (2004:41-59) pointed out, however, the gender association of a particular class of artifacts may change through time.

The Gendered Behaviors domain is the appropriate summary domain for this research design. Gendered Behavior plays a role in all of the other seven domains presented here. As alluded to in the discussion of Subsistence Base domain, there are traditional views of gender roles; however, the very limited ethnographic data suggest that the reality is quite different from the "men did this, women did that" model. The existing assumptions need to be reevaluated with fresh analyses of site loci and artifact complexes. For example, bedrock milling (both slick isolates and complexes) needs to be more closely examined as possible gender-specific loci and co-gender loci. Admittedly, there are few solid data in hand at the moment that speak to gendered behavior, but if we do not begin asking the questions and tailoring our research, testing, and data recovery toward the study of gendered behaviors, we will never improve our understanding of the topic.

4.6 ANTICIPATED SITE AND ARTIFACT TYPES

Based on previous studies in the Mojave Desert, the following descriptive site types and artifact classes were anticipated during the Class III Inventory, although not all were found.

- **Isolate.** A small number of artifacts (3 or fewer) that are not part of a feature or a locus, or a single artifact or object that is now fragmented into several pieces (e.g., multiple ceramic sherds from a single vessel [e.g., pot drop]).
- **Isolated Feature.** Isolated features occur in the project APE. USGS markers are a good example of an isolated feature (unless there is an associated surveyors' camp site), in which case the feature may better be classified as a single-use location (see below). Individual rock features, historic and prehistoric cairns, and fire rings are other examples of isolated features.
- **Artifact Scatter.** This type of site contains a light surface scatter of artifacts such as cores, bifaces, ground stone or milling tools, ceramic sherds, and debitage. Artifact scatters may represent short-term resting areas, lithic reduction stations, or other special-purpose sites. Ecofacts, such as bone and shell, are not present at sites of this type.
- **Lithic Scatter.** A lithic or flake scatter contains a scatter of only flaked stone artifacts such as cores, lithic debitage, or bifaces that may have been created from one or more distinct lithic reduction episodes. If no subsurface distribution is evident, a lithic scatter is often referred to as a "sparse lithic scatter."
- **Complex Lithic Scatter.** A lithic or flake scatter contains a scatter of only flaked stone tools such as cores, lithic debitage, or bifaces that may have been created from one or more distinct lithic reduction episodes. If the lithic scatter contains multiple finished tools or preforms, as well as flakes and cores it is often referred to as a "complex lithic scatter."
- **Ceramic Scatters.** Similar to sparse lithic scatters but with ceramic instead of lithics. The sherds in ceramic scatters are dispersed rather than clustered and can be attributed to more than one vessel.
- **Complex Ceramic Scatters.** Assemblages of the broken ceramics that appear to represent a kiln site, a pot drop, or whole vessel fragments, or whose sherds appear to contain additional cultural materials, such as carbon residue.
- **Historic.** Historic sites are those with buildings, structures, or artifactual remains of historic activities greater than 45 years old (per Office of Historic Preservation Guidelines [1995]). All of the historic artifacts recorded by the survey were located in trash dumps and there were no structures associated with the historic trash on the project. All other historic artifacts from the project were recorded in three isolate locations.
- **Historic Artifact Scatters.** Trash scatters of historic bottles, cans, crockery, decorative glass, and other elements that are not associated with structural remains or other fixed features.
- **Historic Artifact Complex Scatters.** Trash scatters of historic bottles, cans, crockery, decorative glass, and other elements that are associated with structural remains or other fixed features.
- **Trails.** Various levels of trails include local trails that are limited to individual sites, intermediate trails that connect sites with nearby resource areas, and regional trails that connect sites with other sites and areas.

- **Geoglyphs.** Located in the Yuha Desert on BLM land, the Yuha geoglyphs are an example of intaglios in the vicinity of the APE. The geoglyphs were constructed by scraping away the desert pavement of darkened pebbles to reveal the lighter-colored sediments below. Geoglyph sites may have been used for sacred practices and ceremonies and fall under the Native American Heritage Value resource type below.

Of the artifact categories listed above, the survey for the IEEP Filming Activities project recorded four historic resources and one probable prehistoric resource: (1) a historic cemetery, (2) a historic dirt road segment, (3) a historic railroad grade segment, (4) a historic gravel scrape area for the present Union Pacific railroad grade, and (5) a pair of prehistoric water control devices. This final section of the proposed field methodology for the IEEP Filming Activities project summarizes the methodology for recording newly found cultural resources in the project and the methodology for revisiting and documenting previously recorded resources in the APE.

4.6.1 Methodological Orientation

The basis for the field methods is determined by the management goals of the research design: spatial and temporal site delineation, nature and disposition of subsurface artifacts, deposits and features, and data required for the evaluation of the sites for California and/or National Register eligibility. The survey program was developed to reveal the anticipated subsurface resources at specific sites and to account also for cultural isolates, but also to be sufficiently flexible to address unanticipated discoveries.

Record Search. The first step in the IEEP Filming Activities project research was the records search at the SBAIC located at the San Bernardino County Museum in Redlands and the California Historical Resource Information System. All recorded historic and prehistoric archaeological sites were reviewed, as well as pertinent previously performed cultural resource surveys and excavation reports. Additionally, historic aerial photographs and maps were examined. It included the area in a 1-mile radius around the project. Per BLM Manual 8100, all data were considered and discussed in the development of the research design presented later in this report.

Field Survey. The field survey included a total of 104.605 acres. Specific methodology is presented in Sections 4.7.3 and 4.7.4. The field survey was carried out by a team of two LSA archaeologists, both of whom met or exceeded the Secretary of the Interior's standards and who were accompanied by Jim Shearer, Barstow Field Office archaeologist. The field survey was conducted in 15-meter intervals.

Site Documentation. LSA archaeologists have processed the DPR records for newly recorded and re-evaluated sites. This task includes the collection and backup of field data collection units (GPS units and digital cameras). The team had a Trimble global positioning system or similar (GPS) sub-meter unit with project location data and the UTM or GPS data for the previously recorded sites in the APE.

GPS data were downloaded and transmitted to GIS staff for post-processing (e.g., applying differential data correction and converting the data to ESRI/ArcGIS shapefiles). Processing of field

site forms occurred within 45 days from the time the fieldwork was completed. This included processing DPR Primary Records, Archaeological Site Records, Sketch Maps, Location Maps, and other related forms as appropriate. Data quality was checked daily by the Principal Investigator/Field Director to ensure conformance with methodology, agency requirements, and regulatory compliance. GIS data were organized to allow for submission to the BLM according to existing protocols.

4.7 MANAGEMENT AND RESEARCH GOALS

The following management goals have been established:

- Establish the horizontal extent of sites;
- Establish the type and quantity of cultural material found at the site;
- If possible, date all identified site components;
- Assess the physical integrity of each of the sites;
- Develop a preliminary recommendation for each site for eligibility for listing in the National Register; and
- If a site is eligible for the National Register, provide data to assess the potential for effects to the site.

4.7.1 Management Goals

All sites recorded in this Class III Inventory were evaluated according to the criteria for listing in the National Register as discussed below.

National Register of Historic Places. A cultural resource is evaluated for eligibility for listing in the National Register according to four criteria in accordance with 36 CFR Part 60.4. These criteria are discussed in Section 7.1.2 of this report and generally require that the resource be 50 years of age or older and significant at the local, state, or national level.

4.7.2 Research Goals

With the previously described management goals in mind, the following discussion concerns research goals. The overall goal of this research design is to maximize the data potential of each site in order to discover as much as possible concerning the prehistoric and historic inhabitants of the project area and their lifeways. If a site is found to be particularly rich in archaeological data, then this will also help to identify site importance related to the determination of eligibility of the site for listing in the National Register.

The manner by which archaeological material has been recovered and analyzed at each of the 4 newly recorded sites is based on the formulation of research questions associated with the eight research domains. The domains serve to focus research on more project-level research issues (some of which may be enclosed by the artificial boundaries of the APE rather than by the natural boundaries of regional topography) and have been developed in an attempt to identify basic knowledge common to

archaeological research in the Mojave Desert region as well as to resolve data gaps in the archaeological record. As the domains represent different elements of human behavior, they frequently overlap. The eight research domains proposed for this project include Settlement Patterns, Chronology, Site Structure and Function, Site formation Processes, Subsistence Base, Trade and Economic Exchange, Ritual and Ceremony, and Gendered Behaviors. A brief discussion of the anthropological and archaeological components of each domain is presented below, and responses to pertinent research questions for each research domain can be found in the Chapter 6.0 summary of the research.

4.7.3 Newly Found Resources

Recordation of newly found resources was conducted according to the following procedures:

- Upon arrival at a cultural resource, both a hand-drawn site sketch map and a digital site map were created. The electronic site map was recorded on a sub-meter GPS unit. Both the hand-sketched map and the digital map included landform details in addition to site boundary and artifact presence and provenience information. The details of recordation included the following:
    - Once the exterior site boundary had been recorded, both on the site sketch map and the GPS unit, a systematic survey at 3-meter intervals was carried out to identify loci, features, and individual artifacts. These artifacts will be described in the field notes, and labeled and hand-plotted on the sketch maps while in the field. Features and all temporally diagnostic and/or unique artifacts (including all tools or tool fragments) within each of sites were flagged, labeled, mapped, described, and photographed. In addition, individual loci were flagged, labeled, mapped, described, and photographed where documented.
    - Individual artifacts within the site boundary that are not temporally diagnostic or unique (and are not tools or tool fragments) were inventoried and plotted as general densities on the field sketch maps (but not individually mapped by point provenience) by material and type to be included in the overall cultural constituent totals of the DPR 523 Series forms.
    - Each site was recorded with a minimum of four photographs (overview in all cardinal directions). Additional photographs included photographs of selected artifacts and concentrations.
    - All photographs were recorded to the team's photograph log with relevant data including temporary site designation, date, direction, recorder, and subject.
- Particular care was taken not to include non-site areas within the site boundaries.
- Both the sketch map and the digital map was checked and approved by the field director prior to departing the site.

4.7.4 Reassessment of Previously Recorded Sites

LSA planned the reassessment of previously recorded sites according to the following procedures:

- The coordinates for previously recorded sites were loaded into the GPS prior to commencement of fieldwork. Upon arrival at a previously recorded site, the site sketch map was reviewed and, if

available, the electronic version of the site maps was brought up on a Trimble sub-meter GPS unit.

- A comparison was made to ascertain whether the boundaries shown on the sketch maps coincided with current observations. In review of the extant site information, details of reassessment and updated recordation included, when necessary:
    - The presence of features and temporally diagnostic and/or unique artifacts (including all tools and tool fragments) was confirmed.
    - LSA intensively searched for previously identified artifact/feature loci within each previously recorded site.
    - Each site was recorded with a minimum of four photographs (overview in all cardinal directions).
    - All photographs were recorded to the team's photograph log with relevant data including temporary site designation, date, direction, recorder, and subject.
- For cultural resources that were not re-located, DPR update forms not filed. The majority of the previously recorded resources, while inside the 1-mile radius of the survey area, were outside the survey APE.

Only one previously recorded site was re-located during the survey. This was due to two principal factors: (1) the survey was concentrated in the canyon bottoms where the ground surface is subject to annual erosion and deposition, and (2) previous recording of artifact and site locations was not sufficiently precise to permit re-location.

CHAPTER 5.0: RESEARCH RESULTS

This chapter reports the results of the record search and the field data recovered and recorded by the Class III Inventory for the IEEP Filming Activities project. The data recovery and survey summaries focus on both non-portable (sites and features) and portable (prehistoric and historic artifacts) archaeological resources.

5.1 RECORD SEARCH RESULTS

The records search for the project was conducted at the SBAIC located at the San Bernardino County Museum in Redlands and included the area in a one-mile radius around the five project areas. Table B summarizes the previous surveys. Tables C through G list previously recorded resources within the Sawtooth Canyon, Mule and Odessa Canyons, Sperry Wash and Hollywood Canyon, Stoddard OHV, and Afton/Rasor OHV APEs, respectively.

Table B: Summary of the Previous Surveys

Location	Surveys	Resources
Mule/Odessa	10	39
Afton/Razor	23	43
Sawtooth Canyon	8	5
Sperry Wash/Hollywood Canyons	10	39
Stoddard OHV	34	188
TOTAL	85	314

Table C: Previously Recorded Resources within the Sawtooth Canyon APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
Stoddard Wells Quadrangle			
1061003-on SV2642	36-61204	Axe-Isolate	Historic
1061002-on SV2642	P1562-1	Rock Shelter-Site	Prehistoric
1061002	CA-SBR-3554	Rock Shelter-Site	Prehistoric
West Ord Mountain Quadrangle			
1061003-on SV7315	36-61198	Flake-Isolate	Prehistoric
1060701-on OM6640/OM7321	36-61196	Metate-Isolate	Prehistoric
1061002-on SV7315			
1062399-on OM6640			

Table D: Previously Recorded Resources within the Mule and Odessa Canyon APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
Nebo Quadrangle			
1061168-on CM7179	CA-SBR-10896H	Historic Road	Historic
1061208-on CM7179	CA-SBR-10897H	Historic Road	Historic
1061209-on CM7179	CA-SBR-10895H	Historic Road	Historic
1060963-on CM7612, CM7179, OM7610	CA-SBR-10898H	Historic Road	Historic
1062999-CM7609, CM7607	36-64540	Unknown	
1061710	36-64541	Unknown	
1062481	CA-SBR-4101H	Refuse Disposal-Site	Historic
1061734	CA-SBR-4094H	Water Transportation Site	Historic
1060125	36-61560	Bucket-Isolate	Historic
1060714	CA-SBR-4093H	Telegraph & Trail Site	Historic
	CA-SBR-4102H	Trail	Historic
	CA-SBR-4095H	Mine	Historic
	CA-SBR-4109	Lithic Reduction Site	Prehistoric
	36-61555	Flake-Isolate	Prehistoric
	CA-SBR-4085H	Railroad-Site	Historic
	36-61553	Flaked Lithic-Isolate	Prehistoric
	36-61552	Flaked tool-Isolate	Prehistoric
	CA-SBR-4087	Water Storage	Prehistoric?
	36-61557	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-4111	Lithic Reduction Site	Prehistoric
	CA-SBR-4108	Lithic Reduction Site	Prehistoric
	CA-SBR-4107	Lithic Reduction Site	Prehistoric
	36-61558	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-4118	Lithic Reduction Site	Prehistoric
	CA-SBR-10899H	Historic Road	Historic
	CA-SBR-64542		
	CA-SBR-10890	Lithic Scatter Site	Prehistoric
	CA-SBR-4097H	Refuse Disposal-Site	Historic
	CA-SBR-4096H	Mining-Site	Historic
	CA-SBR-4104	Lithic Reduction Site	Prehistoric
	CA-SBR-4099H	Mining-Site	Historic
	CA-SBR-4108H	Mining-Site	Historic

Table D: Previously Recorded Resources within the Mule and Odessa Canyon APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
	CA-SBR-4098H	Structural Site	Historic
	CA-SBR-4092H	Mining-Site	Historic
	CA-SBR-4081H	Mining-Site	Historic
	CA-SBR-4082H	Townsite	Historic
	CA-SBR-4884H	Telegraph Line & Trail Site	Historic
	CA-SBR-4086H	Mining-Site	Historic
	CA-SBR-4089H	Trail	Historic

Table E: Previously Recorded Resources within the Sperry Wash & Hollywood Canyon APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
Saddle Peak Hills Quadrangle			
1062218	CA-SBR-2365	Village, Rock Art-Site	Prehistoric
	CHL-577-on	Mormon Trail	Historic
	CA-SBR-4411H	Road	Historic
	CA-SBR-4272H	Road	Historic
Dumont Dunes Quadrangle			
1062218	CA-SBR-4272H	Road	Historic
1060078	CHL-577	Mormon Trail	Historic
1065770	CHL-576	Salt Lake/Santa Fe	Historic
1064984	36-12715H	Mine-Site	Historic
	36-12714	Prospect Pt.	Historic
	36-12711	Lithic Scatter	Prehistoric
	36-12716	Lithic Scatter	Prehistoric
	36-12723	Lithic Scatter	Prehistoric
	36-12717	Lithic Scatter	Prehistoric
	36-12719	Lithic Scatter	Prehistoric
	36-12720	Lithic Scatter	Prehistoric
	36-12721	Lithic Scatter	Prehistoric
	36-12722	Lithic Scatter	Prehistoric
	36-12724H	Structural Remains	Historic

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
Hodge Quadrangle			
1066134	36-61632	Flaked Lithic-Isolate	Prehistoric
1066336	36-61624	Flaked Lithic-Isolate	Prehistoric
1065644	36-61625	Flaked Lithic-Isolate	Prehistoric
1065645	36-61628	Flaked Lithic-Isolate	Prehistoric
1065279	36-61627	Flaked Lithic-Isolate	Prehistoric
1064272	36-61634	Groundstone-Isolate	Prehistoric
1064453	CA-SBR-7124	Lithic Reduction-Site	Prehistoric
1065055	36-61629	Pottery Scatter-Isolate	Prehistoric
1062399	36-61630	Flaked Lithic-Isolate	Prehistoric
1064653	36-61631	Flaked Lithic-Isolate	Prehistoric
1065409	36-61634	Groundstone-Isolate	Prehistoric
1062164	CA-SBR-7123	Lithic Reduction-Site	Prehistoric
1063022	CA-SBR-7122	Campsite	Prehistoric
1062854	CA-SBR-188	Cremation & Habitation Site	Prehistoric
1061002	CA-SBR-7859H	Homestead	Historic
1060569	CA-SBR-7857	Campsite	Prehistoric
1063213	CA-SBR-7858/H	Food Processing/Can Scatter	Historic/ Prehistoric
1061479	CA-SBR-7856	Food Processing	Prehistoric
1062257	36-61619	Flaked tool-Isolate	Prehistoric
1061799	CA-SBR-3033/H	Trail	Historic/ Prehistoric
1061745	CHL-577	Mormon Trail	Historic
1063015	CHL-963	Mojave Road	Historic
1060773	CA-SBR-3346	Lithic Reduction-Site	Prehistoric
1061243	36-61623	Flaked tool-Isolate	Prehistoric
1061118	CA-SBR-3343	Lithic Reduction-Site	Prehistoric
1062747	36-61622	Flaked tool-Isolate	Prehistoric
1061650	CA-SBR-3345	Cairn –Site	Historic
1063015	CA-SBR-3353	Lithic Scatter & Stone Circle	Prehistoric
1061734	CA-SBR-3348	Lithic Scatter & Stone Circle	Prehistoric
1060166	CA-SBR-3349	Lithic Scatter	Prehistoric
1060078	CA-SBR-3350	Lithic Scatter	Prehistoric
1061915	CA-SBR-3351	Lithic Scatter	Prehistoric
1062388	CA-SBR-3354	Lithic Scatter & Stone Circle	Prehistoric

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
1062541	CA-SBR-3355	Lithic Scatter & Stone Circle	Prehistoric
1062582	CA-SBR-3382	Lithic Scatter	Prehistoric
	CA-SBR-3383	Lithic Scatter	Prehistoric
	CA-SBR-6793H	Railroad	Historic
	CA-SBR-7854H	Refuse Disposal	Historic
	CA-SBR-7853H	Ranching Site	Historic
	CA-SBR-7860H	Refuse Disposal	Historic
	CA-SBR-7855H	Refuse Disposal	Historic
	CA-SBR-10157	Structural Site	Prehistoric
	CA-SBR-719	Lithic Scatter	Prehistoric
	36-61620	Flaked tool-Isolate	Prehistoric
	CA-SBR-888	Lithic Scatter	Prehistoric
	CA-SBR-7289	Lithic Reduction-Site	Prehistoric
	CA-SBR-7028	Lithic Reduction-Site	Prehistoric
	CA-SBR-7027	Lithic Reduction-Site	Prehistoric
	CA-SBR-6541	Lithic Reduction-Site	Prehistoric
	36-61612	Flaked Lithic-Isolate	Prehistoric
	36-61613	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-6538	Lithic Scatter & Stone Circle	Prehistoric
	36-61614	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-7304	Lithic Reduction-Site	Prehistoric
	CA-SBR-7298	Lithic Reduction-Site	Prehistoric
	CA-SBR-7301	Trail	Prehistoric
	CA-SBR-7205	Lithic Reduction-Site	Prehistoric
	CA-SBR-7303	Stone Circle-Site	Prehistoric
	CA-SBR-6537	Lithic Scatter-Site	Prehistoric
	CA-SBR-6539	Lithic Reduction-Site	Prehistoric
	CA-SBR-6535	Cairn –Site	Prehistoric
	36-61611	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-7300	Lithic Reduction-Site	Prehistoric
	CA-SBR-6536	Lithic Reduction-Site	Prehistoric
	CA-SBR-6534	Lithic Reduction-Site	Prehistoric
	36-61615	Flaked Lithic-Isolate	Prehistoric
	36-61616	Flaked Lithic-Isolate	Prehistoric
	36-61617	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-6540	Lithic Scatter & Stone Circle	Prehistoric

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
	CA-SBR-6542	Lithic Scatter-Site	Prehistoric
	CA-SBR-7025	Lithic Reduction-Site	Prehistoric
	CA-SBR-7023	Lithic Reduction-Site	Prehistoric
	CA-SBR-7024	Lithic Reduction-Site	Prehistoric
	CA-SBR-7026	Lithic Reduction-Site	Prehistoric
	CA-SBR-7259	Lithic Reduction-Site	Prehistoric
	CA-SBR-7261	Lithic Scatter-Site	Prehistoric
	CA-SBR-7258	Trail	Prehistoric
	CA-SBR-7268	Lithic Scatter-Site	Prehistoric
	CA-SBR-7373	Stone Circle & Cairn	Prehistoric
	CA-SBR-7372	Stone Circles-Site	Prehistoric
	CA-SBR-8081	Stone Circles & Clearings	Prehistoric
	CA-SBR-7314	Stone Circles-Site	Prehistoric
	CA-SBR-7306	Trail	Prehistoric
	CA-SBR-7316	Trail	Prehistoric
	CA-SBR-7307	Trail	Prehistoric
	CA-SBR-7309	Lithic Scatter-Site	Prehistoric
	CA-SBR-7311	Lithic Reduction-Site	Prehistoric
	CA-SBR-7310	c	Prehistoric
	CA-SBR-7313	Stone Alignment	Prehistoric
	CA-SBR-7312	Lithic Reduction-Site	Prehistoric
	36-61638	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-7215	Stone Circle-Site	Prehistoric
	CA-SBR-7367	Lithic Reduction-Site	Prehistoric
	36-61637	Flaked Lithic-Isolate	Prehistoric
	CA-SBR-7368	Stone Circle-Site	Prehistoric
	CA-SBR-7370	Lithic Reduction & Campsite-Site	Prehistoric
	CA-SBR-7369	Stone Circle-Site	Prehistoric
	CA-SBR-7308	Lithic Reduction-Site	Prehistoric
	CA-SBR-7371	Clearing-Site	Prehistoric
	CA-SBR-8699	Trail	Prehistoric
	CA-SBR-0700H	Mining Site	Historic
	CA-SBR-8310	Stone Circle-Site	Prehistoric
	CA-SBR-8312	Stone Circle-Site	Prehistoric
	36-61639	Projectile Point	Prehistoric

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
	CA-SBR-8311	Stone Circle-Site	Prehistoric
	CA-SBR-8313	Fence	
	CA-SBR-9361H	Road	Historic
	CA-SBR-2296	Lithic Scatter & Stone Circle	Prehistoric
	CA-SBR-8715H	Refuse Disposal	Historic
	CA-SBR-10318H	Communications Line	Historic
	CA-SBR-10317H	Power Transmission Line	Historic
	CA-SBR-2910H	Road	Historic
	CA-SBR-3926 NRHP-E-OHP	National Old Trails Hwy	Historic
	36-13693	Flaked Lithic-Isolate	Prehistoric
	36-13645	Isolates	
	36-13705	Isolates	
	36-13646	Isolates	
	36-13653	Isolates	
	36-13650	Isolates	
	36-13649	Isolates	
	36-13647	Isolates	
	36-13629	Isolates	
	36-13696	Isolates	
	36-13628	Isolates	
	36-13682	Isolates	
	36-13684	Isolates	
	36-13685	Isolates	
	36-13686	Isolates	
	36-13687	Isolates	
	36-13674	Isolates	
	36-13673	Isolates	
	36-13672	Isolates	
	36-13637	Isolates	
	36-13713	Isolates	
	36-13679	Isolates	
	36-13681	Isolates	
	36-13631	Isolates	
	36-13630	Isolates	
	36-13641	Isolates	
	36-13695	Isolates	

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
	36-13680	Isolates	
	36-13638	Isolates	
	36-13694	Isolates	
	36-12234	Isolates	
	36-13675	Isolates	
	36-13676	Isolates	
	36-13677	Isolates	
	36-13678	Isolates	
	36-13679	Isolates	
	36-13683	Isolates	
	36-13670	Isolates	
	36-13652	Isolates	
	36-13671	Isolates	
	36-13708	Isolates	
	36-13707	Isolates	
	36-13721	Isolates	
	36-13715	Isolates	
	36-13688	Isolates	
	36-13692	Isolates	
	36-13691	Isolates	
	36-13689	Isolates	
	36-13690	Isolates	
	36-13709	Isolates	
	36-13710	Isolates	
	36-13717	Isolates	
	36-13716	Isolates	
	36-13711	Isolates	
	36-13704	Isolates	
	36-13719	Isolates	
	36-13720	Isolates	
	36-13703	Isolates	
	36-13722	Isolates	
	36-13648	Isolates	
	36-13724	Isolates	
	36-13699	Isolates	
	36-13712	Isolates	

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
	36-13723	Isolates	
	36-13718	Isolates	
	36-13701	Isolates	
	36-13702	Isolates	
	36-13632	Isolates	
	36-12389	Isolates	
	36-12308	Isolates	
	36-13103	Isolates	
	36-12310	Isolates	
	36-10317	Isolates	
	36-13397	Isolates	
Barstow Southeast Quadrangle			
1061280	CA-SBR-7279	Lithic Reduction Site	Prehistoric
1062257	CA-SBR-7278	Lithic Reduction Site	Prehistoric
1061003	CA-SBR-7264	Lithic Scatter Site	Prehistoric
1061002	CA-SBR-7307	Trail	Prehistoric
1060614	CA-SBR-7262	Lithic Reduction Site	Prehistoric
1060763	CA-SBR-7263	Lithic Reduction Site	Prehistoric
1060238	CA-SBR-7265	Lithic Scatter Site	Prehistoric
1061479	CA-SBR-7306	Trail	Prehistoric
1061551	CA-SBR-7266	Lithic Reduction Site	Prehistoric
	CA-SBR-7280	Lithic Reduction Site	Prehistoric
	CA-SBR-7277	Lithic Reduction Site	Prehistoric
	CA-SBR-7267	Lithic Reduction Site	Prehistoric
	CA-SBR-7276	Lithic Reduction Site	Prehistoric
	CA-SBR-7269	Lithic Reduction Site	Prehistoric
	CA-SBR-7268	Lithic Reduction Site	Prehistoric
	CA-SBR-7275	Lithic Reduction Site	Prehistoric
	CA-SBR-7270	Lithic Reduction Site	Prehistoric
	CA-SBR-7271	Lithic Reduction Site	Prehistoric
	CA-SBR-7273	Lithic Reduction Site	Prehistoric
	CA-SBR-7272	Lithic Scatter Site	Prehistoric
	CA-SBR-7274	Lithic Reduction Site	Prehistoric
	CA-SBR-3548	Stone Circle	Prehistoric
	CA-SBR-8320	Lithic Quarry	Prehistoric
	CA-SBR-3487	Lithic Quarry	Prehistoric

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
	CA-SBR-8321	Lithic Quarry	Prehistoric
	CA-SBR-3486	Lithic Quarry	Prehistoric
	CA-SBR-3485	Lithic Quarry	Prehistoric
	CA-SBR-7200	Lithic Quarry	Prehistoric
	CA-SBR-0323	Trail	Prehistoric
	CA-SBR-6950	Lithic Reduction Site	Prehistoric
	CA-SBR-6951	Lithic Scatter Site	Prehistoric
	CA-SBR-0562	Lithic Quarry	Prehistoric
	CA-SBR-8322	Lithic Quarry	Prehistoric
	CA-SBR-3612	Lithic Scatter Site	Prehistoric
	CA-SBR-0563	Lithic Scatter and Stone Circle Site	Prehistoric
	36-61642	Flake-Isolate	Prehistoric
	36-61643	Flake-Isolate	Prehistoric
	36-61645	Flake-Isolate	Prehistoric
	CA-SBR-3559	Lithic Scatter Site	Prehistoric
	CA-SBR-2287	Stone Circle	Prehistoric
	CA-SBR-2284	Stone Circle	Prehistoric
	CA-SBR-2288	Stone Circle	Prehistoric
	CA-SBR-0961	Stone Circle	Prehistoric
	CA-SBR-0866	Stone Circle	Prehistoric
	CA-SBR-3560	Lithic Scatter Site	Prehistoric
	36-61640	Cairn	Historic
	CA-SBR-2290	Lithic Reduction Site	Prehistoric
	CA-SBR-3488H	Mining Site	Historic
	CA-SBR-9360H	Road	Historic
	CA-SBR-2285	Stone Circle	Prehistoric
	CA-SBR-10315H (NRHP-E93-007)	Power Transmission Line	Historic
	CHL-577	Mormon Trail	Historic
	CA-SBR-4411H	Road	Historic
	CA-SBR-7694H (NRHP-E-94-001)	Power Transmission Line	Historic
Dagget Quadrangle			
1060238	CA-SBR-3753	Lithic Reduction Site	Prehistoric
1061219	CA-SBR-6729	Lithic Reduction Site	Prehistoric
1061220	CA-SBR-6730H	Structural Site	Historic

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
1060874	CA-SBR-6727	Cremation & Habitation	Prehistoric
1060614	CA-SBR-6728	Food Processing	Prehistoric
1060763	36-61571	Metate-Isolate	Prehistoric
1060764	CA-SBR-3167	Cairn	Prehistoric
1061479	36-61569	Flake-Isolate	Prehistoric
1060100	36-61572	Metate-Isolate	Prehistoric
	CA-SBR-9987	Lithic Scatter Site	Prehistoric
	36-61567	Core-Isolate	Prehistoric
	36-61570	Core-Isolate	Prehistoric
	36-61568	Metate-Isolate	Prehistoric
	CA-SBR-9986	Lithic Scatter Site	Prehistoric
	CA-SBR-4929	Lithic Reduction Site	Prehistoric
	36-61561	Mano & Metate-Isolate	Prehistoric
	CA-SBR-61562	Metate-Isolate	Prehistoric
	CA-SBR-5685	Lithic Reduction Site	Prehistoric
	CA-SBR-4726	Lithic Scatter Site	Prehistoric
	CA-SBR-3162	Rock shelter	Prehistoric
	CA-SBR-4431	Food Processing	Prehistoric
	CA-SBR-5753H	Trail	Historic
	CA-SBR-2343	Rock shelter	Prehistoric
	36-14086	Hearth	Prehistoric
	36-14091	Lithic Scatter Site	Prehistoric
	36-14087	Lithic Scatter Site	Prehistoric
	36-14088	Lithic Scatter Site	Prehistoric
	36-14085	Historic Can	Prehistoric
	36-14089	Surveyor Marker	Historic
	36-14090	Historic Can	Prehistoric
	36-14118	Flake-Isolate	Prehistoric
	36-14094	No description	N/A
	CA-SBR-7694H (NRHP-E-94-001)	Power Transmission Line	Historic
	36-14095	Trail	Historic
	36-14096	Surveyor Marker	Historic
Turtle Valley Quadrangle			
1061002	CA-SBR-10315H (NRHP-E93-007)	Power Transmission Line	Historic

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
1061003	CA-SBR-9358H	Mining Site	Historic
1063015	CA-SBR-4930H	Mining Site	Historic
1063213	CA-SBR-3160H	Mining Site	Historic
1062584	CA-SBR-9359H	Mining Site	Historic
1062399	CA-SBR-7694H (NRHP-E-94-001)	Power Transmission Line	Historic
1060614	CA-SBR-4934	Stone Circle	Prehistoric
1060874	CA-SBR-3553H	Homestead Site	Historic
1064445	CA-SBR-9361H	Road	Historic
1063795	36-61205	Flaked Tool-Isolate	Prehistoric
1063783	CA-SBR-8079H	Trail	Prehistoric
1062983	CA-SBR-8080H	Homestead Site	Historic
1061485	CA-SBR-9357	Stone Circle	Prehistoric
	CA-SBR-0210	Stone Circle	Prehistoric
Stoddard Wells			
1061020	36-61201	Can-Isolate	Historic
1062399	36-61200	Flake-Isolate	Prehistoric
1060052	CA-SBR-6890	Lithic Scatter Site	Prehistoric
1061915	CA-SBR-4411H	Road	Historic
1062147	CHL-577	Mormon Trail	Historic
1061002	CA-SBR-304	Rock Art	Prehistoric
1061003	CA-SBR-2334H	Fence	Historic
1061219	36-61204	Axe-Isolate	Prehistoric
1061220	36-61203	Metate-Isolate	Prehistoric
1062257	CA-SBR-2142/H	Water Storage & Lithic Scatter	Historic/Prehistoric
1061280	36-61202	Metate-Isolate	Prehistoric
1065418	CA-SBR-7694H (NRHP-E-94-001)	Power Transmission Line	Historic
	CA-SBR-3489	Rock Art	Prehistoric
	CA-SBR-10315H (NRHP-E93-007)	Power Transmission Line	Historic
West Ord Mountain Quadrangle			
1061002	36-61197	Core-Isolate	Prehistoric
1061003	CA-SBR-3437	Food Processing	Prehistoric
1065579	CA-SBR-2146	Lithic Reduction Site	Prehistoric
1062257	36-61198	Flake-Isolate	Prehistoric
1064463	36-61196	Metate-Isolate	Prehistoric

Table F: Previously Recorded Resources within the Stoddard OHV APE

Report Number	Site/Isolate Number	Artifact/Site Type	Age Range
1060701	CA-SBR-3554	Rock shelter	Prehistoric
1060238	36-12738	Brick	Historic
	P1562-1	Rock shelter	Prehistoric

Table G: Previously Recorded Resources within the Afton/Rasor OHV APE

Site	Site Type
Dunn Quadrangle	
CA-SBR-10147	Campsite
CA-SBR-130	LS
CA-SBR-1553	LR
CA-SBR-1910H	Railroad
CA-SBR-2147	Trail
CA-SBR-2155	Village
CA-SBR-4709	LR
CA-SBR-4709	Stone circle
CA-SBR-5820	Stone circle
CA-SBR-7039	Stone circle
CA-SBR-7401	LS
CA-SBR-84H	Camp/structural
CA-SBR-85	Campsite
CA-SBR-86	Quarry
CA-SBR-87	Campsite
P36-062486	Blade
P36-062487	Bottle
P36-062488	Flake
Cave Mountain Quadrangle	
CA-SBR-10140	LR
CA-SBR-10142	LS
CA-SBR-10143	LS
CA-SBR-10144H	Refuse
CA-SBR-203	Village
CA-SBR-220	Rock art
CA-SBR-3033H	Historic
CA-SBR-3452	LR
CA-SBR-3501	Campsite

Table G: Previously Recorded Resources within the Afton/Rasor OHV APE

Site	Site Type
CA-SBR-3505	LR
CA-SBR-3533H	Historic
CA-SBR-4248	LR
CA-SBR-5123	food processing
CA-SBR-5124	food processing
CA-SBR-5125	food processing
CA-SBR-640H	Road
CA-SBR-660	food processing
CA-SBR-669	LR
CA-SBR-7826	historic / rock shelters
CA-SBR-81	Quarry
CA-SBR-82	Campsite
P2033-1	**cremation**
P2033-2	habitation
P-2044-11	Quarry

The previous surveys and previously recorded resources included ceramic or lithic isolates, ground stone isolates, historic and prehistoric trails, the Mormon trail, the Salt Lake/Santa Fe Trail, the Mojave Road, a cremation and habitation site, lithic reduction sites, cairns, small temporary camps, one site identified only as being on desert pavement, cairns, stone circles, rock shelters, historic mines, can scatters, railroad, and two historic artifact scatters. During the field survey, LSA was able to re-locate only one of the previously recorded resources with certainty (CA-SBR-1910H), mainly due to natural processes (erosion in canyon bottoms) and off-road vehicle activity in other areas.

5.2 FIELD SURVEY

5.2.1 Areas Surveyed

Table H lists areas and acreage surveyed and resources recorded.

Table H: Areas Surveyed

Survey Area	Number of Acres Surveyed	Newly Recorded Resources	Previously Recorded Resources Re-located
Sperry Wash and Hollywood Canyon	309.44	0	0
Odessa and Mule Canyons	79.30	0	0
Afton Canyon and Razor OHV	17,940.03	5	0
Sawtooth Canyon	63.22	0	0
Stoddard OHV	86,212.69	0	0

5.2.2 Newly Recorded Resources

During the archaeological survey, LSA recorded 4 previously unrecorded historic archaeological resources and 1 previously unrecorded and probable prehistoric site. These resources were documented on standard State Department of Parks and Recreation Site Records (DPR 523 Series).

The newly recorded sites have been assigned temporary numbers until the DPR 523 forms are completed and can be submitted to the SBAIC. Table I summarizes the newly recorded and updated resources.

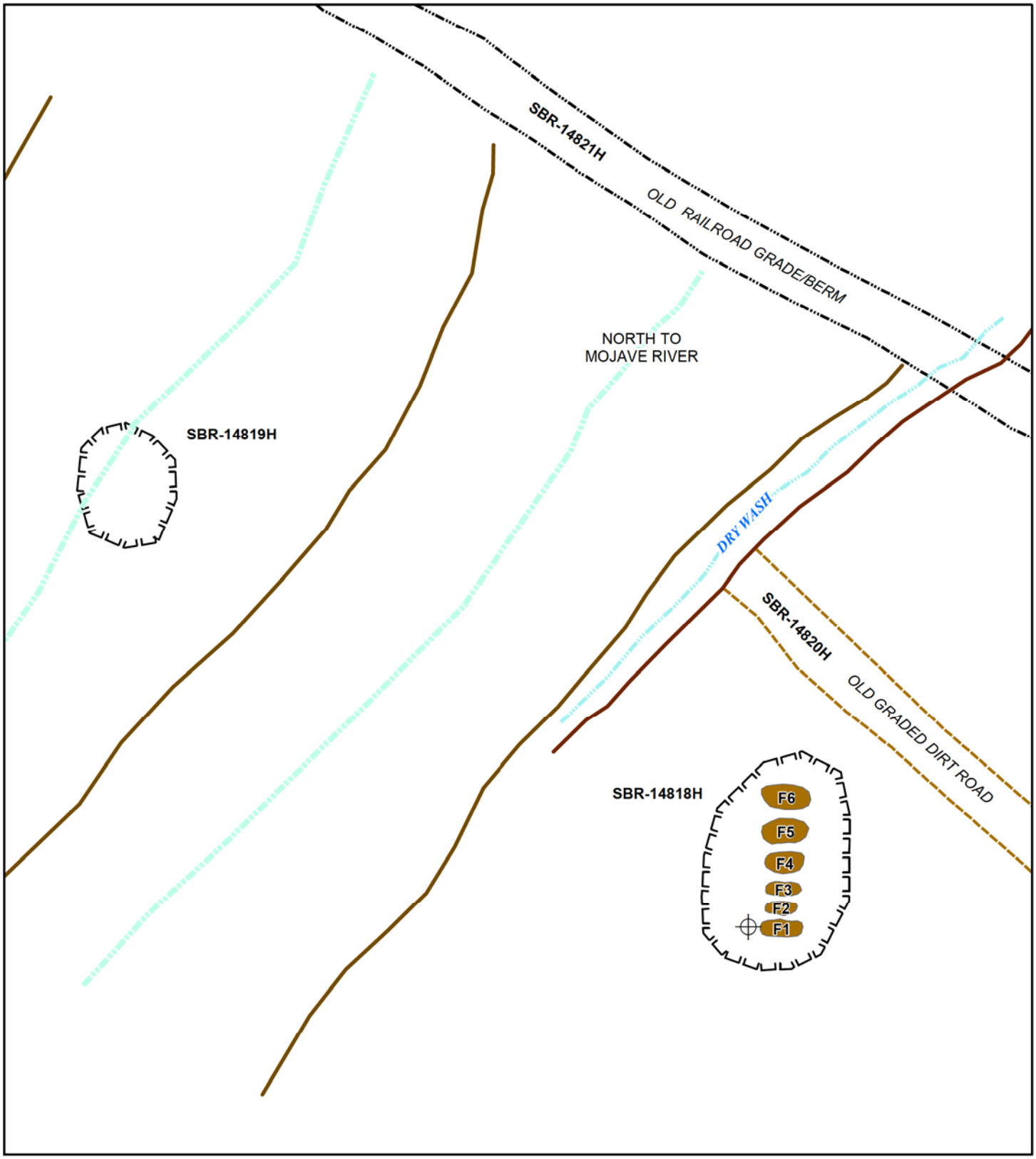
Table I: Summary of Newly Recorded and Updated Resources

Afton Cemetery, LSA-IFC0901-S-1	**Date Recorded: 12-11-2010**
Landform:	**Potential for Buried Resources:**
This is a historic period cemetery (ca. 1906+) located on the south side of Afton Canyon on an alluvial sheet flow coming off small hills to the south. The cemetery consists of 6 grave makings (i.e., rocks/crosses). Five graves (F2–F6) are clearly marked and the remaining possible grave (F1) is highly disturbed and may have been the one excavated by the BLM. The graves are aligned north to south and oriented facing east. **Grave F1** measures 5' (N-S) × 9' (E-W), is highly disturbed, and contains approximately 13 rocks of varying sizes. No cross is present. This grave has been excavated. It was the home of Jose Flores who died in Afton after being shot by a Section Foreman after an altercation. **Grave F2** measures 6.5' × 10'. There is a wooden cross on the west end approximately 4' high with a 4' cross bar. A border/ frame of wood made from railroad ties surrounds the grave and +150 rocks of varying sizes are on the grave including a rock lined edge on the north side of the grave. This grave has been identified as that of Jose Flores. **Grave F3** measures 5' (N-S) × 11' (E-W) with a wooden cross on the west end. The cross is approximately 18" high with a 17" cross bar. There are over 100 rocks piled on the grave. **Grave F4** measures 3' (N-S) × 5.5' (E-W) with a wooden cross on the western end. The cross stands 21" tall and has a 23" cross bar. There are 80+ rocks covering the grave. There are remnants of a wood border. The Sea Scouts left a "Register Jar" on the grave. **Grave F5** measures 4.5' (N-S) × 8' (E-W) with a wooden cross on the western end of the grave. The cross stands 21" tall with an 18" crossbar. There are 90+ rocks piled on top of the grave. **Grave F6** measures 5.5' (N-S) × 9.5 (E-W) with a wooden cross on the western end. The cross stands 3' high and has a 28" crossbar. There are 150+ rocks piled on top of the grave.	
Afton Rock Piles, LSA-IFC0901-S-2	**Date Recorded: 12-11-2010**
Landform:	**Potential for Buried Resources:**
This site is made up of two rock concentrations that may be "graves" as reported by some as part of the historic Afton cemetery, which is located on the opposite bank, approximately 59 meters east and 39 meters south. It has been determined that these rock features were for water catchment and for planting Agave. The rock features protected the Agave seedlings from rabbits. Feature 1 measures 3' (N-S) × 4' (E-W) and contains approximately 30 rocks (type 5 rock pile). Feature 2 is less distinct than F1 and measures 3' (N-S) × 3' (E-W) and contains approximately 20 rocks (Type 5 rock pile). The Mojave River is approximately 100 m to the north. The site is located on dry alluvium on the western bank of an unnamed dry wash. It is sitting on an approximately 5% slope to the north. The soils are composed of mixed alluvium derived from granitic sources. The major plant species are coalesced between two groups: legumes and composites (sunflowers). Creosote, saltbush, and bursage are the main plant types found. There are little impacts to the site but sheet flow and alluvial activities associated with the wash have resulted in impacts to the site.	
Afton Gravel Scrapes, CA-SBR-1910H	**Date Recorded: 12-11-2010**
Landform:	**Potential for Buried Resources:**
This extension of site CA-SBR-1910H consists of a series of parallel gravel scrapes made during construction of the railroad. The engineer used locally available material to construct the rail grade. These features are found on the Afton Canyon floor alongside the Afton Canyon Road and railway. The site is approximately 272' × 2,290' in area. There are +200 parallel scrapes between 150' and 250'. Scrapes are 8' wide. The construction of the rail grade coincides with the time that the Fresno Scraper was in operation. Feature width is consistent with the blade width of a Fresno Scraper. The scraper tracks offer good chronologic control as the Fresno Scraper was in use from 1884–1910. These features offer a unique insight to the construction of this historic railway. The features are well preserved and define construction activities.	
Afton Dirt Road, LSA-IFC0901-S-3	**Date Recorded: 12-11-2010**
Landform:	**Potential for Buried Resources:**
Description	

Table I: Summary of Newly Recorded and Updated Resources

Afton Historic Grade, LSA-IFC0901-S-4	**Date Recorded: 12-11-2010**
Landform:	**Potential for Buried Resources:**
Description	

Figure 2 depicts the cultural survey and preliminary results, all in Afton Canyon.



LSA

FIGURE 2

N

0 20 40
Feet

Jose Flores Gravesite (Previously excavated)
Site Boundary
Afton Cemetery
Dry Wash
Old Graded Dirt Road
Old Railroad Grade & Berm

Inland Empire Film Commisison
Afton Canyon

Afton Canyon Site Locations

SOURCE: LSA, Associates, Inc. 2011.

I:\IFC0901\Reports\Cultural\Afton\fig2_Afton_Canyon_Site_Locs.mxd (06/07/11)

CHAPTER 6.0: RESPONSES TO RESEARCH DOMAIN QUESTIONS

The interpretation of the results of the survey for the IEEP Filming Activities project is integrated with the data from previous research results in the five project areas. As noted, the most recent overview of the general project area was by Schaefer and Laylander (2007).

Having summarized the artifact and site type data above, this section of the report utilizes the behavioral site typology and research domains to bring the project data to bear, in a preliminary fashion, on issues of interpreting and understanding the prehistoric lifeways of the inhabitants of this area of Southern California. As Fagan (2003) and Becker and Altschul (2008) have noted, trade networks between coastal peoples and the occupants of the desert interior began to develop around AD 1000, although they certainly began much earlier.

Because of the tendency to utilize the data that are present to the exclusion of discussion of data classes that are not represented in particular locations, this report repeats a standard list of domain questions that have been developed to promote the development of a comparative regional database and cultural interpretations for the Inland Empire and the California Desert, recognizing the long-standing pattern of transhumance and trade between the two regions. Thus, the questions for which there are no responses are considered to be as significant, in a slightly different fashion, as those with responses.

6.1 RESEARCH QUESTIONS FOR THE SETTLEMENT PATTERN DOMAIN

- *Are there identifiable changes in site location over time in the Mojave Desert region?* The sites in the 5 IEEP Filming Activities project APEs are inadequate to provide data to answer this question. The vast number of resources in the 5 project APEs are isolates. There are two rock shelter sites in the Sawtooth APE, but there are no associated chronological data.
- *Are there statistical changes in the proportion of site elements (milling slicks, occupation loci, ceremonial areas, etc.) from various temporal periods at the sites in the Mojave Desert?* The project data that respond to this question are very limited in nature. Milling slicks and bedrock mortars are not represented, historic occupation sites outnumber prehistoric habitation sites, and two cremation sites and one historic cemetery are the only examples of ceremonial areas. The vast number of resources in the five project APEs are isolates.
- *Do different site types appear to be differentially located within specific landforms such as canyon bottoms or ridgetops?* The majority of the previously recorded resources are on the ridgetops above the surveyed areas. However, it is highly likely that seasonally occupied small camps were also present in the canyon bottoms but were impacted by erosional water flows and did not leave visible traces.
- *Are there visible settlement patterns in the Mojave Desert that come to light with the use of GIS data that combine site location, landform, soil types, proximity to water, vegetation cover, and naturally occurring resources?* Most of resources in the five project APEs are isolates.

The best example of the potential for GIS application is along the Mojave River drainage where site locations might be identified based on landforms and vegetation. However, as noted previously, the Mojave drainages and other drainages are subject to seasonal waterflow and flood stages that tend to obliterate cultural resources.

- *Are there changes in site complexity through time in the Mojave Desert region?* The data from the project do not permit a response to this question. Most of resources in the five project APEs are isolates.
- *Can sites dating from the late-prehistoric or Protohistoric periods be linked to ethnohistoric accounts of sites in the area?* The prehistoric data from the project do not permit a response to this question. However, the Afton cemetery is historically documented and has Anglo-Mexican affiliations.

6.2 RESEARCH QUESTIONS FOR THE CHRONOLOGY DOMAIN

- *When was the Filming Activities project area first occupied?* The project data do not permit a response to this question. No diagnostic lithics have been recovered from surveys in the five different project APEs. No ceramics have been recovered. There was clearly Native American occupation prior to the arrival of Europeans in the 18th and 19th centuries.
- *What is the chronological range of the Filming Activities sites that have been recorded or tested?* No diagnostic lithics have been recovered from surveys in the five different project APEs. No ceramics have been recovered. There was clearly Native American occupation prior to the arrival of Europeans in the 18th and 19th centuries. No cultural resources have been tested in the five separate project APEs.
- *What is the specific chronology of individual cultural components of the Filming Activities sites that have been recorded or tested?* The gravel scrapes along the Union Pacific railroad tracks provide relative dating for these features to between 1894 and 1910. There were no chronologically diagnostic prehistoric lithics such as obsidian or ceramics found at any of the sites. No sites have been tested.
- *Are there temporally diagnostic artifact types or materials from any of the sites in the Filming Activities project that can corroborate the chronological placement of the sites?* The gravel scrape locus at CA-SBR-1910H can be placed from between 1894 to 1910, and the date of the Afton cemetery is historically documented to 1906.
- *What do the presence of diagnostic artifact types and/or materials suggest in terms of site age in comparison to similar sites (if they exist) in other areas adjacent to the proposed APE, as discussed above?* The gravel scrapes are similar to scrapes at other historic transportation sites in the study area. There are no diagnostic artifacts from the prehistoric period.

6.3 RESEARCH QUESTIONS FOR THE SITE STRUCTURE AND FUNCTION DOMAIN

- *Do any of the sites in the Filming Activities APE contain discrete stratigraphic components? Do any of the sites and any identified stratigraphic components in Filming Activities appear to retain*

sufficient integrity to provide useful data? Field methodology for the Filming Activities cultural resources inventory was focused on surface analysis only, and no stratigraphy was visible.

- *Do archaeological materials exist that can help identify the functions of sites in Filming Activities? Are specific human activities indicated?* The vast number of resources in the five project APEs are isolates. This would suggest short-term visits and transient discards.
- *Are there discrete loci at each site in the Filming Activities project? If so, can the loci be related to subsistence or gender-based activities such as hunting, tool production, or milling?* The gravel scrape areas are considered loci of the linear Union Pacific railroad site (CA-SBR-1910H).
- *Are there discrete loci that can be identified as ritual or ceremonial at the sites in the Filming Activities APEs?* The Afton cemetery represents ritual activity and two sites with cremations had been previously recorded, one in the Stoddard OHV area and another in the Rasor OHV area. In addition, a habitation site with rock-art was previously recorded in the Sperry Wash and Hollywood Canyon APEs.
- *Are there sites containing milling surfaces in Filming Activities APEs?* There are no sites containing milling surfaces in the Filming Activities APEs.
- *If there are sites with milling surfaces in the Filming Activities APE, do they conform to previously identified milling site characteristics from other areas?* There are no sites containing milling surfaces in the Filming Activities APEs.
- Does the number of milling surfaces increase in quantity as the distance of the site to water decreases? There are no sites containing milling surfaces in the Filming Activities APEs.
- *Do sites at lower elevations tend to contain more milling than those at higher elevations?* There are no sites containing milling surfaces in the Filming Activities APEs.
- *Do bedrock mortars tend to be found at habitation sites?* There are no sites containing bedrock mortars in the Filming Activities APEs.
- *Is there any evidence of the processing of non-vegetal materials, such as pigments, minerals, or animals at the Filming Activities sites that contain bedrock milling?* There are no sites containing milling surfaces in the Filming Activities APEs and no such processing activities were noted.

6.4 RESEARCH QUESTIONS FOR THE SITE FORMATION DOMAIN

- *Are the sites in the Filming Activities APEs located in an erosional environment, in a depositional environment, or a combination of the two?* Both environments are present in the five IEEF project APEs.
- *If located in a depositional environment, do the sites in the Filming Activities APEs appear to have a relatively even stratigraphic deposition that can be used for chronological purposes?* The surveys were focused on surface resources. No cultural resources were noted in opportunistic examinations of erosional cuts.
- *Are there other indicators of site formation that are apparent at sites in the IEEP Filming Activities APEs, such as relatively unweathered ecofacts that would have to be buried quickly to be preserved, or aeolian deposits that would have been deposited during periods of low moisture?* No such indicators were observed.

- *Are there other site formation factors, such as bioturbation, that have affected site formation in the Filming Activities APE?* Only erosional and depositional formation factors were observed.

6.5 RESEARCH QUESTIONS FOR THE SUBSISTENCE BASE DOMAIN

- *At sites in the Filming Activities APEs, are there identifiable changes in the proportion of different artifact types, such as flaked and ground stone, over time?* Most of resources in the five project APEs are flaked lithic isolates and only groundstone isolate has been previously recorded.
- *Are differences in food resources or artifact types identifiable from various temporal periods at the sites in the Filming Activities APEs?* There are neither chronologically diagnostic nor subsistence specific artifacts present.
- *Do different site types in the Filming Activities APEs appear to be differentially located within particular resource procurement areas such as valleys or canyons (drainages)?* The vast number of resources in the five project APEs are isolates and there is an insufficient number of recorded sites to be able to respond to this question at the present time.
- *Are there identifiable patterns of correlations between settlement patterns and floral communities that come to light with the use of GIS data that combine site location, landform, soil types, proximity to water, vegetation cover, and naturally occurring resources in the Filming Activities APE?* The vast number of resources in the five project APEs are isolates and there is an insufficient number of recorded sites to be able to respond to this question at the present time.

6.6 RESEARCH QUESTIONS FOR THE TRADE AND ECONOMIC EXCHANGE DOMAIN

- *Do traded materials occur at any of the sites? What are the traded materials (or items) and from where do they originate?* All of the historic artifacts found at the five separate project APEs were obtained elsewhere or traded in. There is no evidence of extra-local exchange during the prehistoric period (LSA's interpretation from the previously recorded resource descriptions is that all lithic raw materials were obtained locally).
- *What are the types of raw materials recovered from habitation and multiuse sites in the Filming Activities APEs? Does there appear to be preferential use of exotic/imported lithic material?* All lithic raw material, production debitage, and finished tools found in the Filming Activities were produced from local material. All historic artifacts were imported from manufacturing centers.
- *If there are distinctive non-local raw materials at a given site, or sites, in the Filming Activities APEs, what is the projected minimum distance that the item(s) would have traveled to be present on the site?* There are no prehistoric artifacts made from distinctive non-local materials. All historic artifacts are from non-local materials and were manufactured in regional urban centers.
- *For artifacts and/or raw materials found in the Filming Activities APEs that have been identified as non-local, are there specific artifact types that occur on specific site types? Furthermore, are these items related to particular food resources found from specific periods?* There are no prehistoric artifacts made from distinctive non-local materials. All historic artifacts are from non-local materials and were manufactured in regional urban centers.

- *Are ceramics within the Filming Activities APEs study area locally produced or from distant areas?* All ceramics within the study area were locally produced. There were no prehistoric ceramics recorded.
- *On artifacts found in the Filming Activities APE that have been identified as non-local, are there any diagnostic style markers that might also tie the item in with another distant cultural group?* No.
- *Can the act of trade be distinguished from the act of procurement in the archaeological record?* Not in terms of the prehistoric artifacts. In terms of the historic artifacts, it is possible that all of the artifacts were purchased directly by the people who brought them to the Afton area. However, it is also possible that some were traded for.

6.7 RESEARCH QUESTIONS FOR THE RITUAL AND CEREMONY DOMAIN

The two sites with cremations in the IEEF Filming Activities locations support the ethnographic literature that establishes that at least some of the Native American tribes associated with the project area cremated their dead. The Afton cemetery is considered as a historic ritual and ceremonial site. There are few other prehistoric and historic examples from within the Filming Activities APE.

- *If there is rock art located at or near a site or sites in the Filming Activities APE, how may it be evaluated for whether it was used for ritual or ceremonial purposes?* There is one habitation site with rock art (CA-SBR-2365) and LSA interprets the relationship between the habitation site and the rock art that there probably are ritual and ceremonial elements present.
- *How securely can ethnographic sources be linked with the archaeological past in the Filming Activities APE?* The are no specific relationships recorded among locations in the five APEs and locations recorded in the ethnographic data.
- *Does the ethnographic record represent the full range of esoteric knowledge from the groups from which particular data were recovered?* No. This is never the case since ethnographic data only represent the knowledge of the persons who were interviewed or observed.
- *What non-human remains and non-stationary artifacts (e.g., naturally occurring materials such as ochre, obsidian, and clay) from the Filming Activities APE can be identified as having ritual and ceremonial connections?* No such materials were recorded.
- *Are there natural features of the proposed Filming Activities APE that can be identified archaeologically as being of ritual and ceremonial importance?* No.
- *Do the tribes living in or claiming traditional residency of the project area still have preserved traditional names for mountains and other natural landscape features?* Unknown.

6.8 RESEARCH QUESTIONS FOR THE GENDERED BEHAVIORS DOMAIN

- *What does the ethnographic record inform us about gendered behaviors in the proposed Filming Activities area?* The ethnographic record reflects the traditional male=hunting, millingstones= male interpretations in native societies.
- *Do the sites in the Filming Activities APE have loci that can be identified as areas of specialized gender activities?* The present data do not permit a response to this question.

- *Do the artifacts that were found at sites in the Filming Activities APE suggest any gendered behaviors?* No.
- *On the basis of GIS-coordinated integration of the different databases, does gendered behavior appear to have been more typical of certain locational settings in the Filming Activities APEs than others?* The present data do not permit a response to this question.
- *In the Filming Activities APEs, are there indications of gender-distinct activities at one time of the year, or for certain purposes, and co-gender activities at other times of year and for other purposes?* The data from the project do not permit a response to this question.
- *Does the traditional model of "woman the gatherer/man the hunter" stand up in the case of the Filming Activities sites APE?* The data from the project do not permit a response to this question although this attitude is reflected in the ethnographic record, as noted above.

CHAPTER 7.0: RECOMMENDATIONS AND CONCLUSIONS

7.1 NATIONAL REGISTER ELIGIBILITY

7.1.1 Significance Criteria

LSA conducted a Class I Inventory and Class III Cultural Resources Assessment for the Inland Empire Economic Partnership (IEEP) on lands managed by the Barstow Field Office of the Bureau of Land Management (BLM) for the development of Programmatic Environmental Assessment(s) (EAs) for the IEEP Filming Activities project. The project is in five different locations in the Mojave Desert region of the BLM's California Desert District (CDD) near the towns of Barstow, Calico, and Baker in San Bernardino County, California**.**

LSA re-located one previously recorded site (CA-SBR-1910H) and four newly recorded cultural resources, for a total of five cultural resources within the IEEP's five location project APEs. One of the newly recorded resources is a probable prehistoric resource of a type (rock piles) that has been determined eligible for the National Register in other locations of the Mojave Desert. LSA was unable to re-locate an additional 313 previously recorded resources because the survey activities were concentrated in canyon bottoms and washes, and heavily disturbed OHV areas. The forms for the newly recorded resources were documented on standard State Department of Parks and Recreation Site Records (DPR 523 Series). All newly recorded sites in this Class III survey are evaluated below according to the criteria for listing in the National Register. The previously recorded resources were not relocated and the DPR forms for these resources were not updated.

7.1.2 National Register of Historic Places

A cultural resource is evaluated for eligibility for listing in the National Register according to four criteria. These criteria generally require that the resource be 50 years of age or older and significant at the local, state, or national level according to one or more of the following:

A. It is associated with events that have made a significant contribution to the broad patterns of local or regional history;

B. It is associated with the lives of persons significant in our past;

C. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or that represents a significant and distinguishable entity whose components lack individual distinction; and/or

D. It has yielded, or may be likely to yield, information important in prehistory or history.

The National Register also requires that a resource possess integrity, which is defined as the ability of a property to convey its significance. The aspects of integrity are location, design, setting, materials, workmanship, feeling, and association. To determine which of these factors are most important will

depend on the particular National Register criterion under which the resource is considered eligible for listing. Based on the types of artifacts that were documented for the prehistoric sites evaluated in this study, particular attention is paid to their eligibility under Criterion D (although other criteria are considered for each site).

For the IEEP Filming Activities project, both prehistoric and historic sites comprise the resources evaluated here in the Class III study. Only one of the Filming Activities resources (CA-SBR-1910H), the Union Pacific railroad, has been previously evaluated for eligibility to the National Register and has been determined eligible; the segment in the project APE in Afton Canyon is a contributing element to the larger extent of the railroad, beyond the visible limits of Afton Canyon. There are five primary steps recommended by the National Register Bulletin Guidelines for Evaluating and Registering Archaeological Properties with respect to an evaluation under Criterion D:

1. Identify the property's dataset(s) or categories of archaeological, historical, or ecological information.
2. Identify the historic context(s), that is, the appropriate historical and archaeological framework in which to evaluate the property.
3. Identify the important research question(s) that the property's datasets can be expected to address.
4. Taking archaeological integrity into consideration, evaluate the datasets in terms of their potential and known ability to answer research questions.
5. Identify the important information that an archaeological study of the property has yielded or is likely to yield.

The following prehistoric and historic sites within the Afton Canyon APE (Table J) are recommended not eligible for the National Register because they have limited potential for important information.

Table J: Resources Recommended for Evaluation (Testing) Regarding Eligibility for Listing in the National Register of Historic Places Prior to Ground Disturbance

CA-SBR-1910H
This extension of site CA-SBR-1910H consists of a series of parallel gravel scrapes made during construction of the railroad. The engineer used locally available material to construct the rail grade. These features are found on the Afton Canyon floor alongside the Afton Canyon Road and railway. The site is approximately 272' × 2,290' in area. There are +200 parallel scrapes between 150' and 250'. Scrapes are 8' wide. The construction of the rail grade coincides with the time that the Fresno Scraper was in operation. Feature width is consistent with the blade width of a Fresno Scraper. The scraper tracks offer good chronologic control as the Fresno Scraper was in use from 1884–1910. These features offer a unique insight to the construction of this historic railway. The features are well preserved and define construction activities. The research value of the gravel scrapes has been exhausted through recordation and may be used for filming activities.
Afton Dirt Road, LSA-IFC0901-S-3
The research value of this site has been exhausted through recordation. This site is recommended as not eligible for the National Register.
Afton Historic Grade, LSA-IFC0901-S-4
The research value of this site has been exhausted through recordation. This site is recommended as not eligible for the National Register.
Afton Cemetery, LSA-IFC0901-S-1
This is a historic period cemetery (ca. 1906+) located on the south side of Afton Canyon on an alluvial sheet flow coming off small hills to the south. The cemetery consists of 6 grave makings (i.e., rocks/crosses). Five graves (F2–F6) are clearly marked and the remaining possible grave (F1) is highly disturbed and may have been the one excavated by the BLM. The graves are

Table J: Resources Recommended for Evaluation (Testing) Regarding Eligibility for Listing in the National Register of Historic Places Prior to Ground Disturbance

aligned north to south and oriented facing east. **Grave F1** measures 5' (N-S) × 9' (E-W), is highly disturbed, and contains approximately 13 rocks of varying sizes. No cross is present. This grave has been excavated. It was the home of Jose Flores who died in Afton after being shot by a Section Foreman after an altercation. **Grave F2** measures 6.5' × 10'. There is a wooden cross on the west end approximately 4' high with a 4' cross bar. A border/ frame of wood made from railroad ties surrounds the grave and +150 rocks of varying sizes are on the grave including a rock lined edge on the north side of the grave. This grave has been identified as that of Jose Flores. **Grave F3** measures 5' (N-S) × 11' (E-W) with a wooden cross on the west end. The cross is approximately 18" high with a 17" cross bar. There are over 100 rocks piled on the grave. **Grave F4** measures 3' (N-S) × 5.5' (E-W) with a wooden cross on the western end. The cross stands 21" tall and has a 23" cross bar. There are 80+ rocks covering the grave. There are remnants of a wood border. The Sea Scouts left a "Register Jar" on the grave. **Grave F5** measures 4.5' (N-S) × 8' (E-W) with a wooden cross on the western end of the grave. The cross stands 21" tall with an 18" crossbar. There are 90+ rocks piled on top of the grave. **Grave F6** measures 5.5' (N-S) × 9.5 (E-W) with a wooden cross on the western end. The cross stands 3' high and has a 28" crossbar. There are 150+ rocks piled on top of the grave. While LSA-IFC0901-S-1 is not eligible for the National Register, the cemetery should be protected.
Rock Piles, LSA-IFC0901-S-2
This site is made up of two rock concentrations that may be "graves" as reported by some as part of the historic Afton cemetery, which is located on the opposite bank, approximately 59 meters east and 39 meters south. It has been determined that these rock features were for water catchment and for planting Agave. The rock features protected the Agave seedlings from rabbits. Feature 1 measures 3' (N-S) × 4' (E-W) and contains approximately 30 rocks (type 5 rock pile). Feature 2 is less distinct than F1 and measures 3' (N-S) × 3' (E-W) and contains approximately 20 rocks (Type 5 rock pile). The Mojave River is approximately 100 m to the north. The site is located on dry alluvium on the western bank of an unnamed dry wash. It is sitting on an approximately 5% slope to the north. The soils are composed of mixed alluvium derived from granitic sources. The major plant species are coalesced between two groups: legumes and composites (sunflowers). Creosote, saltbush, and bursage are the main plant types found. There are little impacts to the site but sheet flow and alluvial activities associated with the wash have resulted in impacts to the site. The rock piles should be protected from impacts and no filming activities should be permitted within 200 yards on any side.

7.2 CONCLUSIONS

Comparisons of the results of the Filming Activities Class III Intensive Survey with other large-scale projects in the Mojave Desert Region (cf. the LSA Class II Probabilistic Superstition Solar I Survey [SSI; Lange 2008] and the Solar Two [Imperial Valley Solar] Class III Inventory [IVS; Farmer et al. 2010]) again clearly demonstrate the sub-areal variability described by Schaefer and Laylander (2007) and Laylander and Schaefer (2010).

7.2.1 Project Results and Filming Activities in the Barstow Area

Because of the high sensitivity of desert resources and increased demand for desert filming activities, special management actions are necessary to prevent and/or mitigate the effects that filming activities may have on the desert environment. The results of the surveys reported on in this Class III report have evaluated an additional 104,605 acres of Federal land that are now available for filming activities. The programmatic assessment will identify the acceptable limits of future filming activities in the identified areas. The EA will assist in the determination of the carrying capacity of the various locations that will in turn dictate the level of permitted filming activity and development of site-specific use parameters and (as warranted) mitigation requirements.

7.2.2 Management Recommendations

Based on the results of the surface surveys in the five project areas, LSA recommends that no impacts should be allowed within 200 meters of the Afton Cemetery. Whereas avoidance of any cultural

resources during construction or ground disturbance is preferred, specific efforts should be made to avoid the cemetery. None of the newly recorded resources is recommended as eligible for the National Register.

Even though the potential for buried resources is low overall in the areas surveyed, monitoring of ground-disturbing activities planned for any filmmaking activity in any location in the surveyed areas by a qualified archaeologist is recommended. Based on an approved construction monitoring and discovery plan, the monitors should have the authority to halt construction immediately in the area of discovery and the BLM archaeologist should be notified.

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APPENDIX A

DPR 523 SITE FORMS

NEWLY RECORDED RESOURCES

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # 36-001910
HRI #
Trinomial CA-SBR-1910H (UPDATE)
NRHP Status Code
Other Listings
Review Code Reviewer Date

 *Resource Name or #: (Assigned by recorder) CA-SBR-1910H (UPDATE)

P1. Other Identifier: LSA-IFC0901-S-3

*P2. Location: x Not for Publication ___ Unrestricted *a. County SBR and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' quad Cave Mountain Date 1983 T 11N ; R 6E ; ___ ¼ of ___ ¼ of Sec 14 ; SB B.M.

c. Address ___ City Afton ZIP ___

d. UTM (Give more than one for large and/or linear resources) Zone 11S 562567 mE / 3877748 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Located between Barstow and Baker, off the Afton Canyon exit. About a mile southeast on the gravel road lies the now ghost town of Afton alongside the Mojave River.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This extension of site CA-SBR-1910H is composed of a series of parallel gravel scrapes made during construction of the railroad. The engineer used locally available material to construct the rail grade. These features are found on the Afton Canyon floor along side the Afton Canyon Road and railway. The site is approximately 272' × 2,290' in area. There are +200 parallel scrapes between 150' to 250'. Scrapes are 8' wide. The construction of the rail grade coincides with the time that the Fresno Scraper was in operation. Feature width is consistent with the blade width of a Fresno Scraper. The scraper tracks offer good chronologic control as the Fresno Scraper was in use from 1884–1910. These features offer a unique insight to the construction of this historic railway. The features are well preserved and define construction activities.

*P3b. Resource Attributes: (List attributes and codes) AH7 – railroad construction

*P4. Resources Present: ___ Building ___ Structure ___ Object x Site ___ District ___ Element of District ___ Other (Isolates, etc.): ___

P5a. Photo or drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, data, accession #)
RR Construction Scrapes, North view, 12/11/2010

*P6. Date Constructed/Age and Sources:
x Historic ___ Prehistoric ___ Both
Date: Ca. 1906+

*P7. Owner and Address:
BLM – Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

*P8. Recorded by: Fred Lange and B. Wilson
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

*P9. Date recorded: 12/11/2010

*P10. Survey Type: (Describe)
Reconnaissance Survey

*P11. Report citation: (Cite survey report and other sources or enter "none.")

Attachments: ___ None x Location Map x Sketch Map 3 Continuation Sheet ___ Building, Structure, and Object Record
x Archaeological Record ___ District Record ___ Linear Feature Record ___ Milling Station Record
___ Rock Art Record ___ Artifact Record x Photograph Record ___ Other (list): ___

***A1. Dimensions: a.** Length: 2,290 feet. × **b. Width**: 272 feet.
Method of Measurement: ☐ **Paced** ☐ **Taped** ☐ **Visual estimate** ☒ **Other: measured using aerial photograph**
Method of Determination **(Check any that apply.):** ☐ **Artifacts** ☒ **Features** ☐ **Soil** ☐ **Vegetation** ☐ **Topography**
☐ **Cut bank** ☐ **Animal burrow** ☐ **Excavation** ☐ **Property boundary** ☐ **Other (Explain):**

Reliability of Determination: ☒ **High** ☐ **Medium** ☐ **Low** **Explain:**

Limitations **(Check any that apply):** ☐ **Restricted access** ☐ **Paved/built over** ☐ **Site limits incompletely defined**
☐ **Disturbances** ☐ **Vegetation** ☐ **Other (Explain):**

A2. Depth: ☒ **None** ☐ **Unknown** **Method of Determination:**
***A3. Human Remains:** ☐ **Present** ☒**Absent** ☐ **Possible** ☐ **Unknown (Explain):**

***A4. Features (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):**
This site is a made up of +200 scraper tracks. The scrapes are consistent with the footprint of a Fresno scraper. The scrapes lead to the rail line and the show that the adjacent material was used to build the rail grade. The age of the rail road is consistent with when the Fresno Scraper was in operation.

***A5. Cultural Constituents** (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):**
Fresno scrapers were in use from 1884–1910 and these features offer good chronological control.

***A6. Were Specimens Collected?** ☒ **No** ☐ **Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)**
***A7. Site Condition:** ☒ **Good** ☐ **Fair** ☐ **Poor (Describe disturbances.):**

***A8. Nearest Water (Type, distance, and direction.)**: **Mojave River**
***A9. Elevation:**
A10. Environmental Setting: The site is located in Afton Canyon. The soils are derived from granitic sources and have been deposited by alluvial forces. Vegetation is consistent with the Eastern Mojave Desert; creosote, bursage, salt bush and desert needlegrass.

A11. Historical Information:

***A12. Age:** ☐ **Prehistoric** ☐ **Protohistoric** ☐ **1542-1769** ☐ **1769-1848** ☐ **1848-1880** ☒ **1880-1914** ☐ **1914-1945**
☐ **Post 1945** ☐ **Undetermined** Describe position in regional prehistoric chronology or factual historic dates if known:

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations): This site offers a unique insight into the construction of the historic rail way. The features are well preserved and define construction activities.

A14. Remarks:

A15. References (Documents, informants, maps, and other references):

A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.): see attached photo record

Original Media/Negatives Kept at: kept on file at LSA Riverside Office
***A17. Form Prepared by:** Fred Lange Date: 1/18/2011
Affiliation and Address: LSA Associates, 1500 Iowa Ave, Riverside, California 92507

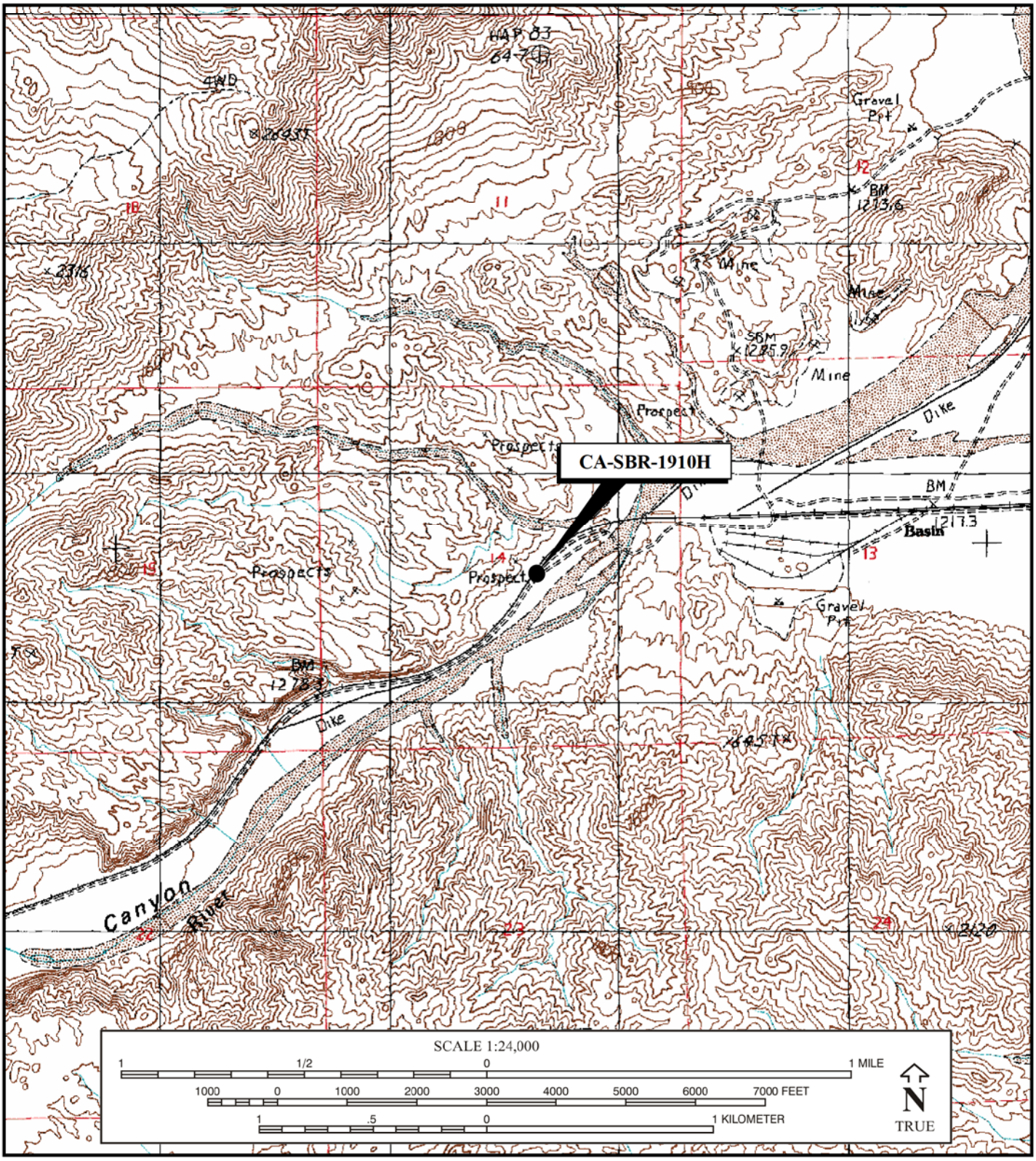
DPR 523C (1/95) *Required information

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-001910
HRI #
Trinomial CA-SBR-1910H

Page 3 of 7 *Resource Name or # (Assigned by recorder) LSA-IFC0901-S-3

*Map Name: USGS 7.5' Quad, Cave Mountain, California *Scale: 1:24000 *Date of Map: 1986



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DPR 523J (1/95) ***Required Information**

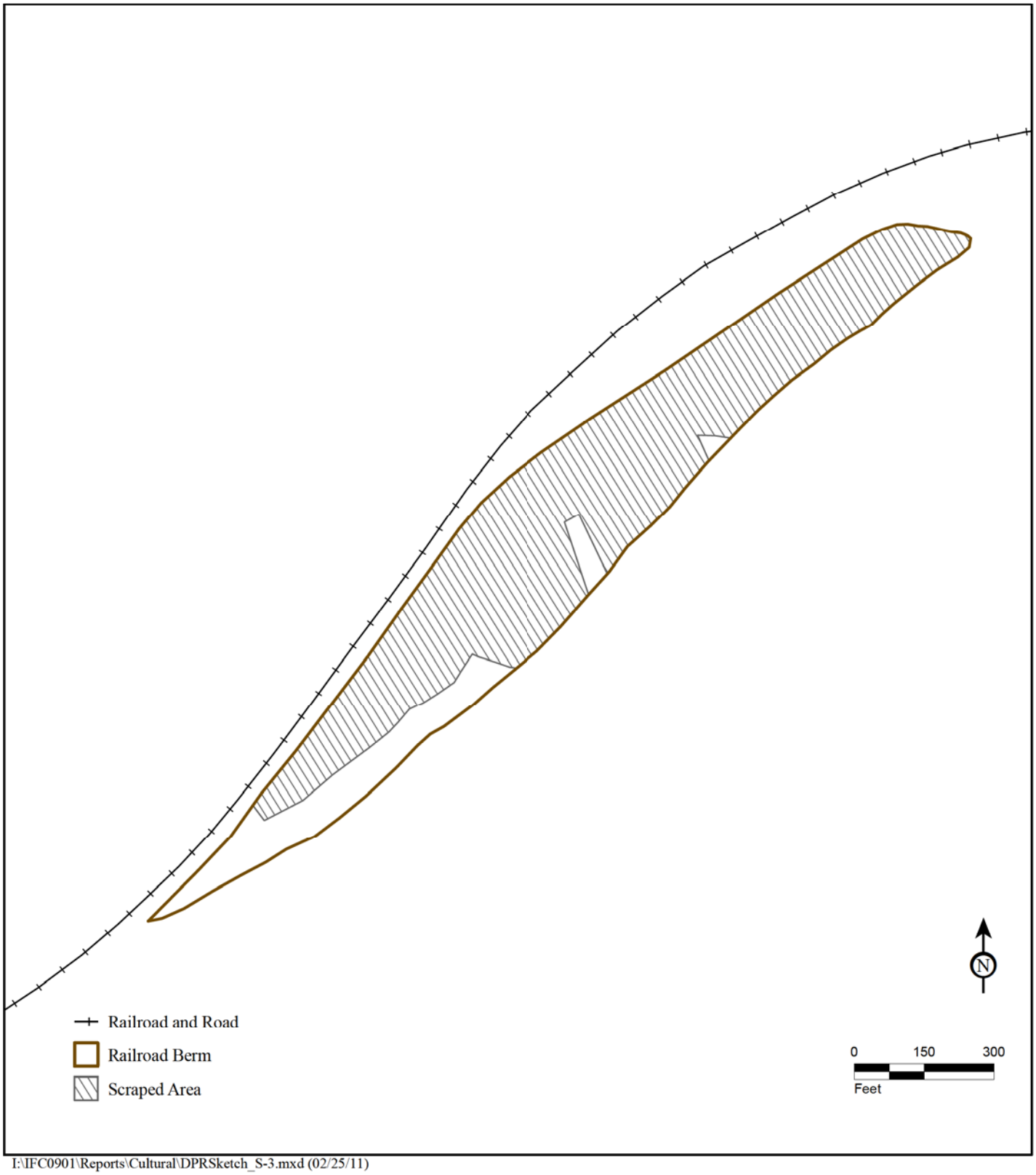
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 36-001910
HRI #
Trinomial CA-SBR-1910H

*Resource Name or # (Assigned by recorder) LSA-IFC0901-S-3

Drawn By: Andrew Belcourt

Date: January 27, 2011



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State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PHOTOGRAPH RECORD**	**Primary #** 36-001910 **HRI#** **Trinomial** CA-SBR-1910H (UPDATE)

Page 5 of 7 **Resource Name or #:** CA-SBR-1910H (UPDATE) **Year** 2010

Camera Format: Canon Power Shot Lens Size: 35mm

Film Type and Speed: Digital Negatives Kept at: LSA-Riverside Office

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
12	11	AM	1	RR Construction Scrapes	N	
12	11	AM	2	RR Construction Scrapes	N	
12	11	AM	3	RR Construction Scrapes	N	
12	11	AM	4	RR Construction Scrapes	S	
12	11	AM	5	RR Construction Scrapes	S	
12	11	AM	6	RR Construction Scrapes	W	
12	11	AM	7	RR Construction Scrapes	E	
12	11	AM	8	RR Construction Scrapes	W	

DPR 523I (1/95)

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code _____
Other Listings _____
Review Code _____ Reviewer _____ Date _____

 *Resource Name or #: (Assigned by recorder) Afton Cemetery

P1. Other Identifier: LSA-IFC0901-S-1

***P2. Location:** x Not for Publication ___ Unrestricted ***a. County** SBR **and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' quad** Dunn **Date** _____ **T** 11N **; R** 6E **;** _____ **¼ of** _____ **¼ of Sec** 18 **;** SB **B.M.**

c. Address _____ **City** Afton Canyon **ZIP** _____

d. UTM (NAD 83) **Zone** 11S 556564 **mE** / 3877085 **mN**

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Located between Barstow and Baker, off the Afton Canyon exit. About a mile southeast on the gravel road lies the now ghost town of Afton alongside the Mojave River.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This is a historic period cemetery (ca. 1906+) located on the south side of Afton Canyon on an alluvial sheet flow coming off small hills to the south. The cemetery consists of 6 grave makings (i.e., rocks/crosses). Five graves (F2–F6) are clearly marked and the sixth possible grave (F1) is highly disturbed and may have been the one excavated by the BLM. The graves are aligned north to south and oriented facing east.
Grave F1: measures 5' (N-S) × 9' (E-W), is highly disturbed: contains approximately 13 rocks of varying sizes; no cross is present. This grave has been excavated. It is reported that Jose Flores was buried here after being shot by a Section Foreman after an altercation.
Grave F2: measures 6.5' ×10'. There is a wooden cross on the west end approximately 4' high with a 4' cross bar. A border/frame of wood made from railroad ties surrounds the grave and +150 rocks of varying sizes are on the grave including a rock-lined edge on the north side of the grave. This grave has been identified as that of Jose Flores.
Grave F3: measures 5' (N-S) ×11' (E-W) with a wooden cross on the west end. The cross is approximately 18" high with a 17" cross bar. There are over 100 rocks piled on the grave.
(see continuation)

***P3b. Resource Attributes:** (List attributes and codes) AH12

***P4. Resources Present:** ___ Building ___ Structure ___ Object x Site ___ District ___ Element of District ___ Other (Isolates, etc.): _____

P5a. Photo or drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, data, accession #)
North view, 12/11/2010

***P6. Date Constructed/Age and Sources:**
x Historic ___ Prehistoric
___ Both
Date: Ca. 1906+

***P7. Owner and Address:**
BLM – Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

***P8. Recorded by:** Britt Wilson and Fred Lange
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

***P9. Date recorded:** 12/11/2010

***P10. Survey Type:** (Describe)
Reconnaissance Survey

***P11. Report citation:** (Cite survey report and other sources or enter "none.")

Attachments: ___ None x Location Map x Sketch Map x Continuation Sheet ___ Building, Structure, and Object Record
x Archaeological Record ___ District Record ___ Linear Feature Record ___ Milling Station Record

____ Rock Art Record ____ Artifact Record __x__ Photograph Record _____ Other (list): _____

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHAEOLOGICAL SITE RECORD

Primary #
Trinomial

 *Resource Name or #: Afton Cemetery

***A1. Dimensions:** a. Length: 60 feet. × b. **Width:** 30 feet.
Method of Measurement: ☐ **Paced** ☐ **Taped** ☒ **Visual estimate** ☐ **Other:**
Method of Determination **(Check any that apply.):** ☐ **Artifacts** ☒**Features** ☐ **Soil** ☐ **Vegetation** ☐ **Topography**
☐ **Cut bank** ☐ **Animal burrow** ☐ **Excavation** ☐ **Property boundary** ☐ **Other (Explain):**

Reliability of Determination: ☒ **High** ☐ **Medium** ☐ **Low** **Explain:**

Limitations **(Check any that apply):** ☐ **Restricted access** ☐ **Paved/built over** ☐ **Site limits incompletely defined**
☐ **Disturbances** ☐ **Vegetation** ☐ **Other (Explain):**

A2. Depth: ☐ **None** ☒**Unknown** **Method of Determination:**
***A3. Human Remains:** ☒**Present** ☐ **Absent** ☐ **Possible** ☐ **Unknown (Explain):**
***A4. Features:** **Grave F1:** measures 5′ (N-S) × 9′ (E-W), is highly disturbed: contains approximately 13 rocks of varying sizes; no cross is present. Reported that Jose Flores was buried here after being shot by a Section Foreman.
Grave F2: measures 6.5′ × 10′. There is a wooden cross on the west end approximately 4' high with a 4' cross bar. A border/frame of wood made from railroad ties surrounds the grave and +150 rocks of varying sizes are on the grave including a rock lined edge on the north side of the grave. This grave has been identified as that of Jose Flores.
Grave F3: measures 5′ (N-S) × 11′ (E-W) with a wooden cross on the west end. The cross is approximately 18" high with a 17" cross bar. There are over 100 rocks piled on the grave.
Grave F4: measures 3′ (N-S) × 5.5′ (E-W) with a wooden cross on the western end. The cross stands 21″ tall and has a 23″ cross bar. There are 80+ rocks covering the grave. There are remnants of a wood border. The Sea Scouts left a "Register Jar" on the grave.
Grave F5: measures 4.5′ (N-S) × 8′ (E-W) with a wooden cross on the western end of the grave. The cross stands 21″ tall with an 18″ crossbar. There are 90+ rocks piled on top of the grave.
Grave F6: measures 5.5′ (N-S) × 9.5′ (E-W) with a wooden cross on the western end. The cross stands 3′ high and has a 28″ crossbar. There are 150+ rocks piled on top of the grave.
***A5. Cultural Constituents** (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):**

***A6. Were Specimens Collected?** ☒ **No** ☐ **Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)**
***A7. Site Condition:** ☒ **Good** ☐ **Fair** ☐ **Poor (Describe disturbances.):**
***A8. Nearest Water (Type, distance, and direction**.): Mojave River, 100m to the south and west
***A9. Elevation:** 1,407 feet (amsl)
A10. Environmental Setting: The cemetery is located on alluvial fan coming off hills to the south of cemetery. The site slopes to the north. Vegetation is consistent with the Mojave Desert environment: creosote, bursage, needlegrass, ephedra, salt bush. The overwhelming majority of plant species are either a legume or a composite (sunflower) species. The site is located on the Afton Canyon floor; portions of the Mojave River run aboveground here. The presence of surface water nearby brings in thousands of migratory birds and attracts animal life from a broad range.
A11. Historical Information: This site is within the historic ghost town of Afton. Afton was founded by SP, LA, and SL Railroad as a water destination and railway maintenance. It was a small center and never had more than a couple dozen residents at most. In 1938, it was described as an isolated train office midway in the gorge. Afton declined with the installation of central traffic control, which replaced the need for an on-site telegrapher at Afton by the end of World War II. Jose Flores is buried in the cemetery and the shoot-out that put him there is well documented.
***A12. Age:** ☐ **Prehistoric** ☐ **Protohistoric** ☐ **1542-1769** ☐ **1769-1848** ☐ **1848-1880** ☒**1880-1914** ☒ **1914-1945**
☐ **Post 1945** ☐ **Undetermined** Describe position in regional prehistoric chronology or factual historic dates if known:

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):
This site contains the remains of at least 5 individuals buried in marked graves. There is a possibility that there is one other grave but that it has been compromised. The site is excellent condition with 5 intact marked graves. This site offers unique insight into the history of the region. Because this site contains excellent data potential for answering regional research questions and its integrity has not been compromised, it satisfies the threshold under Criterion D for eligibility for listing on the National Register of Historic Places (NRHP). This site is recommended as eligible for listing on the NRHP.
A14. Remarks:

A15. References (Documents, informants, maps, and other references): see continuation

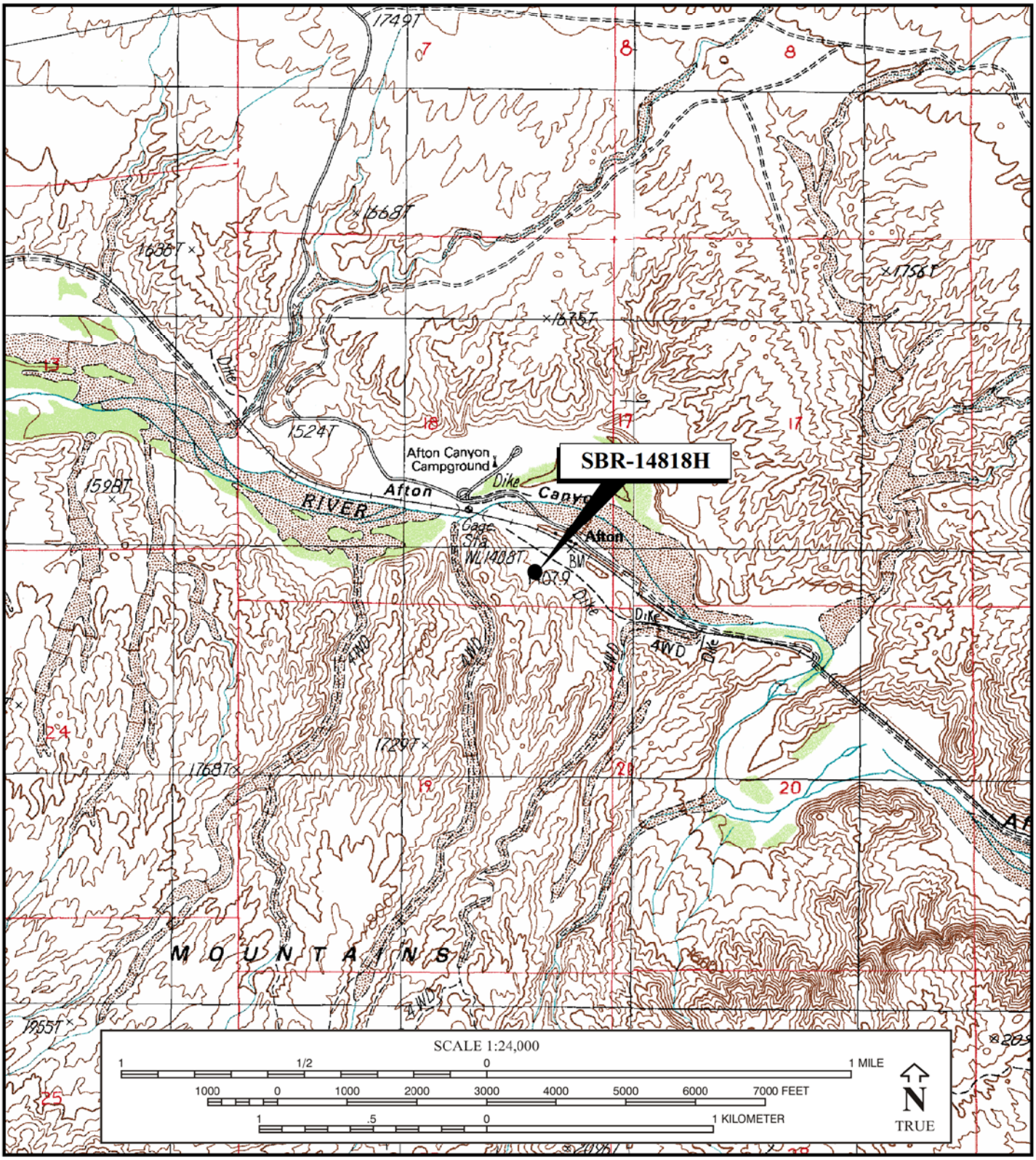
A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.): see photo record
Original Media/Negatives Kept at: On file at LSA Riverside Office
***A17. Form Prepared by:** Fred Lange Date: 1/26/2011
Affiliation and Address: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-023480
HRI #
Trinomial SBR-14818H

*Resource Name or # (Assigned by recorder) LSA-IFC0901-S-1

*Map Name: USGS 7.5' Quad, Dunn, California *Scale: 1:24000 *Date of Map: 1986



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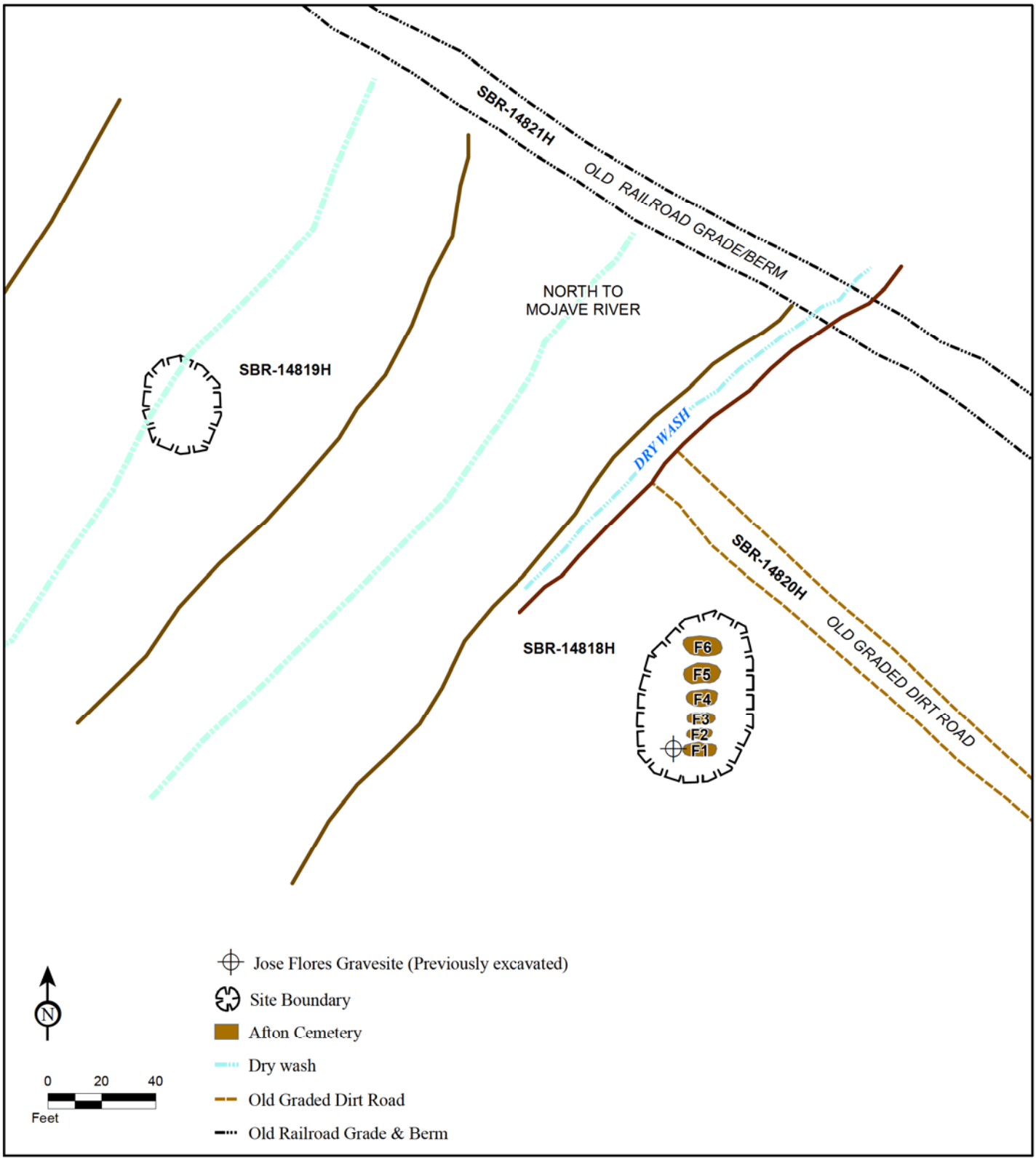
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 36-023480
HRI #
Trinomial SBR-14818H

*Resource Name or # (Assigned by recorder) LSA-IFC0901-S-1

Drawn By: Fred Lange

Date: January 26, 2011



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DPR 523K (1/95)

***Required Information**

P3a:
Grave F4: measures 3′ (N-S) × 5.5′ (E-W) with a wooden cross on the western end. The cross stands 21″ tall and has a 23″ cross bar. There are 80+ rocks covering the grave. There are remnants of a wood border. The Sea Scouts left a "Register Jar" on the grave.
Grave F5: measures 4.5′ (N-S) × 8′ (E-W) with a wooden cross on the western end of the grave. The cross stands 21″ tall with an 18″ crossbar. There are 90+ rocks piled on top of the grave.
Grave F6: measures 5.5′ (N-S) × 9.5′ (E-W) with a wooden cross on the western end. The cross stands 3′ high and has a 28″ crossbar. There are 150+ rocks piled on top of the grave.

Water: Mojave River
Land form/slope: alluvial flow, 5% down slope to the north
Soils/Vegetation: Alluvial sand and gravels; creosote-scrub community; desert pavement
Impacts to Site: Recreational /Educational visits by tour groups and private parties. Other than a "Register Jar" left on one of the graves by the sea scouts, no impacts were observed.

A BLM archaeologist (Pat Barker) reportedly excavated one of the graves.

A15: **References**

"*Pistol Barks Mexicans Dead: Cholos Assault Salt Lake Section Foreman: One Aborigine is Carted Away Still Clutching Bloody Knife*," San Bernardino Daily Sun 25 (no. 94, 30 May 1906), p. 1, col. 4

"*A Hot Battle But Foreman Scores: Cholos Wounded at Afton Brought to Local Hospital*," The San Bernardino Daily Sun 25 (no. 95, 31 May 1906), p. 2, col. 3.

"*Mexico Trio In A Bad Melee: Railroad Cholos [i.e., of mixed ancestry] Attack The Foreman, One Killed: San Bernardino Sheriff Reports Lively Doings At Afton, Near the Caves – Laborers Go After White Man With Knives – Two Surviving Mexicans Not Expected to Live*," Los Angeles Times, Wednesday, 30 May 1906, p 118

San Bernardino County Coroner Henderson Pittman investigated by holding two inquests: see "*In the Matter of the Inquisition upon the Body of Gores Floris, deceased*," (SBC Coroner Report 1906-2nd ledger, page 181) and "*Inquest on Inocencia Martinez*," 3 June (SBC Coroner report, 1906-2nd ledger, page 183)

2009 Richardson, Dr John V.
Afton: A Desert Station along the Mojave River on the Salt Lake Route; Or, who is buried in its cemetery at 35 02.10N, -116 22.40W
Unpublished paper: University of California: Riverside

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **HRI#**

PHOTOGRAPH RECORD

Trinomial

 Resource Name or #: Afton Cemetery **Year** 2010

Camera Format: Canon Power Shot Lens Size: 35mm
Film Type and Speed: Digital Negatives Kept at:

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
12	11	AM	1	River Crossing and Campground	W	
12	11	AM	2	River Crossing and Campground	W	
12	11	AM	3	River Crossing and Campground	W	
12	11	AM	4	River Crossing and Campground	W	
12	11	AM	5	Overview of cemetery and RR grade	W	
12	11	AM	6	Overview of RR grade	W	
12	11	AM	7	Overview cemetery site LSA-IFC-S-1	W	
12	11	AM	8	F2 Grave	W	
12	11	AM	9	F3 Grave	W	
12	11	AM	10	F4 Grave	W	
12	11	AM	11	F5 Grave	W	
12	11	AM	12	F6 Grave	W	
12	11	AM	13	Site Overview LSA-IFC0901-S-1	S	
12	11	AM	14	Site Overview LSA	N	
12	11	AM	15	Site Overview LSA	W	
12	11	AM	16	F6 Cross Detail	W	
12	11	AM	17	F4 Grave Detail	Plan	
12	11	AM	18	F2 Line of Rocks on Grave	Plan	
12	11	AM	19	F2 Line of Rocks on Grave	Plan	

Photo 1

Photo 2

Photo 4

Photo 5

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16

Photo 17

Photo 18

Photo 19

State of California - The Resources Agency

DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____

HRI # _____

Trinomial _____

NRHP Status Code _____

Other Listings _____

Review Code _____ Reviewer _____ Date _____

*Resource Name or #: (Assigned by recorder) LSA-IFC0901-S-2

P1. Other Identifier:

*P2. Location: x Not for Publication ___ Unrestricted *a. County SBR and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' quad *Dunn* Date *1986* T 11N ; R 6E ; ____ ¼ of ____ ¼ of Sec 18 ; SB B.M.

c. Address _____ City Afton Canyon ZIP _____

d. UTM (Give more than one for large and/or linear resources) Zone 11 556505 mE / 3877124 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Located between Barstow and Baker, off the Afton Canyon exit. About a mile southeast on the gravel road lies the now ghost town of Afton alongside the Mojave River.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This site is made up of two rock concentrations that maybe "graves" as reported by some as part of the historic Afton cemetery, which is located on the opposite bank approximately 59 meters east and 39 meters south. It has been determined that these rock features were for water catchment and for planting Agave. The rock features protected the Agave seedlings from rabbits.
Feature 1 measures 3' (N-S) × 4' (E-W) and contains approximately 30 rocks (Type 5 rock pile)
Feature 2 is less distinct than F1 and measures 3' (N-S) × 3' (E-W) and contains approximately 20 rocks (Type 5 rock pile).
The Mojave River is approximately 100 m to the north. The site is located on dry alluvium on the western bank of an unnamed dry wash. It is sitting on an approximately 5% slope to the north. The soils are composed of mixed alluvium derived from granitic sources. The major plant species are coalesced between two groups: legumes and composites (sunflowers). Creosote, saltbush, and bursage are the main plant types found. There are lfew impacts to the site but sheet flow and alluvial activities associated with the wash have impacted the site.

*P3b. Resource Attributes: (List attributes and codes) *AH1*

*P4. Resources Present: ___ Building ___ Structure ___ Object x Site ___ District ___ Element of District ___ Other (Isolates, etc.): _____

P5a. Photo or drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, data, accession #)
Feature 1, north facing, 12/11/2010

*P6. Date Constructed/Age and Sources:
x Historic ___ Prehistoric
___ Both
Date: Ca. 1906+

*P7. Owner and Address:
BLM – Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

*P8. Recorded by: Fred Lange and Britt Wilson
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

*P9. Date recorded: 12/11/2010

*P10. Survey Type:
Reconnaissance Survey

*P11. Report citation: (Cite survey report and other sources or enter "none.")

Attachments: ___ None x Location Map x Sketch Map 2 Continuation Sheet ___ Building, Structure, and Object Record
x Archaeological Record ___ District Record ___ Linear Feature Record ___ Milling Station Record
___ Rock Art Record ___ Artifact Record x Photograph Record ___ Other (list): _____

*A1. Dimensions: a. Length: **m.** ( ) × b. Width: **m.** ( )
Method of Measurement: ☐ **Paced** ☐ **Taped** ☒ **Visual estimate** ☐ **Other:**
Method of Determination **(Check any that apply.):** ☐ **Artifacts** ☒ **Features** ☐ **Soil** ☐ **Vegetation** ☐ **Topography**
☐ **Cut bank** ☐ **Animal burrow** ☐ **Excavation** ☐ **Property boundary** ☐ **Other (Explain):**

Reliability of Determination: ☒ **High** ☐ **Medium** ☐ **Low** **Explain:**

Limitations **(Check any that apply):** ☐ **Restricted access** ☐ **Paved/built over** ☐ **Site limits incompletely defined**
☐ **Disturbances** ☐ **Vegetation** ☐ **Other (Explain):**

A2. Depth: ☐ **None** ☒ **Unknown** **Method of Determination:**
*A3. Human Remains: ☐ **Present** ☐ **Absent** ☐ **Possible** ☒**Unknown (Explain):**

*A4. Features **(Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):**

Feature 1 measures 3′ (N-S) × 4′ (E-W) and contains approximately 30 rocks (Type 5 rock pile)
Feature 2 is less distinct than F1 and measures 3′ (N-S) × 3′ (E-W) and contains approximately 20 rocks (Type 5 rock pile).

*A5. Cultural Constituents (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):**

*A6. Were Specimens Collected? ☒ **No** ☐ **Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)**
*A7. Site Condition: ☐ **Good** ☒**Fair** ☐ **Poor (Describe disturbances.):**

*A8. Nearest Water **(Type, distance, and direction.)**: Located along the bank of a dry wash which drains into the Mojave River
*A9. Elevation:
A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): Desert scrub environment: plant species typical of this portion of the Mojave; creosote, salt bush, bursage and desert needle grass. Soils are derived from granitic sources and have been deposited by alluvial actions. The site is on an approximately 5% north slope. Local fauna is jack rabbit, small reptiles, desert tortoise, coyote. Afton Canyon is one of the few places where a small portion of the Mojave River runs aboveground. This oasis in the desert attracts thousands of migratory birds and draws in surrounding animals.

A11. Historical Information:
Afton was established in the early 20th century as a railroad town. Afton Canyon was explored by prospectors and limited mining is evident throughout.

*A12. Age: ☐ **Prehistoric** ☐ **Protohistoric** ☐ **1542-1769** ☐ **1769-1848** ☐ **1848-1880** ☒ **1880-1914** ☒**1914-1945**
☐ **Post 1945** ☐ **Undetermined** Describe position in regional prehistoric chronology or factual historic dates if known:

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):
This site offers little in the way of data potential and is unlikely to be able to answer regional research questions. Much of the integrity of the site has been lost due to alluvial forces. There are no diagnostic artifacts either cultural or temporally that could be used to define this site. The vague nature of the features and the compromised integrity of the site does not meet the threshold under Criterion D of the National Register of Historic Places (NRHP) for eligibility. Therefore, this site is recommended as ineligible for listing in the NRHP.

A14. Remarks:

A15. References (Documents, informants, maps, and other references):

A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.): see attachments

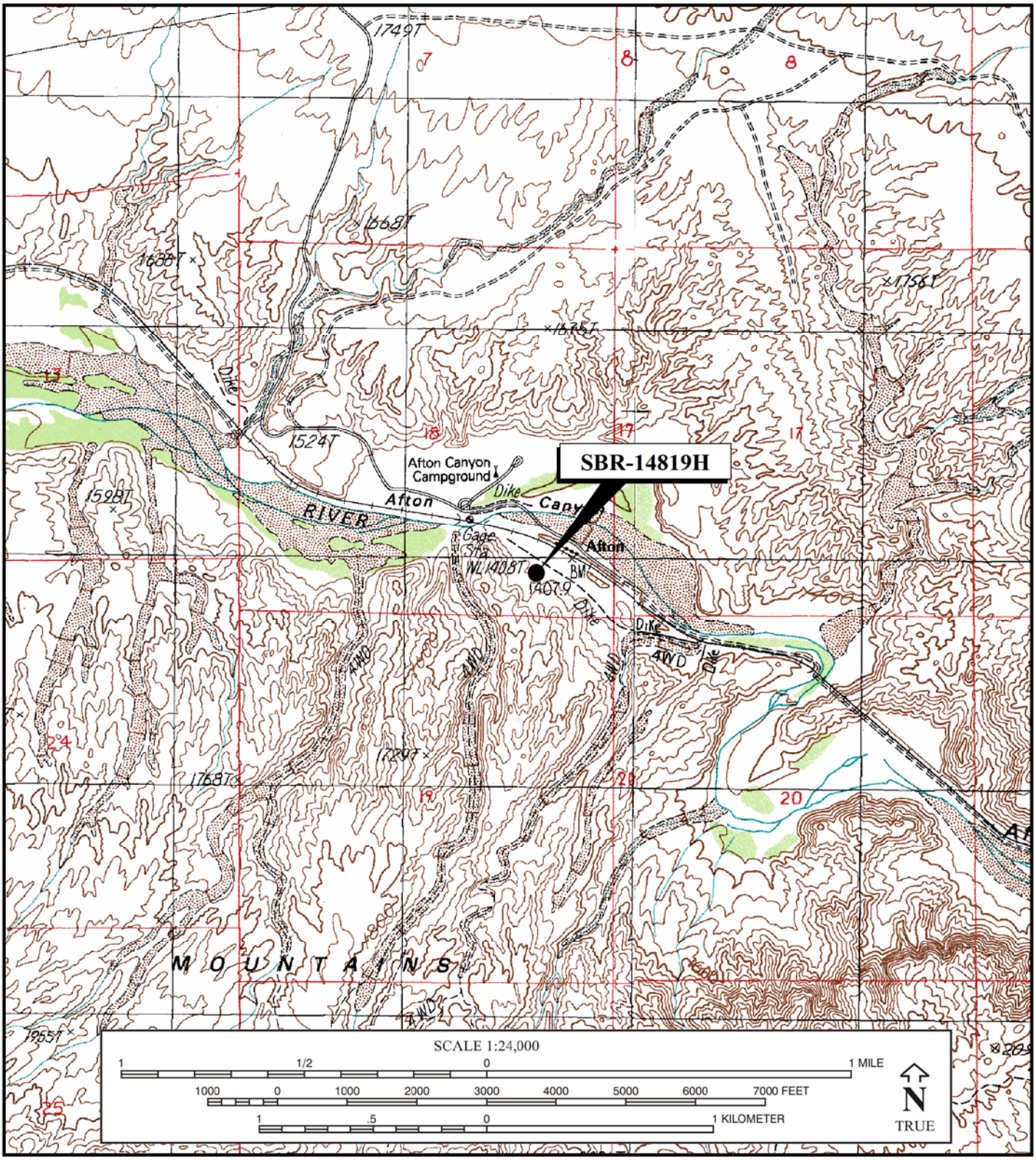
Original Media/Negatives Kept at: on file at LSA Riverside Office
***A17. Form Prepared by:** Fred Lange Date: **1/27/2011**

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-023481
HRI #
Trinomial SBR-14819H

Page 3 of 7 *Resource Name or # (Assigned by recorder) LSA-IFC0901-S-2

*Map Name: USGS 7.5' Quad, Dunn, California *Scale: 1:24000 *Date of Map: 1986



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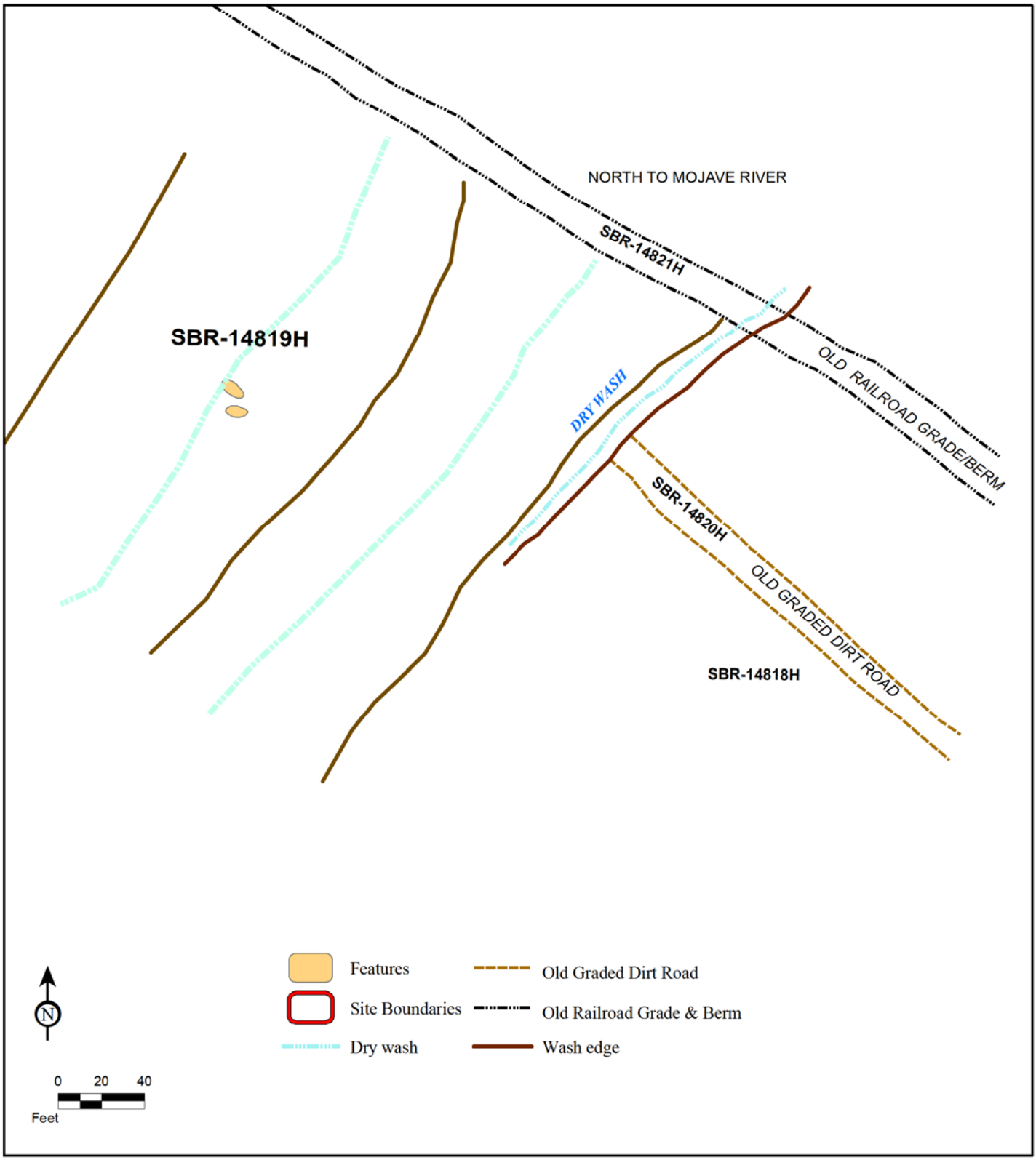
DPR 523J (1/95) ***Required Information**

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 36-024381
HRI #
Trinomial SBR-14819H

Page 4 of 7 *Resource Name or # (Assigned by recorder) LSA-IFC0901-S-2

Drawn By: Fred Lange Date: January 26, 2011



I:\IFC0901\Reports\Cultural\DPRSketch_S-2.mxd (08/05/11)

DPR 523K (1/95) *Required Information

Affiliation and Address: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

DPR 523C (1/95) *Required information

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **HRI#**

PHOTOGRAPH RECORD

Trinomial

Page 5 of 7 **Resource Name or #:** LSA-IFC0901-S-2 **Year** 2010

Camera Format: Canon Power Shot Lens Size: 35mm
Film Type and Speed: Digital Negatives Kept at: LSA-Riverside Office

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
12	11	AM	1	Feature 1	E	
12	11	AM	2	Feature 1	N	
12	11	AM	3	Feature 1	W	
12	11	AM	4	Feature 2	W	
12	11	AM	5	Feature 1	N	

DPR 523I (1/95)

State of California — The Resources Agency

DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 6 of 7 *__Resource Name or #__: (Assigned by recorder) LSA-IFC0901-S-2

*Recorded by B. Wilson and F. Lange *Date: 12./11/2010 X Continuation ____ Update

Photo 1

Photo 2

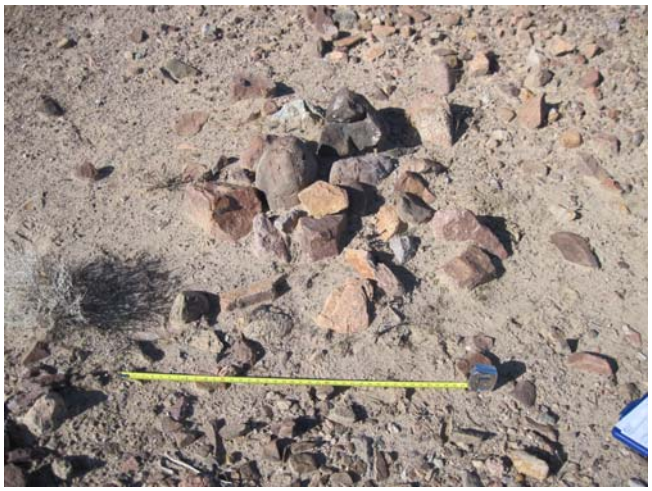


Photo 3

Photo 4

State of California — The Resources Agency

DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 7 of 7 *__Resource Name or #__: (Assigned by recorder) LSA-IFC0901-S-2

*Recorded by B. Wilson and F. Lange *Date: 12./11/2010 X Continuation ____ Update

Photo 5

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code _____
Other Listings _____
Review Code _____ Reviewer _____ Date _____

 *Resource Name or #: (Assigned by recorder) Old Graded Dirt Road

P1. Other Identifier: LSA-IFC00901-S-4

***P2. Location:** X Not for Publication ___ Unrestricted ***a. County** SBR **and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' quad** *Dunn* **Date** *1986* **T** 11N **; R** 6E **;** ____ **¼ of** ____ **¼ of Sec** 18 **;** SB **B.M.**

c. Address _____ **City** Afton **ZIP** _____

d. UTM (Give more than one for large and/or linear resources) **Zone** 11S 556598 **mE /** 3877084 **mN**

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Located between Barstow and Baker, off the Afton Canyon exit. About a mile southeast on the gravel road lies the now ghost town of Afton alongside the Mojave River.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This resource is a graded dirt road that may have provided access to the Afton Cemetery (LSA-IFC0901-S-1), which is 20′ to the south. It is approximately 9.5′ across and runs parallel to LSA-IFC0901-S-5 a remnant rail grade/berm. The road terminates at washes to the east and west and is approximately 501 feet long.

Water: Mojave River
Land form/slope: alluvial flow, 5% down slope to the north
Soils/Vegetation: Alluvial sand and gravels; creosote-scrub community; desert pavement
Impacts to Site: Recreational /Educational visits by tour groups and private parties. No significant impacts are made on this site.

***P3b. Resource Attributes:** (List attributes and codes) Road/trail/railroad bed: AH7

***P4. Resources Present:** ___ Building ___ Structure ___ Object x Site ___ District ___ Element of District ___ Other (Isolates, etc.): _____

P5a. Photo or drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, data, accession #)

***P6. Date Constructed/Age and Sources:**
x Historic ___ Prehistoric
___ Both
Date: Ca. +1906

***P7. Owner and Address:**
BLM – Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

***P8. Recorded by:** (Name, affiliation, and address):
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

***P9. Date recorded:** 12/11/2010

***P10. Survey Type:** reconnaissance survey

***P11. Report citation:** (Cite survey report and other sources or enter "none.")

Attachments: ___ None x Location Map x Sketch Map ___ Continuation Sheet ___ Building, Structure, and Object Record
x Archaeological Record ___ District Record x Linear Feature Record ___ Milling Station Record
___ Rock Art Record ___ Artifact Record ___ Photograph Record ___ Other (list): _____

***A1. Dimensions: a. Length:** 501 ft. × **b. Width**: 20 feet
Method of Measurement: ☐ **Paced** ☐ **Taped** ☒ **Visual estimate** ☐ **Other:**
Method of Determination **(Check any that apply.):** ☐ **Artifacts** ☒ **Features** ☐ **Soil** ☐ **Vegetation** ☐ **Topography**
☐ **Cut bank** ☐ **Animal burrow** ☐ **Excavation** ☐ **Property boundary** ☐ **Other (Explain):**

Reliability of Determination: ☒ **High** ☐ **Medium** ☐ **Low** **Explain: Determinations were made from field work**

Limitations **(Check any that apply):** ☐ **Restricted access** ☐ **Paved/built over** ☒**Site limits incompletely defined**
☐ **Disturbances** ☐ **Vegetation** ☐ **Other (Explain):**

A2. Depth: ☒**None** ☐ **Unknown** **Method of Determination:**
***A3. Human Remains:** ☒ **Present** ☐ **Absent** ☐ **Possible** ☐ **Unknown (Explain):** Afton Cemetery (LSA-IFC0901-S-1) is adjacent south to this road.
***A4. Features (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):** No features other than the road itself are present.

***A5. Cultural Constituents** (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):**
There are no artifacts associated with this road.

***A6. Were Specimens Collected?** ☒ **No** ☐ **Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)**
***A7. Site Condition:** ☒**Good** ☐ **Fair** ☐ **Poor (Describe disturbances.):**

***A8. Nearest Water (Type, distance, and direction.)**: Mojave River 100 m north
***A9. Elevation:** 1,407 feet (amsl)
A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The old graded road is located on alluvial fan coming off hills to the south of cemetery. The site slopes to the north. Vegetation is consistent with the Mojave Desert environment: creosote, bursage, needlegrass, ephedra, salt bush. The overwhelming majority of plant species are either a legume or a composite (sunflower) species. The site is located on the Afton Canyon floor, portions of the Mojave River run aboveground here. The presence of surface water nearby brings in thousands of migratory birds and attracts animal life from a broad range.

A11. Historical Information:
There are no associated artifacts, which limits the ability to provide a precise chronologic date. However, it is believed that this road may have been used to access the cemetery and was constructed by the residents of the Town of Afton.

***A12. Age:** ☐ **Prehistoric** ☐ **Protohistoric** ☐ **1542-1769** ☐ **1769-1848** ☐ **1848-1880** ☐ **1880-1914** ☒ **1914-1945**
☐ **Post 1945** ☐ **Undetermined** **Describe position in regional prehistoric chronology or factual historic dates if known:**

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):
This site may have been used to access the Afton Cemetery but no conclusive data can be provided at this time for this association. The road itself is in relatively good shape and can be viewed from modern aerials. The site lacks any diagnostic artifacts and has limited ability to provide information relevant to important regional research questions. It fails to meet the threshold for listing in the Nation Register of Historic Places (NRHP) under Criterion D. It is therefore recommended as not eligible for listing in the NRHP.
A14. Remarks:

A15. References (Documents, informants, maps, and other references):

A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.):
Original Media/Negatives Kept at:
***A17. Form Prepared by**: Fred Lange Date: 2/11/2011
Affiliation and Address: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

State of California — The Resources Agency

DEPARTMENT OF PARKS AND RECREATION

LINEAR FEATURE RECORD

Primary # _____

HRI # _____

Trinomial _____

***Resource Name or #**: (Assigned by recorder) LSA-IFC0901-S-4

L1. Historic and/or Common Name: Old Graded Dirt Road

L2a. Portion Described: ____ **Entire Resource** x **Segment** ____ **Point Observation** **Designation:** _____

L2b. Location of point or segment: The site is located on the *Dunn* USGS quadrangle (1986). It lies in Township 11 North, Range 6 East, in Section 18. Located between Barstow and Baker, off the Afton Canyon Exit. About a mile southeast on the gravel road lies the now ghost town of Afton alongside the Mojave River.

L3. Description: The road is a graded dirt road approximately 9.5' wide and 501' long. It terminates to the east and west at two unnamed dry washes.

L4. Dimensions:
(In feet for historic features, meters for prehistoric features)

a. Top Width	9.5'
b. Bottom Width	9.5'
c. Height or Depth	surface
d. Length of Segment	501'

L4e. Sketch of Cross Section (include scale) Facing: _____

L5. Associated Resources: LSA-IFC0901-S-4, LSA-IFC0901-S-2, LSA-IFC0901-S-1

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

It is on an alluvial fan coming off hills to the south of cemetery. The site slopes to the north. Vegetation is consistent with the Mojave Desert environment: creosote, bursage, needlegrass, ephedra, and salt bush. The overwhelming majority of plant species are either a legume or a composite (sunflower) species. The site is located on the Afton Canyon floor; portions of the Mojave River run aboveground here. The presence of surface water nearby brings in thousands of migratory birds and attracts animal life from a broad range.

L7. Integrity Considerations: The road can still be viewed from an aerial. It is now used by hikers and OHV.

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing
(view, scale, etc.)

L9. Remarks:

L10. Form Prepared by:

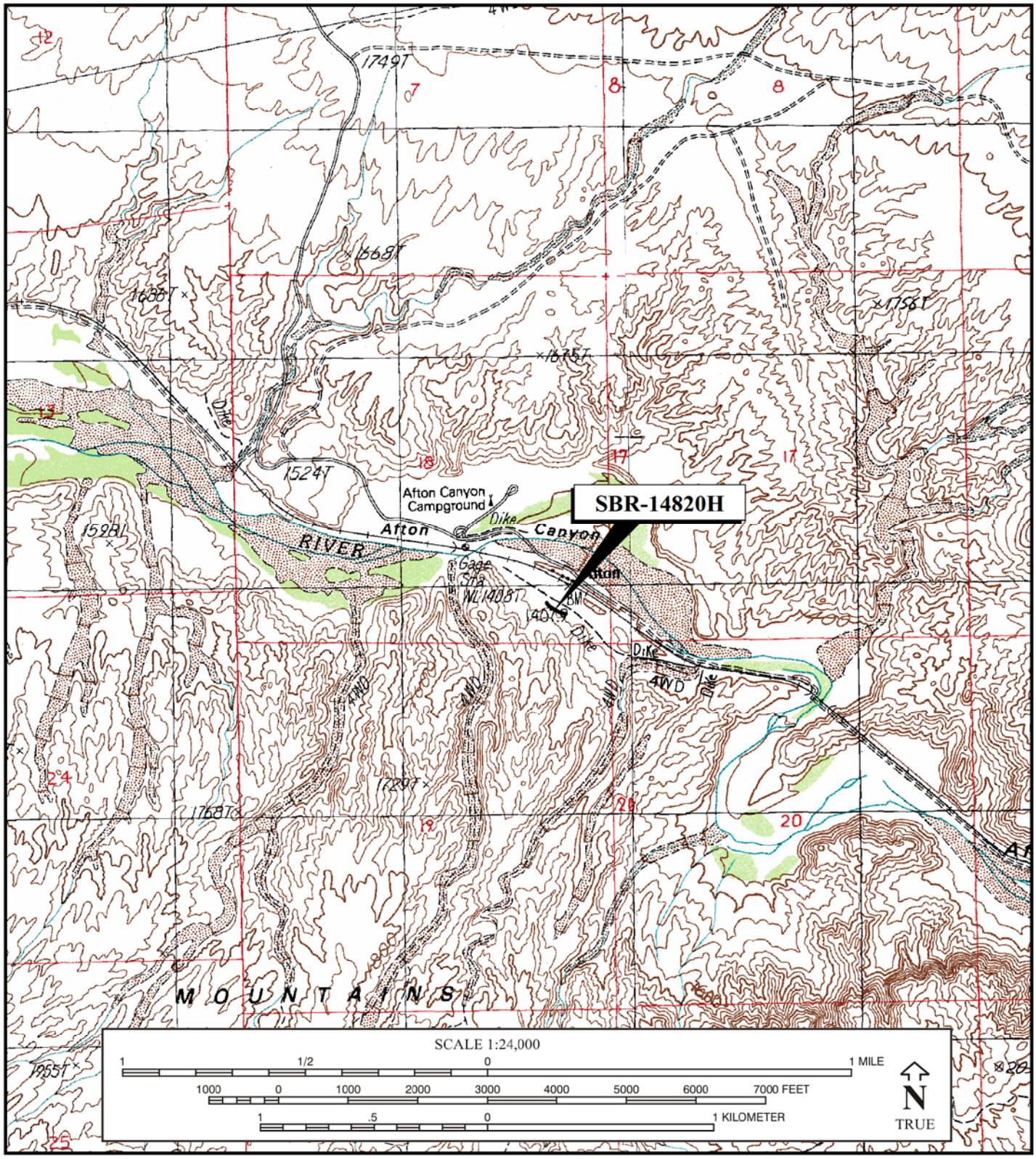
Fred Lange
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-023482
HRI #
Trinomial SBR-14820H

Page 4 of 5 *Resource Name or # (Assigned by recorder) LSA-IFC0901-S-4

*Map Name: USGS 7.5' Quad, Dunn, California *Scale: 1:24000 *Date of Map: 1986



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DPR 523J (1/95) ***Required Information**

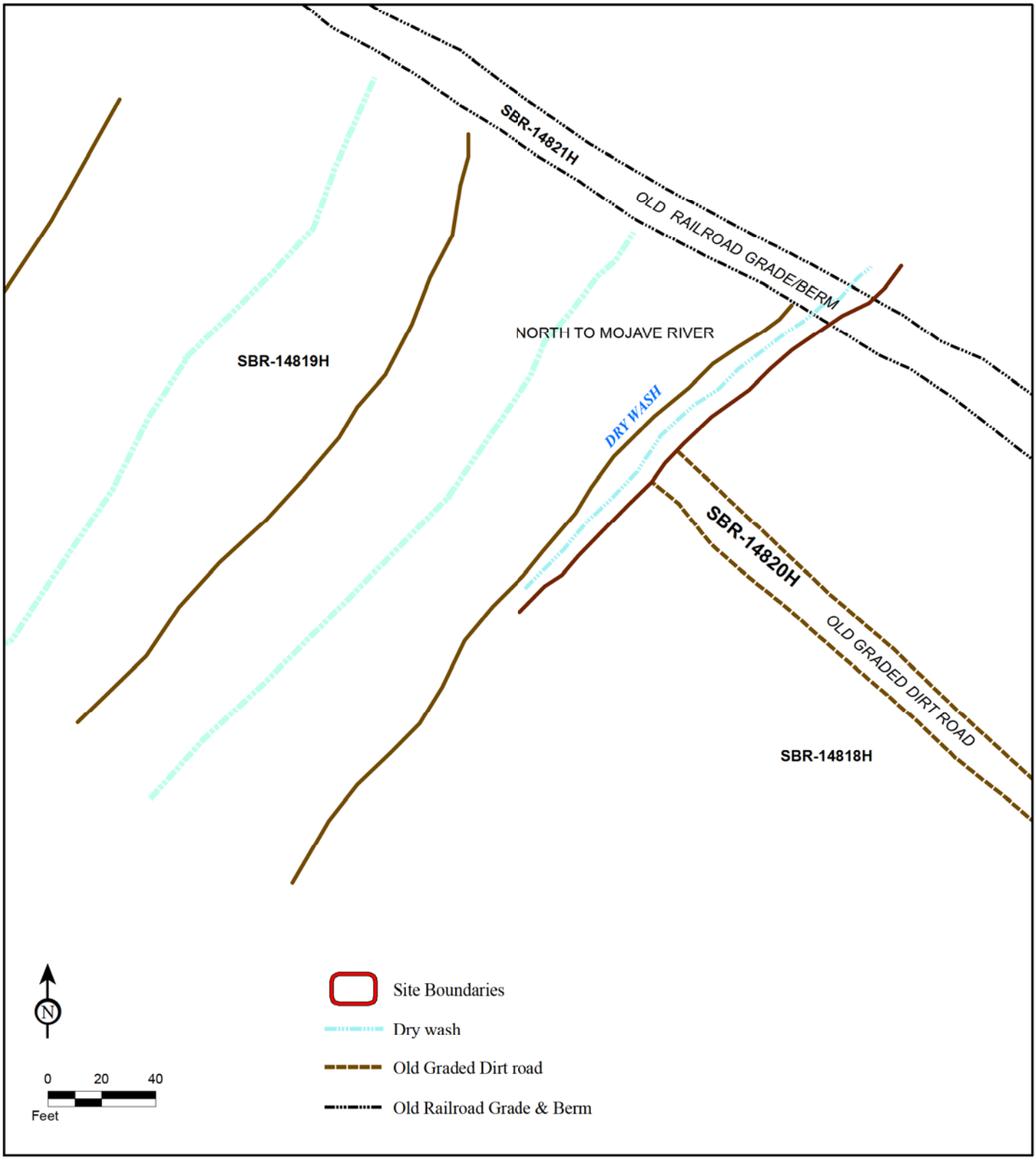
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 36-023482
HRI #
Trinomial SBR-14820H

*Resource Name or # (Assigned by recorder) LSA-IFC0901-S-4

Drawn By: Fred Lange

Date: January 26, 2011



I:\IFC0901\Reports\Cultural\DPRSketch_S-4.mxd (08/05/11)

DPR 523K (1/95)

***Required Information**

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code _____
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 5 *Resource Name or #: (Assigned by recorder) Raised Rail Grade/Berm

P1. Other Identifier: LSA-IFC0901-S-5

*P2. Location: ___ Not for Publication ___ Unrestricted *a. County SBR and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' quad Dunn Date 1986 T 11N ; R 6E ; ____ ¼ of ____ ¼ of Sec 18 ; SB B.M.

c. Address _____ City Afton ZIP _____

d. UTM (Give more than one for large and/or linear resources) Zone 11S 556740 mE / 3876882 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Located between Barstow and Baker, off the Afton Canyon exit. About a mile southeast on the gravel road lies the now ghost town of Afton alongside the Mojave River.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This raised grade is constructed from locally available material. Surface material was scraped and pushed to form a raised bed up to 12′ in some areas. The grade is approximately 8′ wide. There were no artifacts recorded from rail construction. If it was railroads at one time, then materials have been salvaged for other use. It lies in the bottom of Afton Canyon south of the Mojave River and the abandoned town of Afton.

*P3b. Resource Attributes: (List attributes and codes) Road/trail/railroad: AH7

*P4. Resources Present: ___ Building ___ Structure ___ Object x Site ___ District ___ Element of District ___ Other (Isolates, etc.): ____

P5a. Photo or drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, data, accession #)
West View Grade: 12/11/2010

*P6. Date Constructed/Age and Sources:
x Historic ___ Prehistoric
___ Both
Date: Ca +1906

*P7. Owner and Address:
BLM – Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

*P8. Recorded by: Fred Lange
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

*P9. Date recorded: 12/11/2010

*P10. Survey Type:
Reconnaissance Survey

*P11. Report citation: (Cite survey report and other sources or enter "none.")

Attachments: ___ None x Location Map x Sketch Map ___ Continuation Sheet ___ Building, Structure, and Object Record
x Archaeological Record ___ District Record x Linear Feature Record ___ Milling Station Record
___ Rock Art Record ___ Artifact Record ___ Photograph Record ___ Other (list): _____

***A1. Dimensions: a. Length:** 564 feet × **b. Width:** 12 feet.
Method of Measurement: ☐ **Paced** ☐ **Taped** ☒ **Visual estimate** ☐ **Other:**
Method of Determination **(Check any that apply.):** ☐ **Artifacts** ☒ **Features** ☐ **Soil** ☐ **Vegetation** ☐ **Topography**
☐ **Cut bank** ☐ **Animal burrow** ☐ **Excavation** ☐ **Property boundary** ☐ **Other (Explain):**

Reliability of Determination: ☒ **High** ☐ **Medium** ☐ **Low** **Explain: Determinations made from field investigations.**

Limitations **(Check any that apply):** ☐ **Restricted access** ☐ **Paved/built over** ☒ **Site limits incompletely defined**
☐ **Disturbances** ☐ **Vegetation** ☐ **Other (Explain):**

A2. Depth: up to 12′ ☐ **None** ☐ **Unknown** **Method of Determination:**
***A3. Human Remains:** ☐ **Present** ☐ **Absent** ☐ **Possible** ☒ **Unknown (Explain):**

***A4. Features (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):** The rail grade itself is the only feature present.

***A5. Cultural Constituents (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):**
No artifacts were observed during field investigations.

***A6. Were Specimens Collected?** ☒ **No** ☐ **Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)**
***A7. Site Condition:** ☒ **Good** ☐ **Fair** ☐ **Poor (Describe disturbances.):**

***A8. Nearest Water (Type, distance, and direction.)**: Mojave River approximately 75 m to the north. There are numerous dry washes in the surrounding area that could have served as potential additional seasonal water sources.
***A9. Elevation**: 1,407 feet (amsl)
A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The site is on an alluvial fan coming off hills to the south. The site slopes to the north. The soils are composed of coarse particles derived from granitic sources deposited by alluvial forces. Vegetation is consistent with the Mojave Desert environment: creosote, bursage, needlegrass, ephedra, and salt bush. The overwhelming majority of plant species are either a legume or a composite (sunflower) species. The site is located on the Afton Canyon floor, portions of the Mojave River run aboveground here. The presence of surface water nearby brings in thousands of migratory birds and attracts animal life from a broad range.

A11. Historical Information: This site is south of the historic ghost town of Afton. Afton was founded by SP, LA, and SL Railroads as a water destination and railway maintenance. It was a small center and never had more than a couple dozen residents at most. In 1938, it was described as an isolated train office midway in the gorge. Afton declined with the installation of central traffic control, which replaced the need for an on-site telegrapher at Afton by the end of World War II.

***A12. Age:** ☐ **Prehistoric** ☐ **Protohistoric** ☐ **1542-1769** ☐ **1769-1848** ☐ **1848-1880** ☒ **1880-1914** ☒ **1914-1945**
☐ **Post 1945** ☐ **Undetermined** **Describe position in regional prehistoric chronology or factual historic dates if known**:

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):
This site is in relatively good condition and has not been fully documented. The site maybe part of original rail construction in the area and is associated with the town of Afton. There is a possibility that it was constructed independently from the mainline to service mining claims in the area. Although there was a lack of artifacts within the recorded segment of this resource, the entire resource has not been examined. This site could potentially be eligible under Criterion A, as contributing element to mining activities in Afton Canyon, and Criterion D because it has the potential for answering important regional research questions. Further research is needed to make a determination of eligibility for this site.
A14. Remarks:
A15. References (Documents, informants, maps, and other references):
A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.):
Original Media/Negatives Kept at: Photograph is on file at LSA Riverside Office.
***A17. Form Prepared by:** Fred Lange Date: **2/11/2011**
Affiliation and Address: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

State of California — The Resources Agency

DEPARTMENT OF PARKS AND RECREATION

LINEAR FEATURE RECORD

Primary # _____

HRI # _____

Trinomial _____

***Resource Name or #**: (Assigned by recorder) LSA-IFC-0901-S-5

L1. Historic and/or Common Name: Old Rail Grade / Berm

L2a. Portion Described: ____ **Entire Resource** ____ **Segment** X **Point Observation** **Designation:** _____

L2b. Location of point or segment: Located on the Dunn 7.5' USGS Quadrangle in Township 11 North, Range 6 East, Section 18.

L3. Description: This raised grade is constructed from locally available material. Surface material was scraped and pushed to form a raised bed up to 12' in some areas. The grade is approximately 8' wide. There were no artifacts recorded from rail construction. If it was railroads at one time then materials have been salvaged for other use. It lies in the bottom of Afton Canyon south of the Mojave River and the abandoned town of Afton.

L4. Dimensions:
(In feet for historic features, meters for prehistoric features)

a. Top Width	**8**
b. Bottom Width	**12**
c. Height or Depth	**12**
d. Length of Segment	**564'**

L4e. Sketch of Cross Section (include scale) Facing: _____

L5. Associated Resources: LSA-IFC0901-S-4, LSA-IFC0901-S-2, LSA-IFC0901-S-1

L6. Setting: The site is on an alluvial fan coming off hills to the south. The site slopes to the north. The soils are compossed of course particles derived from granitic sources were deposited by alluvial forces. Vegetation is consistent with the Mojave Desert environment: creosote, bursage, needlegrass, ephedra, salt bush. The overwhelming majority of plant species are either a legume or a composite (sunflower) species. The site is located on the Afton Canyon floor, portions of the Mojave River run above ground here. The presence of surface water nearby brings in thousands of migratory birds and attracts animal life from a broad range.

L7. Integrity Considerations: This site is in good condition and has had limited impacts from recreational activities such as OHV vehicles

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing

West View Grade: 12/11/2010

L9. Remarks:

L10. Form Prepared by:

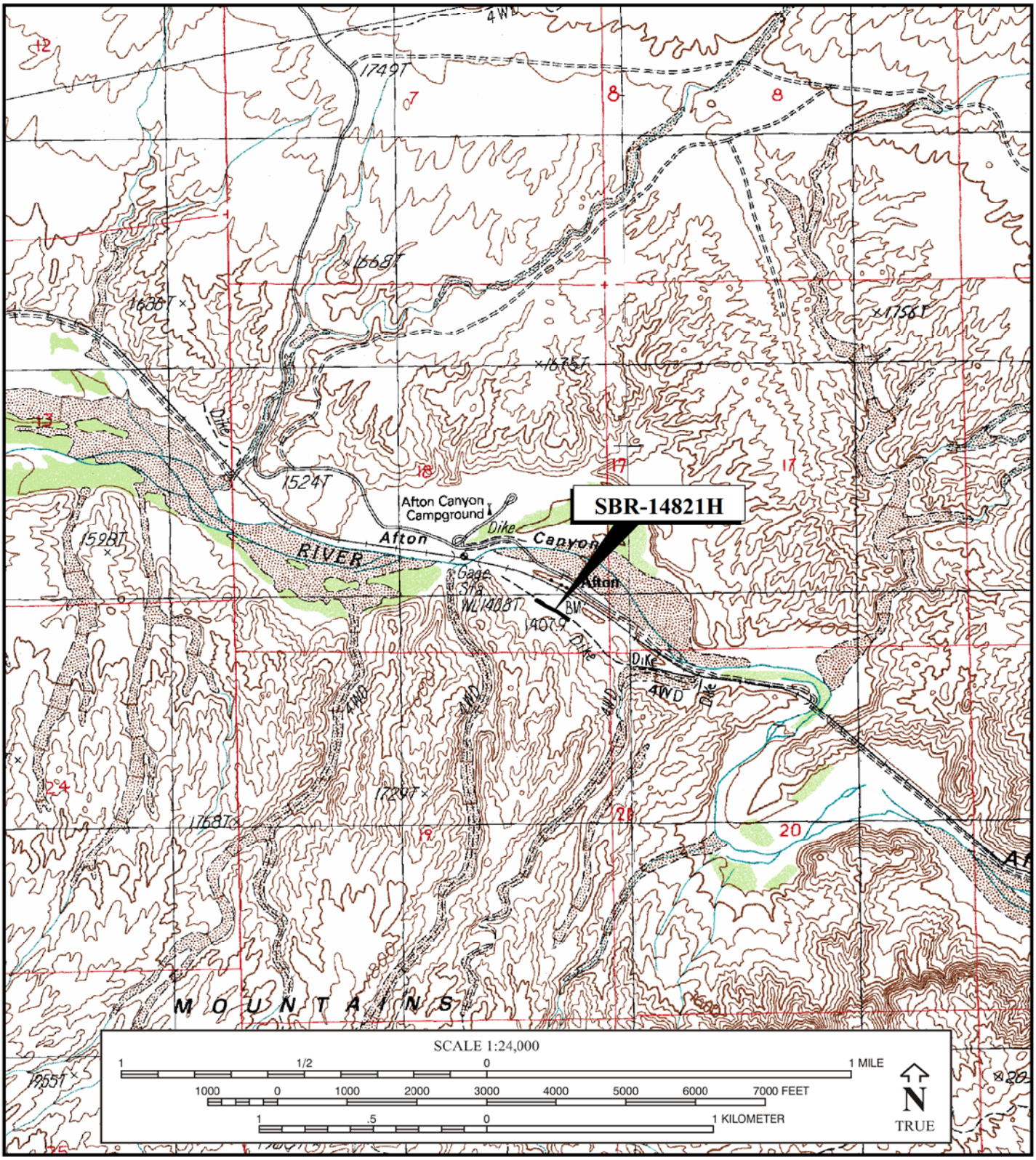
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-023483
HRI #
Trinomial SBR-14821H

Page 4 of 5 *Resource Name or # (Assigned by recorder) LSA-IFC0901-S-5

*Map Name: USGS 7.5' Quad, Dunn, California *Scale: 1:24000 *Date of Map: 1986



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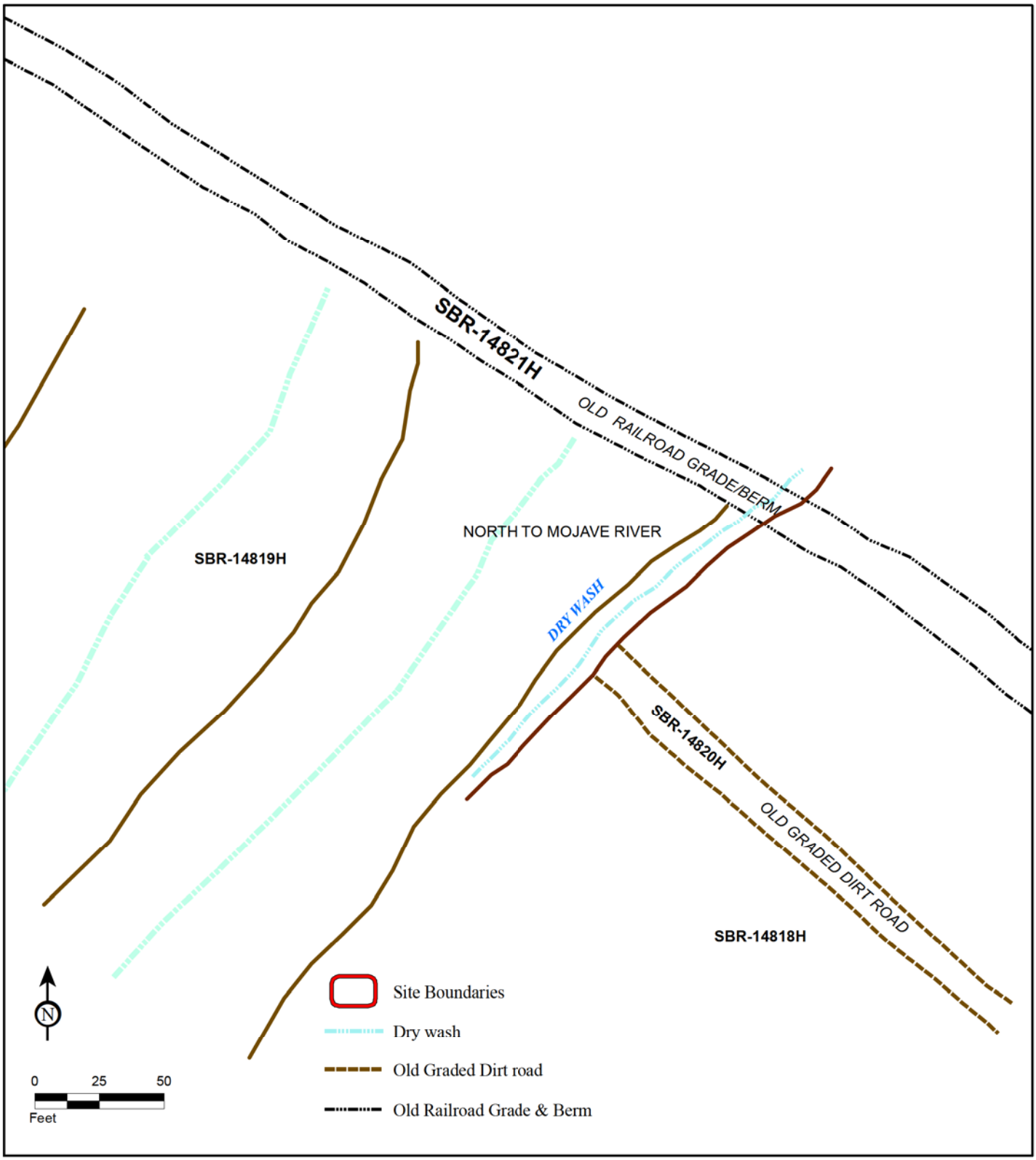
DPR 523J (1/95) ***Required Information**

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 36-023421H
HRI #
Trinomial SBR-14821H

Page 5 of 5 *Resource Name or # (Assigned by recorder) LSA-IFC0901-S-5

Drawn By: Fred Lange Date: January 26, 2011



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DPR 523K (1/95)

***Required Information**

APPENDIX C Filming Permit Packet Example

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INLAND EMPIRE FILM COMMISSION
A division of the Inland Empire Economic Partnership

1601 E. Third St., Ste. 102, San Bernardino, CA 92408
P.O. Box 1785, 92402
(909) 382-6000 • (909) 382-6060 fax
info@filminlandempire.com
www.filminlandempire.com

BLM Bureau of Land Management

El Mirage Dry Lake Dumont Dunes Silurian Dry Lake

Johnson Valley Soggy Dry Lake Cougar Buttes Texas Granite Quarry

Dear BLM Applicant:

The following is information about the **Bureau of Land Management Permit Application**.

Attached you will find:

1. BLM Cover Page with Location Rates – 2 pages
2. Land Use Application and Permit, 3 pages (**signature required on Page 1 & 2**)
3. Commercial Use Application, 2 pages (**signature required on page 2**)
4. Commercial Filming Stipulations, 2 pages (**signature required on page 2**)
5. BLM Credit Card Payment Form (**signature required**)
6. Map(s) of Specific Location – (please mark your location on map and return with permit)
7. Special Circumstances Forms and Stipulations – (sign and return only if applicable)
8. Driving Directions – yours to keep
9. Wildlife & Misc. Information – yours to keep

Please include with your return fax:

a. #2 – 6 (and # 7 if applicable), signed and completed
b. A **Storyboard** or a **detailed description of activities** (Required)
c. A Certificate of Insurance ***and*** a Letter of Endorsement listing the ***Bureau of Land Management*** as additionally insured (Required – see page two (2) for details)

Please read and complete the aforementioned forms. ***Any pages left unsigned will halt the permit process and delay your permit.*** Please use the checklist above to verify you have received all the appropriate documents. Once your **signed and fully complete** application has been received, along with required insurance documents and payment, the BLM will process you permit within three (3) working days. It is important to list **ALL** props, vehicles, and equipment to be used, along with a detailed description of your activities and/or a storyboard. You must list all stunts, precision driving, pyrotechnics, explosive devices, airplanes, or helicopters used in your shoot. If you need to create dust for your shoot, the use of Fuller's Earth is allowed.

FEES*

All Motion Filming (Film, Digital, Video, etc.) .....Permit Rates: 01-30 people = $250/day
31-60 people = $500/day
61+ people = $600/day

Commercial Still Photography.....Permit Rates: 01-10 people = $100/day
11-30 people = $150/day
31+ people = $250/day

Processing Fee+ .....To be determined based on BLM Review (Starts at $115)

Monitoring Fee+ .....To be determined based on BLM Review (Starts at $115)

**Regulations (43 CFR 2920.6(b)) require the collection of cost recovery and monitoring fees for land use permits.*

*+As of October 27, 2008, **ALL** Still Photography permits will also be assessed a processing fee & a monitoring fee*

Bureau of Land Management

Make checks payable to the Bureau of Land Management. Once you have been given your total, overnight (via FedEx, UPS, etc.) your check to the address supplied below for the Insurance Certificate, Attn: RECREATION Dept. **It is recommended to pay by VISA, MASTERCARD, AMERICAN EXPRESS, or DISCOVER, using the attached credit card form, to help expedite your permit. Payment *must* be made *prior* to filming on BLM Lands.**

ALL FEES ARE NON-REFUNDABLE.

You must provide proof of liability insurance and a Letter of Endorsement (ISO Form CG-20-12-07-98 or equivalent) naming the Bureau of Land Management as additionally insured for the amount of $1 million.

The Insurance Certificate *must* read in the "Certificate Holder" Box *verbatim*:
"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"

The Letter of Endorsement *must* read *verbatim:*
"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"

An additional Insurance Certificate and Letter of Endorsement is required naming the Bureau of Land Management as additionally insured for the amount of $5 million in the event of the use of airplanes, helicopters, or any other aircraft.

The Aircraft Insurance Certificate *must* read in the "Certificate Holder" Box *verbatim*:
"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"

The Aircraft Letter of Endorsement *must* read *verbatim:*
"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"

A Copy of your "Plan of Activities" (POA) filed with the FAA is also required

*All Insurance Certificates and Letters of Endorsement **MUST** be faxed to (909) 382-6060 **AND** a hard copy mailed to: BLM Barstow Office c/o IEFC, P.O. 1785, San Bernardino, CA 92402.*

Please contact the IEFC once a location has been chosen to determine the availability of that location. Once the completed and signed application is received, it will take one (1) full working day for your fees to be determined. Once your payment has been received, it will take an additional two (2) full working days for your permit to be approved. **All locations placed "on hold" are tentative and are not guaranteed reserved until we receive the completed, signed application and payment in full.**

All vehicles to be used during filming must have display the approved *Film Access Vehicle Permit* on the front, driver's side dashboard. Also, a complete copy of your permit, stipulations and insurance must be on site at all times.

If you have any other questions, please contact us at (909) 382-6000.

INLAND EMPIRE
FILM COMMISSION
A division of the Inland Empire Economic Partnership

THANK YOU for permitting the Bureau of Land Management Lands

Part of

"Hollywood's Largest Backlot!"™

The Inland Empire Film Commission has crew and services available in the area for film production, feature films, commercials, television, still photography, music videos, industrial videos, independent films, student films, and more!

If you need any type of assistance
please do not hesistate to contact us

(909) 382-6000
Sheri Davis, x207 ~ Dan Taylor, x206

Thank you for filming the
"27,000 Square Miles of Filming Opportunity!"™

1601 E. Third St., Suite 102, San Bernardino, CA 92408 / P.O. Box 1785, San Bernardino, CA 92402
(909) 382-6000 ~ Fax (909) 382-6060
info@filminlandempire.com ~ www.filminlandempire.com

Form 2920-1
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LAND USE APPLICATION AND PERMIT

(Sec. 302(b) of P.L. 94 - 579, October 21, 1976, 43 U.S.C. 1732)

FORM APPROVED
OMB NO.1004-0009
Expires: December 31, 2007

FOR BUREAU OF LAND MANAGEMENT (BLM) USE ONLY

Application Number

1. Name *(first, middle initial, and last)*	Address *(include zip code)*	Phone *(include area code)*

2. Attach map or sketch showing public lands for which you are applying PUBLIC LANDS WITHIN El Mirage Cooperative Management Area

3. Proposed date(s) of use: from to

4. Give legal basis for holding interest in lands in the State of **CALIFORNIA**
(Check appropriate box at right and explain.)

☐ Resident ☐ Partnership
☐ Corporation ☐ County
☐ Local Government ☐ State Government
☐ Other

5. Are the lands now improved, occupied or used? ☑ Yes ☐ No *(If "yes," describe improvements and purposes, identify users and occupants.)*

This is an open area used for recreation as well as filming

6. Do you need access to the land? ☑ Yes ☐ No *(Describe needed or existing access)*

Existing Roads

7a. What do you propose to use the lands for?

See attached Commercial Use Application

b. What improvements and/or land development do you propose? *(To complete application processing, engineering and construction drawings may be required)*

N/A

c. What is the estimated capital cost?	d. What is the source of water for the proposed use?
$ **0**	**For personal use only**

I CERTIFY That the information given by me in this application is true, complete, and correct to the best of my knowledge and belief and is given in good faith.

(Signature of Applicant) (Date)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

PERMIT

Permission is hereby granted to of to use the following described lands: PUBLIC LANDS WITHIN El Mirage Cooperative Management Area				Permit Number
TOWNSHIP	RANGE	SECTION	SUBDIVISION	
6 - 7 N	**6 - 7 W**		**EL MIRAGE DRY LAKE**	

Meridian	State	County	Acres *(number)*
SAN BERNARDINO	**CALIFORNIA**	**SAN BERNARDINO**	

for the purpose of commercial filming per Decision Record (EA CA-068-93-36), standard stipulations and map,

and subject to the following conditions:

1. This permit is issued for the period specified below. It is revocable at the discretion of the BLM, at any time upon notice. This permit is subject to valid adverse claims heretofore or hereafter acquired.
2. This permit is subject to all applicable provisions of the regulations (43 CFR 2920) which are made a part hereof.
3. This permit may not be assigned without prior approval of the BLM.
4. Permittee must not enclose roads or trails commonly in public use.
5. Authorized representatives of the Department of the Interior, other Federal agencies, and State and local law officials will at all times have the right to enter the premises on official business.
6. Permittee must pay the United States for any damage to its property resulting from the use.
7. Permittee must notify the BLM of address change immediately.
8. Permittee must observe all Federal, State, and local laws and regulations applicable to the premises and to erection or maintenance of signs or advertising displays including the regulations for the protection of game birds and game animals, and must keep the premises in a neat, orderly, and sanitary condition.
9. Permittee must pay the BLM, in advance, the lump sum of $ for the period of use authorized by this permit or $ **XXXXXXXXXXXX** , annually, as rental or such other sum as may be required if a rental adjustment is made.
10. Use or occupancy of land under this permit will commence within **XXXXXXXXXX** months from date hereof and must be exercised at least **XXXXXXXXXX** days each year.
11. Permittee must take all reasonable precautions to prevent and suppress forest, brush, and grass fires and prevent pollution of waters on or in the vicinity of the lands.
12. Permittee must not cut any timber on the lands or remove other resources from the land without prior written permission from the BLM. Such permission may be conditioned by a requirement to pay fair market value for the timber or other resources.
13. Permittee agrees to have the serial number of this permit marked or painted on each advertising display or other facility erected or maintained under the authority of such permit.
14. This permit is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the Equal Opportunity clauses. A copy of this order may be obtained from the BLM.
15. Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.
16. Special conditions *(attach additional sheets, if necessary)*

SEE ATTACHED STIPULATIONS / FILMING OPERATION SUBJECT TO OTHER RECREATION USES

Permit issued for period

From _____

To _____

X _____
(Permittee)

_____
(BLM)

FIELD MANAGER
(Title) (Date)

INSTRUCTIONS

1. Submit, in *duplicate*, to any local office of the Bureau of Land Management having jurisdiction of the lands.
2. Applications for Land Use Permits will not be accepted unless a notification of the availability of the land for non-BLM use *(Notice of Realty Action)* has been published in the Federal Register and for 3 weeks thereafter in a newspaper of general circulation. This provision does not apply in those situations where the publication of a *(Notice of Realty Action)* has been waived by the BLM.
3. If the annual rental exceeds $250 dollars per year; costs of processing the application must be paid by the applicant in advance.
4. The BLM may require additional information to process an application. Processing will be deferred until the required information is furnished by the applicant.

(Continued on page 3)

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application for a Land Use Permit. AUTHORITY: 43 U.S.C. 1201; 43 CFR Part 2920 PRINCIPAL PURPOSE: The information is to be used to process your application. ROUTINE USES: (1) The adjudication of the applicant's request for a Land Use Permit. (2) Documentation for public information. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions. EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

The Paperwork Reduction Act of 1995 requires us to inform you that:
Information is needed to process application for land use authorizations, pursuant to 43 CFR Section 2920.
Information shows if the applicant and proposed use meet the requirements of 43 CFR Section 2920.1.
Applicant must respond before he/she can be granted an authorization to use public lands.
BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 1 hour per response,including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0009), Bureau Information Collection Clearance Officer, (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COMMERCIAL USE APPLICATION (revised 8/13/98)

Fax phone ( ) _____

1. Name of Company _____

Address _____

Telephone ( ) _____ City/State/Zip _____

2. Name, title & phone # of Person Responsible on Location _____

_____

3. Location of Site Desired _____ (See enclosed map) _____
Specific Locations to be Used (i.e., what part of lake bed/dunes/area, etc.) and circle on the map the area you will be using for filming/still photos and return the map with your application.

4. Type of Use: ____ commercial production; ____ nonprofit production; ____ community service production; ____ educational production

5. Purpose of use: ____ feature film; ____ advertisement; ____ documentary; ____ still photograph; ____ video; ____ other (state) _____

6. State name of feature film, TV series, commercial product, music video group, other:

_____

7. Dates of Use _____ Hours of Use _____

8. Number of Personnel Involved; include production, cast and crew _____

9. Statement of Activity to Take Place - in detail _____

_____

_____

_____

_____

_____

_____

10. Animals to be used on location; how many? _____

what kind? _____ None _____

11. Equipment, Vehicles, and/or Aircraft to be Used:

# of Cameras _____ # of Camera Cars _____

# of Small Vehicles (one ton or less) _____ # of Large Vehicles (one ton or more) _____

# of Motorhomes _____ # of honeywagons _____

& type of equipment _____ # & kind of transport vehicles _____

& kind of Aircraft _____ Other: _____

12. Props/sets/scenes to be used/constructed, give details:

_____

_____

_____

_____

_____

_____

13. Use of Pyrotechnics, give details and full description of use:

_____

_____

_____

_____

_____

** **WE REQUIRE A COPY OF PICTURE ID OF PYRO TECHNICIAN, COPY OF HIS LICENSE, AND A LETTER STATING WHAT EXPLOSIVES HE/SHE WILL BE USING, WITH DETAILED EXPLANATION OF USE AND EVENTS.**

14. Name and telephone number of person/persons to contact in case of emergency: _____

_____ Telephone Number _____

_____ Telephone Number _____

_____ Telephone Number _____

X_____ _____

Signature Date

Commercial Filming Stipulations / El Mirage Cooperative Management Area

1. The permittee shall designate a representative for field operations before activities may commence, who shall be the sole field representative of the permittee's employees or contractors in dealing with the authorized BLM officer. Said representative shall be employed on behalf of the permittee's employees or contractors to communicate with the authorized officer, and to receive and comply with all communications and decisions of the authorized officer.

2. A copy of the permit and the stipulations shall be kept available on location at all times, for review for BLM personnel upon request. All persons (e.g., permittees, contractors, sub-contractors) working at the site will be familiar with the permit stipulations. Non-compliance with permit stipulations may result in cancellation of the permit, or other adverse actions against the permittee.

3. The permittee shall confine all activities within the El Mirage OHV Area specifically defined by the attached map at the specified times and dates. If the El Mirage OHV Area location or other limitations on this filming authorization are deemed not appropriate by the permittee, no action shall be undertaken by the permittee at other times or on other public lands suitable to him/her until said changes are approved by the Barstow Field Manager. Anytime filming activities move off BLM land, the Inland Empire film commission must be notified.

4. **THIS PERMIT AUTHORIZES THE USE OF PUBLIC LANDS ONLY. PERMISSION FOR THE USE OR OCCUPANCY OF PRIVATELY OWNED LANDS OR PROPERTY MUST BE OBTAINED FROM THE OWNER(S) AND REQUIRES A COUNTY FILM PERMIT. CONTACT THE INLAND EMPIRE FILM COMMISSION FOR MORE INFORMATION.**

5. No activity is allowed on the lakebed when the surface (or just below the surface) is wet or muddy. Any activity which would create ruts or otherwise alter the lakebed surface is prohibited, including the use of props, vehicles or equipment which would break up or other wise alter the lakebed surface.

6. Any soil disturbance such as ditching, ponding, leveling, mounding, etc. is not permitted on the lakebed. For other areas in El Mirage, it must be specifically authorized by BLM on the permit, and must be cleared by the Barstow Field Office if in desert tortoise or other T&E species habitat. Any authorized disturbance must be returned to original condition within 3 days of completion of filming.

7. The permittee shall provide the filming operation employees or contractors, prior to commencing film activities, BLM printed materials describing:
   - Occurrence of the desert tortoise in the area,
   - Status of the desert tortoise,
   - Illegality of handling, moving, taking or otherwise disturbing and the penalties associated, and
   - Methods being employed as a part of the event to protect the tortoise and its habitat.

8. Desert tortoise handling is not authorized. Should a situation arise where disturbance of desert tortoises becomes likely, filming operations shall cease and the Barstow Field Office and the Inland Empire Film Commission shall be notified to determine an appropriate course of action.

9. The area shall be kept clear of trash and debris. Trash containers must be raven-proof (with lids secured at all times) and all trash and debris generated by the filming operation shall be removed immediately after completing filming operations to reduce the attractiveness of the area to ravens and other desert tortoise predators. All liquid discharges, including waste and other discharges from camping vehicles or other equipment, paint, water, etc. is prohibited. Non-permanent and non-toxic powders, such as non-permanent powder dyes, are permitted.

10. The Barstow Field Office and the Inland Empire Film Commission must be notified of any commercial filming involving exotic (i.e., non-desert and desert plants and animals not native to the West Mojave, such as camels) or domestic species. The permitted filmers are responsible for controlling and cleaning up after these species, including feces, to avoid the dissemination of seeds or diseases in the desert.

11. There will be no commercial filming activities within the designated camping area in the northern part of the El Mirage OHV Area, which includes all of Sections 14&15, T7N, R6W.

12. The Barstow Field Office and the Inland Empire Film Commission must be notified of any commercial filming involving aircraft or pyrotechnic or explosive devices and it must be specifically authorized by the BLM in advance. The permittee must obtain additional appropriate permits from other agencies as necessary, such as for special effects, pyrotechnics, and aircraft.

13. Filming operations shall be conducted in such a manner as to avoid creating safety hazards to other public land visitors and users and to the filming crews. The permittee shall use whatever signs, flagging, help of individuals, or other appropriate safety devices for the safe conduct of the filming operation and the protection of other users and visitors before, during, and after filming activities. Props, equipment and vehicles that are left at ongoing filming sites overnight must be accompanied by a guard and warning lights.

14. **Application and rental fees will not be refunded once a filming permit has been processed.** Please contact the Inland Empire Film Commission at (909) 382-6000 to reschedule.

15. For movie projects, acknowledgement through the film credits shall be given to: U.S. Department of the Interior, Bureau of Land Management, Barstow Field Office *and* Inland Empire Film Commission for the portions of the movie filmed on lands administered by BLM.

Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.

_____

Permittee Signature

_____

Title

_____

Date

Amended June 1, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
2601 BARSTOW ROAD
BARSTOW, CA 92311

CREDIT CARD PAYMENT FORM

BLM CHARGE

This Bureau of Land Management bill may be charged to your VISA, MASTERCARD, AMERICAN EXPRESS, DISCOVERY, or paid by cash, check or other negotiable instrument. **PLEASE PRINT CLEARLY**

Exact Name: _____
(AS SHOWN ON THE CREDIT CARD)

Mailing Address: _____

City and Zip _____

Three digit code ____ ____ _____

TYPE (circle one): VISA MASTERCARD AMERICAN EXPRESS DISCOVERY

Expiration Date: _____ Paid $: _____

Date: _____ Phone# _____

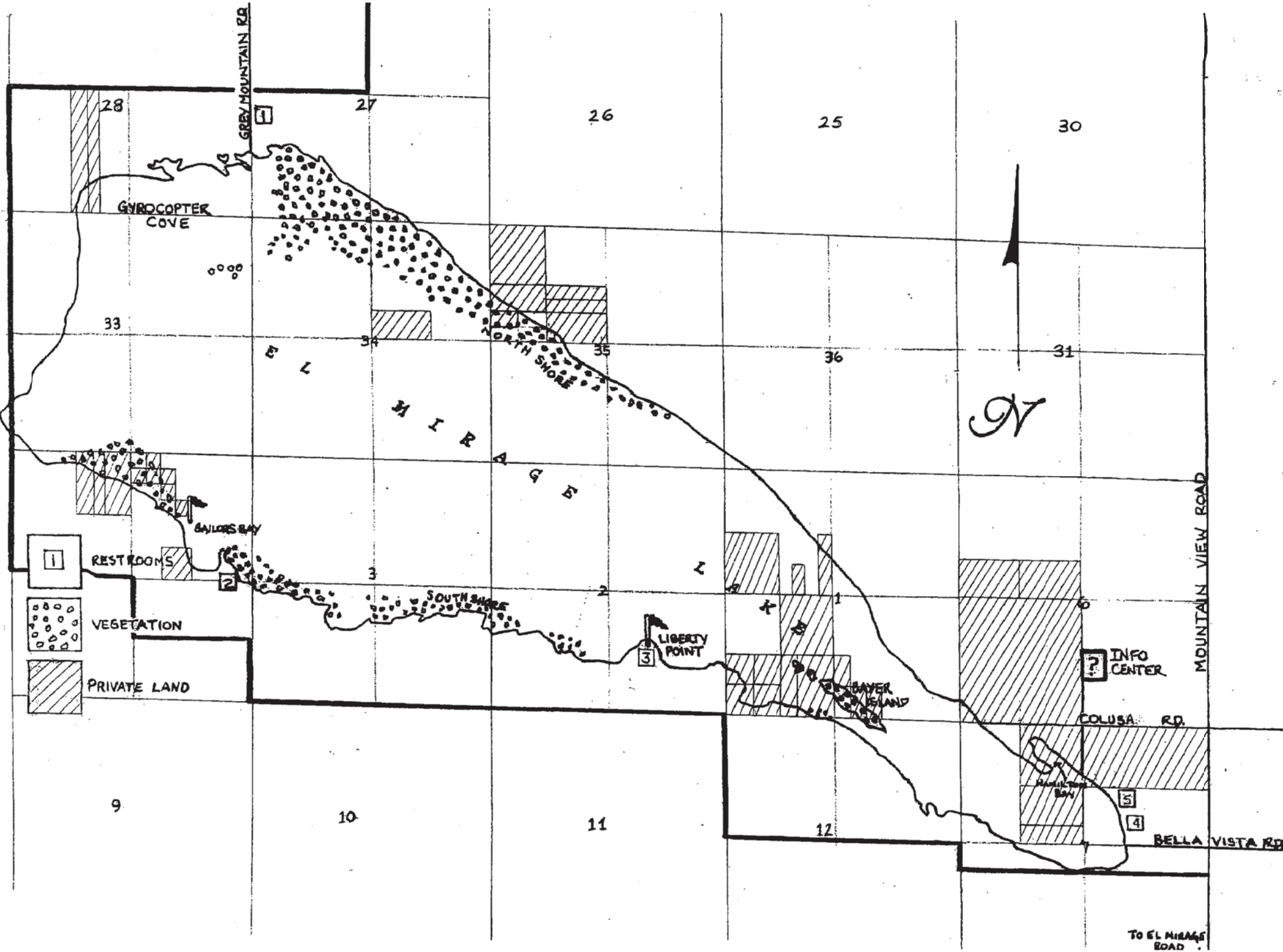
Customer Signature: _____

OFFICE USE ONLY

BLM Receipt No: _____ Signature: _____

ITEMS REQUESTED: _____

TITLE 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to provide any department or agency of the United States any false, fictitious or fraudulent statement or representations as to any matter within its jurisdiction.



GREY MOUNTAIN RD
28
27
26
25
30
GYROCOPTER COVE
33
34
35
36
31
NORTH SHORE
EL MIRAGE LAKE
N
GAILORS BAY
RESTROOMS
VEGETATION
PRIVATE LAND
3
2
1
6
SOUTH SHORE
LIBERTY POINT
BAYER ISLAND
INFO CENTER
MOUNTAIN VIEW ROAD
COLUSA RD.
HAMILTON BAY
9
10
11
12
BELLA VISTA RD
TO EL MIRAGE ROAD

BUREAU OF LAND MANAGEMENT
BARSTOW FIELD OFFICE
SPECIAL ANIMAL STIPULATIONS FOR COMMERCIAL FILMING

1. Animals not endemic to the area shall be under the control of **qualified handlers** at all times. Animals shall **not** be allowed to feed on natural vegetation.

2. Permittee is responsible for providing appropriate feed and water for the animals. Plant eating animals shall be fed non-germinating pellets or certified weed-free hay for two days prior to filming AND during filming while at the BLM location. Animals will be either tied to a parked vehicle; contained in a free standing fenced corral; and/or housed within a trailer in a parking area or road, when not in use.

3. All animal "waste" shall be removed from the public lands on a daily basis. Transmission of diseases from domestic animals to wildlife will be avoided through appropriate action (vaccines, avoidance of contact, etc).

Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.

Production Company	Animal Handler Company
Permittee Name (Please Print)	Animal Handler Name (Please Print)
Title	Animal Handler Signature
Permittee Signature	Address
	City, State
	Phone number

INLAND EMPIRE FILM COMMISSION

A division of the Inland Empire Economic Partnership

County of Riverside • County of San Bernardino • Bureau of Land Management
United States Forest Service • City of Big Bear Lake • City of Temecula • City of Jurupa Valley

Special Effects and Hazardous Conditions Worksheet

Permit # _____ Date _____

Special Effects Coordinator _____ License # _____

Company _____ Telephone # _____

Address _____

Location(s) _____

Assistants _____ License # _____

Assistants _____ License # _____

Activity/Special FX Materials (please note quantities to be used for each material listed): _____

_____

_____

Date(s) of Activity: _____ Time(s): _____

SFX Coord. Signature_____ **Date** _____

Permittee Signature_____ **Date** _____

San Bernardino County
Fire Department – Curtis Markloff – 909-965-5803 ~ *Sheriff's Department* – Marlene – 909-387-3589*
**Only contact the Sheriffs if County Fire has requested you to do so.*

Riverside County
Fire Department – Dale Evenson – 760-863-8886 ~ *Sheriff's Department*: Sgt. Epps – 951-955-6644

Please **fax** this form to (909) 382-6060. You must also **email** a copy of the front and back of the State Pyrotechnics license of all of the Pyrotechnicians who will be on location, in addition to the Special Effects Coordinator's license, to dtaylor@filminlandempire.com.

This form and a copy of your State Pyrotechnics license(s) are required before a permit can be issued

For IEFC Use Only

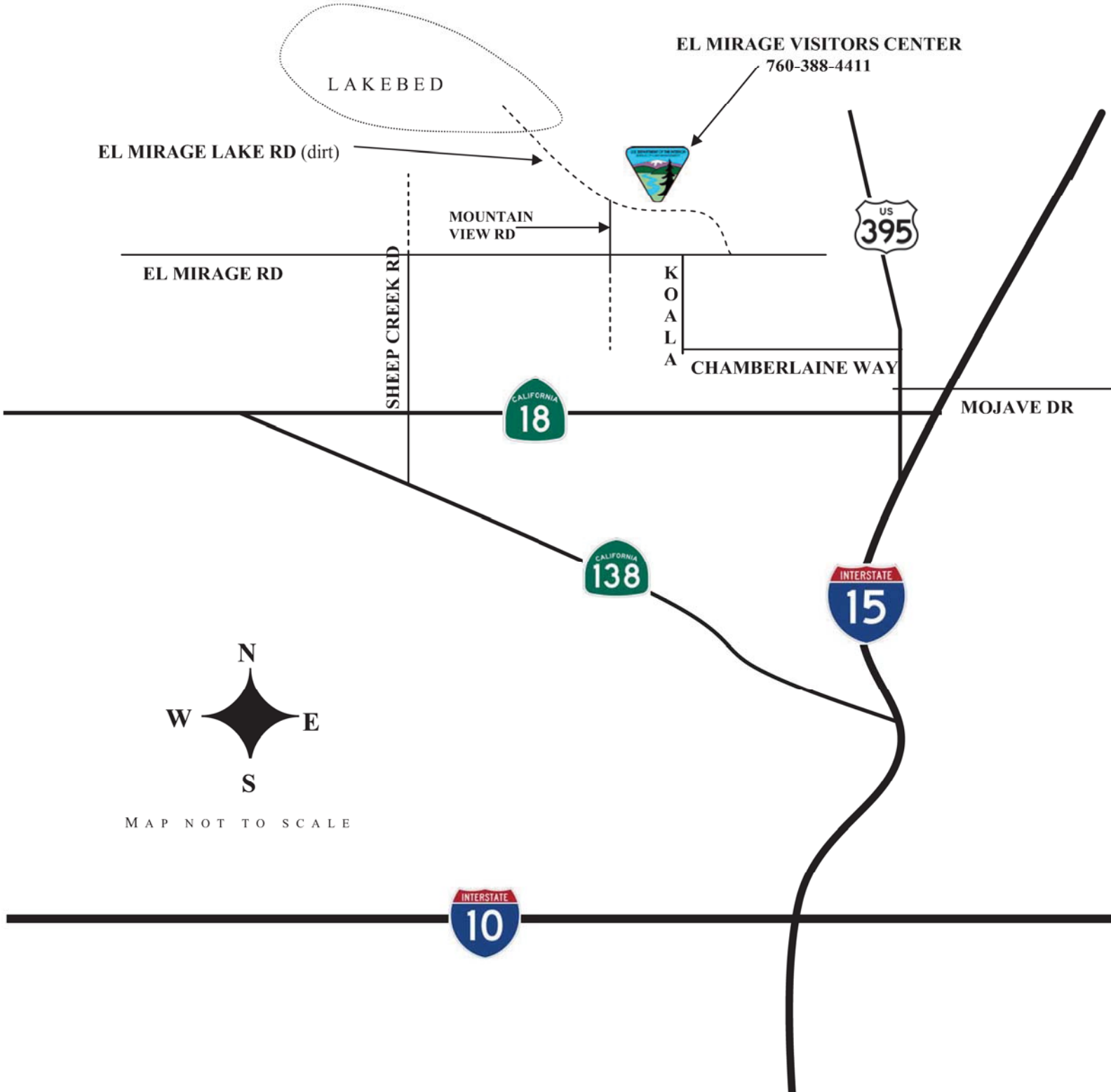
Fire Approval (initial) _____ Date _____ By_____

Sheriff Approval (initial) _____ Date _____ By_____

1601 E. Third St., Ste. 102, San Bernardino, CA 92408 / P.O. Box 1785, San Bernardino, CA 92402
(909) 382-6000 ~ Fax (909) 382-6060
info@filminlandempire.com ~ www.filminlandempire.com

Directions to El Mirage Dry Lake

From L.A.: Take the 10 Freeway East to the 15 Freeway North; exit at Mojave Dr. (just past the city of Victorville) and go West (left) over the freeway; @ Highway 395, go North (right); at Chamberlaine Way, go West (left); @ dead end (Koala Rd.), go North (right); @ El Mirage Road, go West (left); @ Mountain View Rd. go North (right); follow signs to the El Mirage OHV Recreational Area. Travel time: Approx. 1 ¾ hours.



Desert Survival Safety Tips

Before any trip, always let someone know where you are going, the route(s) you plan to take, and when you expect to return. Make sure to stick to your plan. It will increase your chances of survival greatly. Be sure to check the road and weather reports before traveling as well.

When in hot weather, you need to adapt gradually, going into the heat for short periods at first. Always keep your clothing on. It helps to keep the body temperature down and reduces the dehydration rate. Also, cover your head. If a hat is not handy, improvise a head covering. Also make sure to drink fluids frequently and eat small meals regularly during the day. Do not drink alcohol. It will decrease your ability to tolerate the heat. If you have water, drink it. Do not ration it. Carry at least one gallon of water per person per day. In a pinch, use plastic gallon jugs. They are handy and are transported easily. If water is limited, keep your mouth shut. Do not talk, do not eat, do not smoke, and, as mentioned before, do not drink any alcohol.

The best thing to do is find shade, sit down, and prop up your feet. You may adjust your shoes and socks, but *do not remove them* – you may not be able to get them back on your swollen feet (a common problem). If you must walk in the sun/heat, rest for at least 10 minutes every hour. If you are not normally physically active, rest up to 30 minutes every hour. Try to avoid sitting or lying directly on the ground. It may be 30+ degrees hotter than the surrounding air.

Make it a point to keep an eye on the sky. If you see "Thunderheads," near or far, be prepared to evacuate. Flash floods may occur in a wash in a matter of moments. They can fill low spots to dangerous levels very quickly. During evacuation, or any other time, do not drive through flooded roads if you can't tell how deep it is.

Be sure your vehicle is in good condition with a sound battery, good hoses, spare tire, spare fan belts, necessary tools, reserve gasoline, and extra oil. Other spare parts and extra radiator water are also valuable.

Before driving through washes and sandy areas test the footing. One minute on foot may save hours of hard work changing a flat, digging your vehicle free, or replacing a punctured oil pan. It is recommended to use a four-wheel-drive vehicle when traversing these areas.

If caught in a dust storm while driving, immediately get off the road, Turn off your headlights, and turn on your emergency flashers. Try to position your vehicle with the back to the wind. This will reduce windshield pitting by sand particles.

If you vehicle breaks down, stay near it. Your car and various items within it can be useful in an emergency. You can raise the hood and truck lid to denote "Help Needed." Also, a vehicle can be seen for miles, but a person on foot is very difficult to find. Only leave a disabled vehicle if you are positive of the route to help. If you must walk for help, wait until sunset and leave a note telling which way you went.

Heat Related Illness

Body Temperature Regulation

Regulating ones body temperature is a constant balancing act of heat input from ambient temperature, metabolism, physical work, sunlight, and heat output from radiation, evaporation, conduction, and convection.

Normally, radiation accounts for about two-thirds of heat loss, with one-third resulting from evaporation. If you are very hot, or working hard and sweating, evaporation can become a major factor in heat loss, except for when it very humid, in which case evaporation has no effect. Conversely, water conduction may also be a major factor in heat loss. When immersed in water, one can lose significant body heat (unless the water is around body temperature). Infants and very young children lack effective heat regulatory mechanisms and are more at risk for heat related injuries.

Acclimatization by exertion (i.e. working or working out) in the heat encourages the body to adjust to a hot climate. Until one is acclimated, heavy exertion should be limited to 30-90 minutes per day, avoiding the hottest part of the day.

Clothing should be lightweight, light in color, and a loose weave. A wide-brimmed hat will help keep you cool and prevent sunburn.

Be aware of humidity! Even in relatively cool temperatures (75 degrees), marked exertion in very high humidity can lead to heat illness due to failure of evaporative cooling.

Heat Disorders

Heat Cramps

These are painful cramps, usually following exercise or heavy exertion, and often affecting major muscles such as the calves and thighs. Stretching, maintaining good hydration and electrolyte balance, as will becoming acclimated to the heat has been found to be the most effective in alleviating this painful condition.

Heat Syncope

Heat Syncope is when one faints due to heat exposure, often after prolonged standing or when standing up from a seated position. Most people recover quickly to fluid replacement. Older individuals and those on hypertension medications are most at risk.

Heat Exhaustion

This is caused by dehydration and depletion of electrolytes, or body salts. Its symptoms are weakness, headache, dizziness, nausea, vomiting, and diarrhea. An increased body temperature and pulse rate may also be present. The treatments for heat exhaustion is to rest, get out of the heat/sun, sponge the body with water and fanning it, and to replace the body's fluids and salt with a sports drink, or water and salty snacks. If not taken seriously, this can progress to heat stroke.

Heat Stroke

In this condition the body loses its ability to regulate temperature causes the body temperature to soar, often to above 106 degrees. Sweating may or may not be present. Heat stroke will result in physical collapse and mental deterioration ranging from confusion to coma. If someone is exhibiting these systems, call 911 immediately. This is a medical emergency and must be treated aggressively with rapid cooling and IV fluids. If not, permanent damage to kidneys, heart, or liver may result, and is some cases, death. If you suspect someone is experiencing heat stroke, here are a few emergency treatment that will help until emergency crews arrive: 1) remove clothing, 2) cool/wet the body, with whatever water that is available, 3) fan the body, 4) if victim is able to drink, give them water, a sports drink, or any oral rehydration formula.

Preventing Heat Illness

Even marginal dehydration interferes with the body's ability to regulate temperature. It can also cause mild diarrhea, which can dramatically increase dehydration. In hot climates, you should always consume enough water so that you urinate every two to three hours. If your urine becomes dark yellow, it means that you are getting dehydrated or that you are getting jaundiced.

THE DESERT TORTOISE

STATUS: On April 2, 1990 the desert tortoise was listed by the U.S. Fish and Wildlife Service as a threatened species. Under the provisions of the Endangered Species Act, anyone who takes (the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) a tortoise is subject to civil and/or criminal penalties of up to a $50,000 fine and one year in jail or both. BLM will be assisting the Fish and Wildlife Service in the enforcement of the Act. Additionally, the desert tortoise is considered by California to be a threatened species with associated penalties.

BIOLOGY: Like other reptiles, the desert tortoise is cold blooded. To survive in the desert the tortoise "sleeps" through the heat of summer and the cold of winter in a burrow deep underground. Tortoises come out in the spring (and for a short period in the late summer and fall) to eat, drink, socialize, travel, etc. At other times of the year they are less active or not active at all.

The desert tortoise lays from 4 to 14 ping pong ball size eggs each year after reaching 10 to 20 years of age. Since a tortoise may live for 60 to 100 years, many eggs will be laid in a lifetime. However, only about 5 out of every 100 hatchlings will survive to become an adult tortoise. For the first 6 or 8 years, the young tortoise's shell is no thicker than your fingernail, and therefore, it is easy prey for many other desert animals.

Many of man's activities are also threatening the survival of the desert tortoise and are considered illegal. Some of these include:

1. removing wild tortoises from the desert,
2. releasing pet tortoises into the desert (they often carry disease),
3. driving off roads in areas not designated for off-highway vehicle play,
4. crushing tortoises as they are crossing roads,
5. shooting at tortoises, and
6. handling tortoises found in the desert (this may cause them to lose vital water supplies).

Some DOs and DON'Ts:

1. If you find a desert tortoise in the desert, DO take pictures, get down and look at it (but not too closely so that you don't harass it), watch to see how it moves and what it eats, and then walk away and know that you have done a good deed by letting it live in peace.

2. While driving on desert roads, DO keep an eye out for tortoises crossing the road. If you encounter one and have plenty of room to pass, drive slowly and carefully around it. If you don't have room to pass, stop and let the tortoise move across the road of its own accord. If the tortoise is on a paved road and in immediate danger, pull your car over and stop in a safe place. Lift the tortoise slowly and gently, keeping it level. Move it to a safe place, no more than 100 yards away, in the same direction that it was traveling. Carefully set it down, preferably in the shade of a shrub.

3. If you want a pet desert tortoise DON'T take one out of the desert! Do call the California Turtle and Tortoise Club (Linda York in Palm Desert at (760) 347-2647 or Bunny Williams in San Bernardino at (714) 862-4777) or the California Department of Fish and Game at (714) 597-8235. You also will need to get a free permit from the Department of Fish and Game to legally keep the tortoise.

4. If you get tired of a pet desert tortoise DON'T let it go in the desert. Release of captive tortoises is a violation of the Endangered Species Act. Instead, call one of the numbers listed above to find a new home for your pet.

Revised 3/27/97

TREAD LIGHTLY!
ON PUBLIC AND PRIVATE LAND

TREAD LIGHTLY!
ON PUBLIC AND PRIVATE LAND