

## **PANOCH VALLEY SOLAR PROJECT**

### **BLUNT-NOSED LEOPARD LIZARD PROPOSED PROJECT-SPECIFIC AVOIDANCE BUFFER RATIONALE**

**April 23, 2014**

#### **1.0 Introduction**

In association with the Panoche Valley Solar Project (PVS), several adult and hatchling blunt-nosed leopard lizard (*Gambelia sila*; BNLL) surveys were conducted on the proposed project footprint and portions of the Valley Floor Conservation Lands (VFCL). Surveys methodology was based on the California Department of Fish and Game (CDFG) *Approved Survey Methodology for the Blunt-nosed Leopard Lizard* (CDFG 2004), a PVS letter "Updated Blunt-nosed Leopard Lizard (BNLL) Survey Methodology" dated May 2, 2013 to California Department of Fish and Wildlife (CDFW), a PVS letter "Supplemental Blunt-nosed Leopard Lizard Study Plan Survey Methodology" dated April 2, 2014 to CDFW, verbal conversations with Mr. Dave Hacker of CDFW and Mr. Patrick Golden of Energy Renewal Partners on June 26, 2013, and email correspondence between CDFW and Duke Energy Renewables on June 27, 2013.

It is important to note that the 2004 approved survey methodology (i.e., protocol) supersedes previous versions of the survey methodology due to a heightened concern in the range-wide decline of BNLL population numbers. The 2004 protocols are intended to optimize the detection of the species should they be present on a specific site.

Prior to the 2013 surveys, three previous BNLL surveys were conducted on the project site, as well as portions of the conservation lands. These surveys included an abridged protocol survey on approximately 2,560 acres between April 15 and July 31 for adults and between August 15 to September 15, 2009 for juveniles and hatchlings on portions of the project site and VFCL. These abridged protocol-level BNLL surveys were conducted according to the CDFW BNLL survey protocols, with the exception of having less iterations than the prescribed 12 adult and five juvenile surveys.

A 2010 full protocol BNLL survey on approximately 640 acres was conducted for portions of the project site and VFCL. These 2010 surveys were completed between April 15 and July 31 for adult BNLL and between August 15 and September 15 for juvenile and hatchlings. During the summer of 2012, a focused BNLL survey was completed on approximately 10,889-acres of the Silver Creek Ranch Conservation Lands property. The focused survey followed the time of day and weather protocols, but only targeted potential habitat such as drainages between September 10 and 17, 2012.

Most recently, adult season surveys on the site were conducted between May 9 and July 13, 2013, which is within the approved survey window of April 15 to July 15. The adult BNLL surveys were accomplished by completing 12 iterations of preset 30-meter transects within the proposed project area and portions of the immediate adjacent VFCL. The adult BNLL surveys consisted of 58 days of field work. Surveys

were not conducted when weather conditions on-site were out of protocol limits (i.e. 90% cloud cover, sustained wind >10 miles-per-hour). Surveys were also conducted within the protocol's temperature window of 77.0 degrees Fahrenheit (°F) to 95°F or 25° - 35° Celsius with the exception of four times during the entire surveys (July 4 to July 7, 2013). During these four days, the standard temperature protocol was exceeded after verbal discussions with CDFW on June 26, 2013 (followed with email correspondence) to allow surveys to continue to 97°F, as long as a reference BNLL was located by a Level II surveyor and observed between 95°F and 97°F. Survey activities that took place during exceeded temperatures were limited to short time periods (generally less than one hour) on the four days.

Survey crews consisted of between 5 to 30 surveyors per day with an average of 15 surveyors per day throughout the adult survey season. As per the protocol, the surveyors walked preset parallel transects at a width of approximately 30 meters. With the final (12<sup>th</sup>) iteration completed on July 13, 2013, the survey for adult BNLL resulted in 100% coverage of the proposed project area and a significant portion of the VFCL.

All BNLL observations were recorded using handheld global positioning system (GPS) devices and observations were categorized by sex (male or female) and age class (adult, juvenile, or hatchling). Additional information such as temperature, wind speed, and surrounding habitat descriptions were noted, if available.

No adult BNLL were found within the project footprint during the 2013 adult season surveys. There were a total of 27 observations of BNLL in the VFCL. These observations include incidental observations made during BNLL Level I surveyor training. None of the previous 2009-2010 observations were located in the project footprint, but are fully within the VFCL.

Hatchling surveys were conducted between August 1 and September 10, 2013. These surveys involved a total of five survey iterations of the preset transects and followed the protocols discussed above. One subadult was found in the project footprint immediately north of the Las Aquilas Creek wash and VFCL (i.e., approximately 150 feet north of the VFCL). The remaining observations are within the VFCL. The findings from these surveys will be included in a final 2013 BNLL survey report to be submitted to the agencies by mid-October 2013.

The following information provides the rationale for the proposed impact avoidance buffer associated with the BNLL at the PVS. This rationale includes brief distribution information and habitat preference, the scientific basis for buffer establishment and size, and other industry BNLL buffer requirements in California. This information is based on existing PVS project team analysis, scientific literature review, and additional science-based information. BNLL avoidance buffers are a significant permitting issue for projects in California, including several solar energy projects such as the proposed PVS due to BNLL being listed as a fully protected species (California Fish and Game Code Section 5050).

## **2.0 Background**

### ***Distribution and Range***

The federal/state endangered BNLL formerly occurred throughout the floor of the San Joaquin Valley and Sierra Nevada foothills from Stanislaus County southward to the Tehachapi Mountains in Kern County. West of the San Joaquin Valley, the species occurred on the Kettleman and Carrizo Plains, and in southeastern Cuyama Valley in San Luis Obispo, Santa Barbara, and Ventura counties (CDFW 2013). Based on information presented in the 1998 Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998), the currently known occupied range of the BNLL is in scattered parcels of undeveloped land on the San Joaquin Valley floor, Ciervo, Tumeay and Panoche Hills, and in the foothills of the Coast Range. BNLL are also located in the foothills and alluvial fans of the Carrizo Plain and Elkhorn Plains in San Luis Obispo County. The species is still presumed to be present in the upper Cuyama Valley, although there are no recent records for that area (USFWS 1998).

### ***Habitat***

The BNLL occurs in the San Joaquin Valley region within arid areas with scattered vegetation at elevations ranging from about 100 feet to 2,600 feet above sea level. They inhabit native and non-native grassland and alkali sink scrub communities characterized by poorly drained, alkaline, and saline soils. They are also found in the chenopod (i.e., goosefoot) community associated with non-alkaline, sandy soils in the alluvial fans and foothills of the southern San Joaquin Valley and Carrizo Plain. Other suitable habitat types on the valley floor for this species include Valley Needlegrass Grassland (Holland 1986), Alkali Playa (Holland 1986), and Atriplex Grassland (Tollestrup 1976). Habitats in order of decreasing favorability include (Warrick et al., 1998):

- 1) Clump grass and saltbush grassland, with sandy soil;
- 2) Dry washes with scrub brush, in native/non-native grassland, with sandy soil;
- 3) Alkali flats, with saltbush in sandy or gravelly soil; and
- 4) Grassland with hardpan soil.

The BNLL is generally absent from areas of steep slopes and dense vegetation, and areas subject to seasonal flooding (USFWS 2010). No Critical Habitat has been designated for the BNLL by the U.S. Fish and Wildlife Service (USFWS). Target acquisitions stated in the BNLL Recovery Plan include “natural land in the Panoche Valley area of Silver Creek Ranch, San Benito” as well as other lands in the western San Joaquin and Cuyama Valleys (USFWS 2010).

Microhabitat use and home range characteristics of BNLL were compared at two sites near Elk Hills in Buena Vista Valley that differed in ground cover (Warrick et al., 1998). These authors reported that BNLL microhabitat use differed significantly between the two study sites. At the more densely vegetated site, BNLL used dry wash areas significantly more than grassland, floodplain, and road habitats. Conversely, at the more sparsely vegetated site, grassland was used more than wash habitat, and hills were used less than all other habitats (Warrick et al. 1998).

The BNLL use small rodent burrows for shelter from predators and temperature extremes, including winter and long-term drought aestivation (Tollestrup 1979b). Burrows are usually abandoned ground squirrel (often *Otospermophilus beecheyi*) tunnels, or occupied or abandoned kangaroo rat tunnels (*Dipodomys* spp., Montanucci 1965). Each lizard uses several burrows without preference, but will avoid those occupied by predators or other leopard lizards. Montanucci (1965) found that in areas of low mammal burrow density, lizards would construct shallow, simple tunnels in earth berms or under rocks. BNLL feed primarily on insects (mostly grasshoppers, crickets, and moths) and other lizards, although some plant material is rarely eaten or, perhaps, unintentionally consumed with animal prey. They appear to feed opportunistically on animals, eating whatever is available in the size range they can overcome and swallow (USFWS 2010).

The majority of the occupied BNLL habitat, within the PVS project, consists of introduced annual grasslands along Panoche and Las Aquilas creeks, and the associated alluvial terraces that include the area along Yturiarte Road (Figure 1). Based on 2009/2010 survey data and spring/summer 2013 adult and hatchling protocol survey data, the BNLL observations are either within the Panoche Creek and Las Aquilas Creek wash habitat or adjacent to the wash habitat (see Figures 20, 21a, and 21b of the associated Biological Assessment).

In review of the associated soil series, the known BNLL distribution at the PVS site primarily corresponds to young fluvial deposits associated with Panoche Loam 0-2% and 2-9% soil series (NRCS 20013). The Panoche soil series cover >70 percent of the project site. The alluvial fan soils associated with the northwestern portion of the project, and towards the north and west of the known BNLL observations, consist of the Yolo Loam 0-5% and 2-9% soil series. This soil series has much higher angular gravel content throughout the profile, in addition to a stratification of substratum (NRCS 2013).

**Figure 1. Panoche Creek native/non-native grassland wash and terrace BNLL habitat**



### 3.0 Discussion

#### ***Impact Avoidance Buffers- Other Projects***

Based on a review of the scientific literature, there are only a few sources of information concerning BNLL home range estimates and associated avoidance buffer recommendations. Early BNLL home range studies (i.e., Tollestrup 1979), described home ranges of less than 2.4 acres for both males and females. However, that study was based on only three days of lizard assessment on a habitat grid. Later studies provided additional information on home range estimates (Table 1). The following information provides a summary of BNLL impact avoidance buffers on other energy and transportation projects in California.

**Table 1. Literature review of BNLL home range estimates**

<b>Investigator</b>	<b>Date</b>	<b>Study Location</b>	<b>Findings</b>	<b>Home Range Estimate</b>
Tollestrup	1979	Western San Joaquin Valley	Home range < 2.4 acres for both males and female BNLL. Based on 3 days of data.	<2.4 acres (182-ft)
Warrick et al.	1998	Kern County	16 BNLL radiotagged (8 dense grassland vegetation, 8 sparse grassland vegetation) at 2 sites at Naval Petroleum Reserves.	22 acres (552-ft)
Germano	Unpublished data (2004)	Kern County (western)	Based on the data from 60 BNLL (total of 83 BNLL radiotagged) at >25 locations at Lokern Natural Area Study site (southeast of San Benito County). Habitat included scrub wash, flats with no wash, and scrub flats.	2.96-46.5 acres (male-95% Kernal home range) 1.75-52.4 acres (male - 95% MCP) 1.85-30.4 acres (female - 95% Kernal home range) 1.13-16.5 acres (female - 95% MCP)

A BNLL buffer will minimize the risk of a direct or indirect “take” of BNLL individuals in conjunction with avoidance and exclusion criteria. As provided in Table 2, there is a great deal of inconsistency between the BNLL buffer sizes that have been applied to various projects in California.

**Table 2. BNLL impact avoidance buffers associated with other California energy and transportation projects**

<b>Project</b>	<b>Project Date</b>	<b>BNLL Buffer</b>	<b>Scientific Basis</b>	<b>Note</b>
<b><i>Other Solar Energy Projects</i></b>				
California Valley Solar Ranch (SunPower Corp)	2011	22 acre (552-ft)	Warrick et al. 1998	Carrizo Plain, San Luis Obispo County. No BNLL were documented within the project boundaries. If any BNLL were located in the future, the buffer would be centered on any observation point and greatest habitat suitability (USFWS 2011).
Topaz Solar Farm (Topaz Solar Farms LLC)	2011	Not needed	NA	Carrizo Plain, San Luis Obispo County. No BNLL found on or adjacent to the project
<b><i>Oil and Gas Projects</i></b>				
Gunslinger (Occidental of Elk Hills. Inc)	2011	50-ft (minimum)	Unknown	Southern San Joaquin County, Kern County. 10 oil and gas wells at 5 pads. BNLL habitat at all 5 well pads.
Titan Exploratory (Aera Energy LLC)	2012	50-ft (minimum)	Unknown	Existing gas and oil site. Kern County. Buffer includes exclusion fencing around the burrow.
BLM San Joaquin Valley Oil and Gas Programmatic Agreement	2001	50-ft (minimum)	Unknown	Unknown
<b><i>Transportation Projects</i></b>				
FHWA Programmatic BO for Minor Transportation projects	2004	50-ft (minimum)	Unknown	Fresno, Kern, Kings, Madera, Mariposa, Stanislaus, San Joaquin, Tulare, Tuolumne counties.

***Impact Avoidance Buffers- Panoche Valley Solar Project***

The following information provides a discussion of the potential or alternative BNLL impact avoidance buffers associated with the PVS. Throughout on-going planning and permitting processes, the size of the BNLL “take” avoidance buffer has been identified as an important issue.

The BNLL is listed as Endangered under California Endangered Species Act (CESA), but it is also designated as a “fully protected” species under Fish and Game Code Section 5050, and as such, CDFW cannot authorize incidental take of the species. Fully protected reptiles and amphibians, or parts thereof, may not be taken or possessed at any time. Fish and Game Code Section 86 defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”. Thus, the impact avoidance buffer must be selected using reasoned scientific judgment that provides the project with reasonable expectation that no take would occur (i.e., “high standards of effectiveness”) during construction, operation, and maintenance.

In addition, BNLL take is prohibited under the federal Endangered Species Act (ESA) unless authorized by permit or through issuance of an incidental take statement in the USFWS’ Biological Opinion following ESA Section 7 consultation. The federal ESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” No take statement can be issued unless the USFWS finds that the project as proposed is not likely to jeopardize the continued existence of the species or result in destruction or adverse modification of critical habitat. The BNLL avoidance buffer must provide sufficient assurances that the USFWS determination and habitat considerations are justified and met.

### **Potential Impact Avoidance Buffers**

#### **22-acre home range based buffer**

As provided in Table 2, the 22-acre (552-ft) buffer has been historically applied to other recent solar energy projects (including the California Valley Solar Ranch on the Carrizo Plain) and prescribed in the PVS Final Environmental Impact Report (FEIR) certified by the County of San Benito. This buffer is based on the approximate size of the largest BNLL home range size computed by Warrick et al. 1998. Home range refers to that area traversed by the individual animal in its normal activities of food gathering, mating, and caring for young (Burt 1943). Occasional sallies or excursions outside that area, perhaps exploratory in nature, should not be considered part of the home range (Burt 1943).

The Warrick study focused on 16 BNLL (eight in dense grassland vegetation, eight in sparse grassland vegetation) at two sites at the Naval Petroleum Reserves in Kern County. Based on recent project correspondence, the CDFW and USFWS have raised issues with the future use of the 22-acre buffer due to several perceived technical issues with use of the 22-acre buffer. Relatively recent unpublished research by Dr. David Germano has further elucidated the BNLL home range information provided by Warrick et al. in 1998 (Table 1).

Based on the information provided above including the more recent unpublished Germano analysis and the agency repudiation, there are biological, technical, and statistical issues with further use and application of the 22-acre buffer. A larger-sized buffer is more appropriate in providing further assurances of no BNLL “take” during project construction, operation, and maintenance.

### **52.4-acre home range based buffer**

In Germano's BNLL study, two different home range models were used to draw biological inferences about the species' range and habits. The first method used was the Minimum Convex Polygons (MCP) method. MCPs are simple polygons created by connecting the outermost locations of all the locations of an animal (Mohr 1947). Basically, the MCP provides an outline that encloses all of the animal's locations and does not provide specific information about how the animal used the area. The size of a MCP is positively correlated to the number of animal locations. A MCP increases in size with increasing number of locations and is sensitive to data created by excursions of the animal outside of its home range. To correct this problem, investigators (including Germano in his unpublished study) typically exclude from the polygon those locations farthest from the mean center of all locations. As in Germano's study, the most distant 5% of the locations (i.e., excursions) are excluded from the analysis. Thus, Germano used a 95% MCP method and eliminated potential excursion data from the analysis. In a follow-up discussion, Germano stated that the larger home range numbers were unusual, and he does not believe that they indicate representative use by that group of BNLL (Personal Communication, October 15, 2013, Randi McCormick (Principal Biologist, McCormick Biological, Inc.) to Dr. David Germano (Professor of Biology, California State University, Bakersfield)).

Germano also used the Kernel Home Range (KHR) method to determine BNLL home range in his unpublished study. The KHR method acknowledges the importance of distribution (or density) of the data rather than evaluating each data point in isolation. Thus, the probability model describes the relative amount of time an animal is found in a particular place. The KHR method is also relatively insensitive to the occurrence of range anomalies and typically provides more compact home range estimations. The output of a KHR displays probability shapes that are defined as the "bandwidth" between points. With Germano's BNLL 95% KHR model, the output represents an area with a 95% probability that the animal is inside that area. The 95% area is considered the area of active use.

The 52.4 acre (852-ft.) home range (Table 3) is based on Germano's MCP/KHR derived data where the male BNLL home range estimate ranged from 1.8 acres to 52.4 acres (Table 3). Female home range estimates were from 1.1 to 16.5 acres. These estimates excluded three females that had movements greater than the 98.8 acres (i.e., 104.27 acres, 106.50 acres, and 113.17 acres) and did not seem to represent the animals' home range movements. Possible explanations for a small number of individuals showing movements that are significantly larger than the next largest could include breeding dispersals, extraterritorial movements, or exploratory movements. A "centroid" 52.4 acre avoidance buffer with a radius of 852-ft from each BNLL observation, is based on the 95% MCP method and using the maximum home range value from either males or females. The 52.4 acre male home range estimate was associated with good BNLL conditions in terms of soils, vegetation density, and habitat types.

**Table 3. Male vs. female BNLL home range size (acres) 2002-2004 (Germano unpublished data)**

	<b>n</b>	<b>Mean</b>	<b>SE</b>	<b>Low</b>	<b>High</b>
<b>Males</b>					
95% KHR	33	20.80	0.82	2.96	46.45
95% MCP	33	14.05	0.66	1.75	52.38
<b>Females</b>					
95% KHR	24	10.65	0.66	1.85	30.39
95% MCP	24	6.79	0.34	1.13	16.53
KHR: p=0.001; MCP: p=0.0002					

**Proposed 52.4 acre home range buffer rationale**

In association with the PVS project, the proposed centroid buffers associated with each observation (including 2009-2010 survey records, as well as the 2013 adult and hatchling protocol survey records) are merged into one continuous polygon. Thus this provides more of a conservative buffer complex centered on the observations and also encompassing the likely occupied habitat areas associated with the washes and adjacent alluvial terraces. The majority of the adult and hatchling BNLL observations and the associated proposed buffers are found within the Las Aquilas and Panoche Creek washes and adjacent alluvial terrace.

During the September 2013 protocol hatchling survey, an additional subadult BNLL was found north of the Las Aquilas Creek wash (total of nine hatchlings; two adults; and one subadult). However, the proposed buffer encroached on the extreme southern portion of the project footprint. Furthermore, the repeated observations (including the 2010 surveys and observations and the full protocol adult and hatchling surveys in 2013) within the project area provide at least representative distribution of the BNLL. This BNLL distribution is centered on the washes and the adjacent alluvial terraces.

Based on the known scientific research on home range and the site-specific project data gathered through the BNLL surveys (including the 2013 adult and hatchling protocol surveys), this proposed 52.4 acre buffer will offer adequate protection to the BNLL and reasonably assure that the PVS project will not result in the “take” of the BNLL. Risk to the BNLL is further reduced by application of the buffer to all the observations because it is not possible to determine whether observations represent specific individuals or multiple sightings. Risk is further minimized through project-related measures that provide additional BNLL protection as identified below:

- The proposed 2,523 acre Valley Floor Conservation Lands (VFCL) will provide permanent protection to the BNLL and associated high quality wash and terrace habitat.
- Four GKR precinct avoidance areas (approximately 212 acres) were designated and adjoined to the VFCL, BNLL buffers, and known BNLL habitat. These areas were selected due to the large numbers of concentrated active and inactive GKR precincts, presence of high quality habitat, and direct connectivity to protected lands. The GKR avoidance areas will provide additional protection for the BNLL and any potential burrow habitat.

- Recent project-design features, recommended by the CDFW, associated with the removal of several proposed solar arrays due west of the proposed substation and Little Panoche Road. This area is suitable for potential GKR and BNLL use and is immediately adjacent to the VFCL and proposed BNLL buffer area. Another strip of active and inactive GKR burrows will be protected along the existing Little Panoche Road fence line.
- A 1,640.4-foot (500-meter) wide and 8,149.5-foot (2,484-meter) long San Joaquin kit fox travel corridor has also been added along the northern tributary of Las Aquilas Creek and the adjacent VFCL. This corridor will provide additional permanent protection to the BNLL and the suitable habitat.
- At the discretion of the Designated Biologist on-site, an exclusion fence or barrier, installed along a specific project work area/BNLL buffer interface or along likely habitat such as wash terraces (not surrounding specific BNLL), will prevent BNLL (and other species) from entering the site during construction and other ground disturbance activities. This impenetrable barrier can be constructed of smooth polymer matrix such as E-Fence, or aluminum flashing held in place by metal or wooden stakes (Germano et al. 1993). The fencing will be buried a minimum of six-inches (15.2 cm) below grade and extend a minimum of 30-inches (76.2 cm) above grade. The exclusion fencing shall be inspected daily, during the construction period, by a Designated Biologist or biological monitor under the direction of the Designated Biologist. The entrenched barrier fencing will be installed after the pre-construction survey and will be removed once construction activities are complete.

Several BNLL best management practices, some provided in the FEIR (County of San Benito 2010), will also be implemented at the proposed PVS project and will include the following:

- Prior to initiation of construction of a project phase (i.e., any activity that results in surface disturbance), a Designated Biologist(s) shall conduct a BNLL education program (e.g., tailgate briefing) for all project personnel. Topics to be discussed during the briefing shall include: identification of BNLL, occurrence and distribution of BNLL in the project area, take avoidance measures being implemented during the project, reporting requirements if an observation or incident occurs, applicable definitions and prohibitions under the Fish and Game Code for fully protected species, and relevant provisions of the federal and state Endangered Species Act.
- All activities that will result in permanent or temporary ground disturbances shall be preceded by a pre-construction survey within 30 days of construction by a Designated Biologist(s). In addition, an additional pre-construction survey immediately prior to the onset of construction will be conducted. The biologist(s) shall identify and clearly mark the location of areas where any BNLL were observed. If a BNLL is observed on the project Footprint, CDFW and USFWS will be contacted. See Attachment A for additional BNLL protection measure proposals.
- A biological monitor(s) shall be present while ground disturbing activities are occurring. In addition to conducting preconstruction surveys, the biological monitors shall aid crews in

satisfying take avoidance criteria for BNLL and implementing project avoidance and mitigation measures. Biological monitors shall accompany vehicles and crews throughout the project area if the Designated Biologist considers it necessary in order to avoid individual BNLL. Biological monitors are empowered to order cessation of activities if an immediate threat of “take” is identified, if take avoidance and/or mitigation measures are violated, or if a BNLL is located within the construction area and will notify the project environmental representative.

- Unless biological monitors allow alterations to routes, all project vehicles shall be confined to defined access routes that will be staked and/or flagged. All observed BNLL shall be avoided by flagged 52.4-acre buffer to alert project personnel to their presence. All project-related flagging shall be collected and removed after completion of the project.
- Project-related motorized vehicles are prohibited (with the exception of emergency vehicles on designated roads) within occupied BNLL habitat and established 52.4-acre buffers.
- To prevent inadvertent entrapment of BNLL, all open holes, steep-walled holes, or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks (wooden planks should be more no less than 10 inches in width and should reach to bottom of trench). Before such holes or trenches are filled, they should be thoroughly inspected by a biological monitor for trapped animals.
- PVS shall appoint a representative who will be the contact source for any employee or contractor who inadvertently kills or injures a BNLL or who finds a dead, injured, or entrapped individual BNLL. The representative will be identified during the pre-performance educational briefing. PVS will contact CDFW and USFWS immediately in the case of a dead, injured, or entrapped BNLL.

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**ATTACHMENT A**

**ADDITIONAL PROPOSED BNLL PROTECTION MEASURES**

In addition to the BNLL avoidance buffer and Best Management Practices (BMPs) mentioned above, the following measures are proposed for agency consideration.

#### **Pre-Construction Survey Enhancement in High Risk BNLL Areas**

All activities that will result in permanent or temporary ground disturbances shall be preceded by a pre-construction survey within 30 days of construction by a Designated Biologist or their representative. The Designated Biologist(s) shall identify and clearly mark the location of areas where any BNLL were observed. In potential high BNLL impact risk areas, in the vicinity of Las Aquilas Creek (i.e., within Township 15S, Range 10E, Section 9 and 16), enhanced pre-construction surveys for adult BNLL will be conducted. These enhanced surveys will consist of focused protocol BNLL surveys in the month of May preceding the ground disturbance. The survey methodology will be based on the CDFG *Approved Survey Methodology for the Blunt-nosed Leopard Lizard* (CDFG 2004).

#### **Measures for BNLL Identified During Construction**

Exclusion fencing may be installed around areas of construction if deemed necessary by the Designated Biologist. Exclusion fencing will not be installed in a manner that would encircle or trap a BNLL. Upon the completion of construction in the area, the exclusion fencing will be removed. If a BNLL is subsequently identified within the project footprint during construction, the PVS proposes that all work will cease in the area of the sighting. The Designated Biologist will notify and consult with CDFW and USFWS prior to additional activity in the area.