Appendix B-3: Terrestrial Wildlife Plan

Terrestrial Wildlife Plan

Searchlight Wind Project
Clark County, Nevada

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1 INTRODUCTION

1.1 BACKGROUND INFORMATION

Searchlight Wind Energy, LLC (Searchlight Wind; Applicant), a wholly-owned subsidiary of Duke Energy (Duke) has applied to the Bureau of Land Management (BLM) for a right-of-way (ROW) grant on public land to develop a wind energy project. Searchlight Wind is proposing to develop the Searchlight Wind Project (Project), an approximately 220 megawatt (MW) wind energy facility on a site located in southern Clark County, Nevada (Figure 1). The purpose of the project is to develop, own and operate a wind conversion facility that will contribute to Nevada's Renewable Portfolio Standards for electricity generation.

The United States Fish and Wildlife Service (USFWS) and the Nevada Department of Wildlife (NDOW) were contacted regarding ecological study needs for the project, with the BLM as the lead federal agency for all permitting. This document addresses the Gila monster, common chuckwalla, and desert big horn sheep. Impacts to the federally-listed desert tortoise are addressed in a biological assessment, and impacts to birds and bats are addressed in an avian and bat protection plan. This document summarizes the wildlife study reports completed for the Project (Section 2) and evaluates risk to wildlife in the context of the Project (Section 3). The plan then addresses proposed measures to avoid, minimize and mitigate adverse effects on wildlife resources from Project construction and operation (Section 4). In support of implementation for those measures, the plan provides a post-construction wildlife reporting system (Section 5).

1.2 PROJECT DESCRIPTION

The Project area for the Searchlight Wind Project lies to the north of the Newberry Mountain Range and south of the Eldorado Mountain Range in southern Clark County, Nevada. It is situated approximately 1.5 miles west of Lake Mead National Recreation Area, 60 miles southeast of Las Vegas and 40 miles north of Laughlin, Nevada. Specifically, the Project area for the Searchlight Wind Project encompasses lands approximately 0.5 miles northeast to 3 miles southeast of the town of Searchlight. The Project area encompasses 8,400 acres east of I-95 and is located on undeveloped BLM land with private holdings, mainly in the form of mine claims, within the Project boundary.

The Project has been planned to include 87 2.5 MW turbines (Figure 2). Turbine configuration takes advantage of local terrain and is located primarily along hill- and ridge-tops within the Project area, configured to maximize access to the wind resource in the area while minimizing impacts to wildlife. In addition to the turbines, the facility will include a system of Project access roads (to provide ingress, egress and traffic circulation), an electrical collection system, a substation, a transmission connection, an operations and maintenance (O&M) building and 5 permanent meteorological (met) towers (Figure 2). The total area affected by development will be up to approximately 382 acres (Table 1).

Table 1. Approximate Acreages Impacted by Development of the Project

Project Feature	Total Acres of New Habitat Disturbance (acres)	Approximate Temporary Construction Disturbance (acres)[1/]	Approximate Permanent Construction Disturbance (acres)
Turbine pads	69.2	66	3.2
New and upgraded project roads and crane pads[2/]	253.0	111.4	141.6
Operations and maintenance facility	6.5	1.5	5.0
Equipment storage and construction laydown areas[3/]	28.3	28.3	0
Overhead transmission line right-of-way	16.5	16.5	0
Substations	7.0	5.0	2.0
Batch plant	1.0	1.0	0
Meteorological towers	0.01	0	0.01
Western's switching station	7	2.5	3.5
Total Estimated Impacts	**388.5**	**232.2**	**155.3**

1/ Temporary construction impacts are in addition to permanent impacts.
2/ Restoration of roadsides.
3/ Includes temporary office trailers and crane assembly areas.

1.3 ENVIRONMENTAL SETTING

The Project area is located in the Mojave Basin and Range ecoregion in extreme southern Nevada. Topographic dimensions of the Project area vary greatly with flats, washes, valleys, and steep mountains/hills present with elevations ranging from 2,240 to 4,327 feet above mean sea level. Caliche formations are present throughout the Project area with creosote bush scrub and Joshua tree woodland as the predominant plant communities. Topographical variation is highest in the northern portion of the Project area while the southwestern portion lies predominantly in the valley floor. Dry washes exist throughout the Project area.

1.4 WIND ENERGY AND TERRESTRIAL WILDLIFE

Wind energy provides a clean, renewable energy source that is in high demand. As wind power becomes more common, the need to address potential environmental impacts has increased. In general, the impact of a wind energy facility on terrestrial wildlife is expected to be similar to other large-scale development projects and would include both direct and indirect impacts. Direct impacts may include harassment, injury, and mortality during construction and maintenance activities (e.g. noise disturbance, collapsed burrows, vehicular collision with wildlife), while indirect impacts may include loss, fragmentation, and degradation of habitat during construction, and disturbance during construction and operation activities. These impacts can occur over both the short- and long-term, and may add to the cumulative impacts occurring within a particular region. Site-specific mitigation (through Project design and impact minimization measures), monitoring, and adaptive management are essential to ensure that wind energy can be developed while avoiding or minimizing adverse impacts to terrestrial wildlife. As currently recommended in the Draft USFWS Land-based Wind Energy Guidelines (2011a), Duke has performed a preliminary landscape-scale evaluation of the Project site (Tier 1), a broad characterization of the site (Tier 2), and site-specific pre-construction monitoring and risk assessments (Tier 3) in order to minimize negative impacts to wildlife.

1.5 REGULATORY FRAMEWORK

Terrestrial wildlife occurring in the vicinity of the Project area include four species receiving state and federal protection, namely desert tortoise *(Gopherus agassizil)*, banded Gila monster (*Heloderma suspectum*), common chuckwalla (*Sauromalus ater*), and desert bighorn sheep (*Ovis canadensis nelsoni*). The regulations associated with these species are detailed below.

1.5.1 Endangered Species Act

On April 2, 1990, the U.S. Fish and Wildlife Service (USFWS) listed the Mojave population of the desert tortoise to be a threatened species pursuant to the Endangered Species Act of 1973, as amended (55 FR 12178 12191). The Desert Tortoise (Mojave Population) Recovery Plan was released in June of 1994 (USFWS 1994) and was later revised (USFWS 2011b). The Recovery Plan identifies six evolutionarily significant units of the desert tortoise in the Mojave Desert region and outlines 4.1 million acres of designated critical habitat (USFWS 2011b). This designation includes primarily federal lands in southwestern Utah, northwestern Arizona, southern Nevada, and southern California. In Nevada, the critical habitat designation totals 1,221,341 acres in Clark and Lincoln Counties. Of this amount, 988,600 acres are on BLM-managed lands.

The desert tortoise is listed by the BLM as a Nevada Special Status Species that is federally listed as Threatened. As a result, a Biological Assessment has been developed for the desert tortoise for this Project. Details of Project risk to the desert tortoise, conservation measures, and mitigation options will be fully detailed within the Biological Opinion.

1.5.2 BLM Special Status Species

In Nevada, the BLM has implemented policies for special-status species found on BLM-managed lands. BLM's list of special-status species includes the following three categories: (1) federally listed as Threatened or Endangered, Proposed and Candidate species; (2) Nevada State Protected species; and (3) Nevada BLM Sensitive Species. BLM Sensitive Species are species for which population viability is a concern; they are managed by the BLM to "ensure that actions authorized, funded, or carried out do not contribute to the need for the species to become listed;" these species are afforded the same level of protection as federal Candidate species.

The banded Gila monster, common chuckwalla and desert bighorn sheep are species occurring in the Project area listed as Nevada BLM Sensitive Species.

1.5.3 Nevada Codes

Under Nevada law and regulation, any wildlife receiving the distinction of fully protected species may not be captured, removed or destroyed at any time except with special permit as provided under Nevada Revised Statutes (NRS) 503.584-503.589 and Nevada Administrative Code (NAC) 503.093. Section 503.093 indicates that protected species include wildlife species that are classified as sensitive, threatened or endangered by NDOW and that an "appropriate license, permit or authorization required to hunt, take or possess protected wildlife; (NRS 501.105**,** 501.181)" is necessary. Both the desert tortoise and banded Gila monster are considered protected under NAC 503.080 and NRS 501, with the desert tortoise further classified as Federally Threatened. Additionally, under Nevada Revised Statutes (501.376), it is

unlawful to intentionally take, kill or possess large game species such as bighorn sheep without appropriate authorization.

The desert tortoise, banded Gila monster, common chuckwalla, and desert bighorn sheep (or Nelson bighorn sheep) are considered Species of Conservation Priority under the Nevada Wildlife Action Plan (Abele *et al.* 2006), which is being implemented by NDOW.

1.5.4 Clark County

The desert tortoise is a covered species under the Clark County Multiple Species Habitat Conservation Plan (MSHCP; RECON 2000). The banded Gila monster is a high priority evaluation species.

2 MONITORING AND SURVEYING TO DATE

2.1 TERRESTRIAL WILDLIFE

Pre-construction presence/absence surveys within the Project area were conducted for banded Gila monster, common chuckwalla, and desert bighorn sheep in order to determine the use and distribution of these species (if present) within the Project area (Appendix A). Surveys were conducted from April 3 – May 16, 2011 within a survey corridor corresponding to areas of potential development within the Project area, as well as within exterior belt transects which extended various distances outward from the corridor (200, 400, 600 feet). Belt transect-oriented visual searches for presence or sign (e.g., scat or carcasses) of the focal species were performed within the survey corridor, with sightings documented with handheld Global Positioning System (GPS) units and photographs. Observations made outside of the either the survey corridor or survey time period, or both, were recorded as incidental observations. An additional desktop analysis was performed to identify and evaluate areas of suitable desert bighorn sheep habitat within the Project area due to their relatively larger home range.

2.1.1 Banded Gila Monster

No banded Gila monsters were observed directly, nor was evidence of their presence detected. However, Gila monsters tend to be secretive and spend greater than 95 percent of their lives underground (NDOW 2007). These behaviors make this species extremely difficult to observe.

2.1.2 Common Chuckwalla

Twenty live common chuckwalla and 54 observations of scat were documented during surveys (Figure 3).

2.1.3 Desert Bighorn Sheep

One observation of four desert bighorn sheep, divided between two groups, was documented. Additionally, one observation of unidentified ungulate scat presumed to be desert bighorn sheep scat (Figure 4) was documented.

3 RISK ASSESSMENT

Potential impacts to terrestrial wildlife from the Project include direct and indirect mortality (e.g. vehicular collisions, destruction of nest sites, increased predation), disturbance from construction and operation activities, and habitat loss and fragmentation. No publicly available studies have investigated the potential impacts of wind energy development on banded Gila monster, common chuckwalla, or desert bighorn sheep. Thus, assessments of risk are based primarily on results of site-specific surveys and inferences from studies of similar species or other forms of energy development, as available.

3.1 BANDED GILA MONSTER

The primary risk to Gila monsters is collisions with vehicles and habitat loss. Few, if any, collisions with vehicles would be expected, and disturbance should be minimal because the crepuscular activity of the Gila monster is unlikely to coincide with the timing of construction and operations activity. Both construction and operations activity will take place during daylight working hours. The majority vehicular use will fall outside the daily active periods for this species. During seasonal periods of high activity (April-June), biological monitors necessary for desert tortoise monitoring will also monitor for Gila monster.

Preferential habitat includes washes, rocky crevices, and creosote scrub brush lands, all present within the Project area, thus habitat loss will likely occur during construction. The total new habitat disturbance due to the Project is limited to 388.5 acres of disturbance, of which 153.5 would be permanent (Table 1) with much of the development occurring outside of washes and limited development occurring within the areas of lower elevation creosote scrub. Thus, only a small amount of viable Gila monster habitat would be expected to be disturbed or lost. Impacts of the Project to Gila monsters are expected to be low due to a lack of detections of Gila monster or Gila monster sign within the Project area, although preferred habitat is present, and absence of the species cannot be confirmed through the survey methods used (Appendix A). Further, the general avoidance and minimization measures described in section 4.1, and the Gila monster specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.2 COMMON CHUCKWALLA

The primary risk to common chuckwallas is collisions with vehicles, disturbance during construction, and habitat loss. Limited chuckwalla habitat exists within range of proposed roads, suggesting low risk for collisions with construction and maintenance vehicles. Although materials and equipment left behind following construction and maintenance activities may attract predators such as common ravens and coyotes, the implementation of a trash abatement plan and other Best Management Practices (BMPs) will limit draws for opportunistic predators. Surface disturbance in July and August may impact chuckwalla nests, but likely nesting areas will be visually surveyed by biological monitors during desert tortoise surveys, marked as sensitive areas prior to disturbance and avoided to the extent practicable. Observations of chuckwalla and sign were spatially clustered and largely limited to habitat in the northeast section of the Project, minimizing both contact with Project features and disturbance due to Project activities (Appendix A). Lastly, habitat loss will be minimal because a limited amount of chuckwalla habitat is present within the Project footprint. Although the Project is sited within the core of the common chuckwalla range, and numerous detections of chuckwalla and sign were

made within the Project (Figure 3), impacts due to the Project are expected to be low. Further, the general avoidance and minimization measures described in section 4.1, and the common chuckwalla specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.3 DESERT BIGHORN SHEEP

The primary risk to desert bighorn sheep is collisions with vehicles, disturbance during construction and operation, and habitat loss.

3.3.1 Vehicle Collisions

Roads within the Project area pose risk of collision with project and public vehicles (if open to public access) to desert bighorn sheep. A total of 2.7 miles of new roads and 0.3 miles of upgraded existing roads are currently proposed within desert bighorn sheep habitat identified within and bordering the Project area (Figure 4). However, additional roads occur in areas that are not identified as bighorn sheep habitat but which individuals might cross when moving between habitat areas. The general location of the project area is situated within a movement corridor utilized by desert bighorn sheep passing between the Eldorado Mountains/Ireteba Peaks and Newberry Mountains from late-October to mid-May (Appendix A, Pat Cummings, pers. comm.). Limited suitable habitat within the Project area offers rams potential escape terrain while utilizing this corridor. The vicinity of the Project area supports low-density herds of desert bighorn sheep, and there were few observations of desert bighorn sheep and scat during surveys (Appendix A), suggesting low rates of use of the Project area by this species. The low rates of use and relatively small amount of roads (all dead-end) proposed in suitable habitat indicate that risk of mortality due to collision with vehicles would be low during both construction and operation. Additionally, construction and maintenance traffic would be minimized and 25 mph vehicular speed limits to minimize collision risk. Further, the general avoidance and minimization measures described in section 4.1, and the desert bighorn sheep specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.3.2 Disturbance

Disturbance is expected to be the most serious of the potential impacts of the Project to desert bighorn sheep. There is evidence that human disturbance can alter habitat use and activity patterns of bighorn sheep (e.g. Miller and Smith 1985, King and Workman 1986, Etchberger et al. 1989, Papouchis et al 2000, Thompson et al. 2007), although the response to disturbance varies among individuals and with degree of previous exposure to human contact (Leslie and Douglas 1980). Given the limited use of the Project area by desert bighorn sheep, disturbance will likely be limited to rams passing through the area from late October to mid-May, and may cause disruption of the movement of sheep between Eldorado and Newberry Mountains during construction. However, evidence of habituation to human activities such as hiking (e.g. Hicks and Elder 1979), roads (Horesji 1976 cited in Thompson et al. 2007), construction (Leslie and Douglas 1980, Campbell and Remington 1981) and aircraft (Krausman et al. 1998), suggest that sheep will habituate to the Project during operation, and thus would be expected to incur a low level of disturbance impact in the years subsequent to construction of the Project, and population connectivity would be maintained. Further, the general avoidance and minimization measures described in section 4.1, and the desert bighorn

sheep specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.3.3 Habitat Loss

Construction of roads and turbines would result in the loss of a relatively small amount of desert bighorn sheep habitat. Approximately 416 acres of identified desert bighorn sheep habitat falls within the survey corridor, with little of this considered suitable escape terrain (Appendix A). The actual acres of habitat loss would be less than this value because the survey corridor was larger than the actual Project disturbance footprint (Table 1), and some of the habitat would be re-vegetated after construction is complete. Thus risk of desert bighorn sheep habitat loss due to the Project is expected to be low. Further, the general avoidance and minimization measures described in section 4.1, and the desert bighorn sheep specific avoidance and minimization measures described in section 4.2 will reduce impacts.

4 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

4.1 GENERAL AVOIDANCE AND MINIZATION MEASURES

Searchlight Wind and agency-proposed avoidance and minimization measures are outlined in the following sections and further documented in the draft environmental impact statement.

Road construction, placement of turbine foundations, and all clearing of vegetation will occur during daylight hours. The main access road will be improved by grading and graveling. Access roads and turbine locations within the main body of the wind project area will be cleared, and construction trailers will be placed on-site. During the construction period, heavy trucks, light trucks, and other construction equipment will regularly travel the main access road, with dispersed travel on interior access roads. Construction vehicle trips will be reduced by requiring all craft workers to park their personal vehicles at a central location in the project area. During the operational phase of the project, traffic volume will be minimal, consisting only of the routine trips by technicians to check and maintain equipment, as turbines are unlikely to be visited daily if operating correctly. All construction and operations personnel will be made aware of the seasonal periods of high activity for both the chuckwalla and the Gila monster through the Worker Environmental Awareness Program (WEAP). A summary of species likely to benefit from construction- and operations-related categories of mitigation measures is shown in Table 2.

Table 2. Species Groups that would Benefit from Searchlight Wind Project Construction and Operation Avoidance and Minimization Measures

Avoidance and Minimization Measures	Gila monster	Common chuckwalla	Bighorn sheep
Minimize disturbance impacts	X	X	X
Avoid attracting wildlife	X	X	
Trash abatement	X	X	
Speed limits	X	X	X
Worker environmental awareness	X	X	X
Minimize wildlife potential	X	X	X

Avoidance and Minimization Measures	Gila monster	Common chuckwalla	Bighorn sheep
Minimize erosion and runoff	X	X	
Invasive weed control	X	X	X

Minimize Disturbance Impacts:

- Develop construction corridors to account for both temporary and permanent impacts and restrict work to inside flagged areas. Use of construction corridors will reduce impacts to native vegetation.
- Soil from weed-free areas will be used for reclamation.
- Equipment and vehicle travel will be limited to existing roads or construction corridors during construction. Construction traffic, parking and laydown areas will occur within previously disturbed lands to the extent feasible.
- Any vegetation that is removed (not including cacti or yucca) will leave the underground roots of woody plants intact. The grubbing will skim the surface of the ground to crush or slice off the aboveground portions of vegetation, leaving the root crowns intact. This will allow for rapid regeneration of woody plant species.

Avoid Attracting Wildlife:

- Removal of rock piles post-construction.
- Maintain turbine pads so that erosion does not cause openings underneath transformer to become available habitat.
- On-site open water sources that serve as wildlife attractants will not be created or maintained.

Trash Abatement:

- All trash and food-related waste will be placed in self-closing containers and removed daily from site. This measure will reduce attraction of opportunistic predators to the project.

Speed Limits:

- Vehicular speed will be limited to 20 miles per hour, 15 mph during high activity seasons for desert tortoise (April-May and September-October), on all Project roads to reduce risk of collision with wildlife. Speed limits could be lowered during the sensitive period for the species in this plan if individuals are observed on Project roads.

Worker Environmental Awareness Program (WEAP):

- A site-specific worker environmental training program will be developed, updated and implemented throughout the construction of the Project.
- All employees and contractors working in the field will be required to attend environmental awareness training sessions prior to working on site. Training will include information regarding sensitive biological resources, restrictions, protection measures,

individual responsibilities associated with the Project, and the consequences of non-compliance.

- Rewards and fines will be used for individual adherence or lack of compliance to the training program.

Marking of Sensitive Areas:

- Sensitive habitat features include nesting locations of the species named in this plan. If areas with sensitive habitat features such as chuckwalla nests are encountered, these areas will be marked to highlight their location to construction crews in order to minimize disturbance in those areas. Areas with sensitive habitat features may include soft, well-drained soil with annual plant vegetation for forage (Brodie, et al. 2003). These areas are likely to be located where rocky mountain slopes come into contact with the beginning of the bajada.

Minimize Wildfire Potential:

- Fire prevention measures will be implemented during construction to minimize wildfire potential.

Minimize Erosion and Runoff:

- A Storm-water Pollution Prevention Plan will be developed to minimize erosion, storm-water runoff and transport of sediment and other contaminants.

Invasive Weed Control:

- A Weed Management Plan will be implemented during the construction of the Project.

4.2 SPECIES SPECIFIC AVOIDANCE AND MINIMIZATION MEASURES

4.2.1 Banded Gila Monster

In addition to the general avoidance and minimization measures in Section 4.1, measures specific to Gila monsters are provided below.

Construction Phase

- As part of the WEAP, construction site personnel will be given a packet, which includes NDOW's Gila Monster Status, Identification and Reporting Protocol for Observations (NDOW 2007). The packet will also contain information describing the distinguishing features of a banded Gila monster and instructions on distinguishing a banded Gila monster from chuckwallas and banded geckos, as well as information on the protection status of the species and the consequences of a potential bite.
- All sightings of banded Gila monster and circumstances under which it was encountered, will be immediately reported to NDOW using the Gila Monster Reporting Form (Appendix B). Gila Monsters found dead will be preserved in a freezer-safe container or plastic bag and delivered to NDOW as soon as is feasible. When handling dead Gila monsters,

hands shall be kept clear of the lizard's mouth to avoid a reflex-induced, painful and venomous bite.

- Upon finding a Gila monster, all construction activities will be halted in the immediate vicinity of the animal until the animal moves to safety of its own accord, undisturbed.

Operation Phase

- Gila monster encounter protocol, as described in the Design and Construction-Phase Mitigation Measures above will remain in effect for the life of the project.

4.2.2 Common Chuckwalla

In addition to the general avoidance and minimization measures in Section 4.1, measures specific to common chuckwallas are provided below.

Construction Phase

- During construction activities, qualified on-site biologists conducting desert tortoise monitoring will also monitor for chuckwalla and direct construction workers to allow the animal to move to safety of its own accord, undisturbed.
- If construction occurs during the nesting period, on-site desert tortoise monitors will investigate potential chuckwalla nesting habitat (sandy, well-drained soils) in July and August for signs of nests. These areas will be marked as sensitive areas and avoided to the extent practicable during construction to avoid disturbing eggs.

Operation Phase

- No operation phase measures specific to common chuckwalla are proposed.

4.2.3 Desert Bighorn Sheep

In addition to the general avoidance and minimization measures in Section 4.1, measures specific to desert bighorn sheep are provided below.

Construction Phase

- Appropriate fencing will be installed around guy wire anchor points of existing met towers.
- Upon finding bighorn sheep in the area proposed for construction, all construction activities will be halted in the immediate vicinity of the animal until the animal moves to safety of its own accord, undisturbed. If sheep do not move within two hours from areas proposed for construction, Pat Cummings at NDOW (702-486-5127 x3212) will be contacted to determine the appropriate measures to encourage sheep to move from the construction area.

Operation Phase

- Maintenance activities during the peak migration period of rams within the Project area (late-October – mid-May) will be minimized to the extent practicable to reduce risk of collision. If maintenance activities occur, vehicular speed will be reduced below the standard 25 mph limit to 10 mph. This speed reduction serves as road clearing to minimize risk of collision.
- Upon finding bighorn sheep in the area proposed for maintenance, all maintenance activities will be halted in the immediate vicinity of the animal until the animal moves to safety of its own accord, undisturbed. If sheep do not move within two hours from areas proposed for maintenance, Pat Cummings at NDOW (702-486-5127 x3212) will be contacted to determine if the maintenance activities can occur with sheep in the area. It is expected that sheep will habituate during operation of the Project and maintenance will occur in the presence of bighorn sheep.
- Observations of desert bighorn sheep will be reported using the Incidental Wildlife Reporting System for the life of the Project.

4.3 MITIGATION

Although the impacts to species will be avoided and minimized to the extent practicable through measures listed in section 4.1 and 4.2, some limited impacts might occur. To account for these impacts, Searchlight Wind will provide mitigation.

4.3.1 Banded Gila Monster

Searchlight Wind will contribute $5,000 to the Gila Monster Fund. The contribution will be used for mitigating Project impacts to this special status lizard. Contributions to the Gila Monster Fund will provide support dedicated to applied management investigations and actions facilitating high priority conservation needs for the Gila monster in Nevada.

4.3.2 Common Chuckwalla

None proposed.

4.3.3 Desert Bighorn Sheep

Searchlight Wind will contribute $5,000 to a Desert Bighorn Sheep Wildlife Research Fund (Research Fund). The Research Fund will be dedicated to funding applied management efforts addressing conservation challenges for bighorn sheep populations which are facing rapid, regional landscape level changes. These investigative efforts are necessary for developing and implementing regional management strategies in Southern Nevada for ensuring the long-term viability of regional desert bighorn sheep populations. The $5,000 contribution will assist in funding research and mitigation for this and other projects in the area. Initially, money from the Research Fund will contribute to efforts addressing management questions about bighorn sheep populations utilizing the El Dorado mountain migration corridor relative to the development of the existing landscape.

Searchlight Wind will fund the rental of one helicopter (no more than 6 hours) for survey purposes, at the soonest appropriate seasonal time interval after the commencement of implementation of the Project to assist with baseline movement studies of area herds. Instead of implementation of this measure, NDOW may choose to have Duke pay the equivalent amount of money used for the measure into the Research Fund. If a helicopter is funded for survey

purposes, NDOW will provide Duke the results of the survey within 4 weeks to address the movement of sheep through or in the vicinity of the project area.

5 ADDITIONAL MONITORING

5.1 INCIDENTAL WILDLIFE REPORTING SYSTEM

In addition to desert tortoise monitoring as determined in the biological opinion, Searchlight Wind will implement an Incidental Wildlife Report System (IWRS) that will be executed by site personnel for the life of the project. The IWRS has three main functions:

- To provide a means of recording and reporting information on incidental observations of banded Gila monster and desert bighorn sheep within the Project;
- To keep site personnel mindful of wildlife interactions; and

  To provide a standard set of instructions for Project operations and maintenance personnel to follow in response to wildlife observations associated with the Project.

The common chuckwalla is excluded from the IWRS because of its non-descript features, the likelihood that it will be confused with other lizards,

This program will be led by the site manager. Site personnel will be trained to follow the IWRS procedures and complete the appropriate reporting forms. Materials identifying sensitive species will be provided to the site staff. The IWRS will include Incidental Wildlife Reporting Forms (Appendix B) for site personnel to record incidental observations of banded Gila monster and desert bighorn sheep during routine site activities, and training will be provided as to how to report an incidental observation using the forms.

If a banded Gila monster (live or injured) is observed during construction or operation activities, site personnel will follow NDOW's Gila Monster Status, Identification and Reporting Protocol for Observations (2007). This includes completion of the Gila Monster Reporting Form (Appendix B) which was developed to comply with NDOW's reporting protocol.

If a desert bighorn sheep (live or injured due to Project activity) is observed during construction or operation activities, the Incidental Wildlife Reporting Form (Appendix B) will be completed and photos taken by site personnel and submitted to the site manager at the end of the day. If the individual is injured, and the injury is thought to be a result of the Project, the site manager will contact Pat Cummings at NDOW (702-486-5127 x3212).

Monitoring for wildlife mortalities will be associated with post-construction mortality monitoring studies. These studies will be addressed in the Searchlight Wind Energy Project Avian and Bat Protection Plan.

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FIGURES

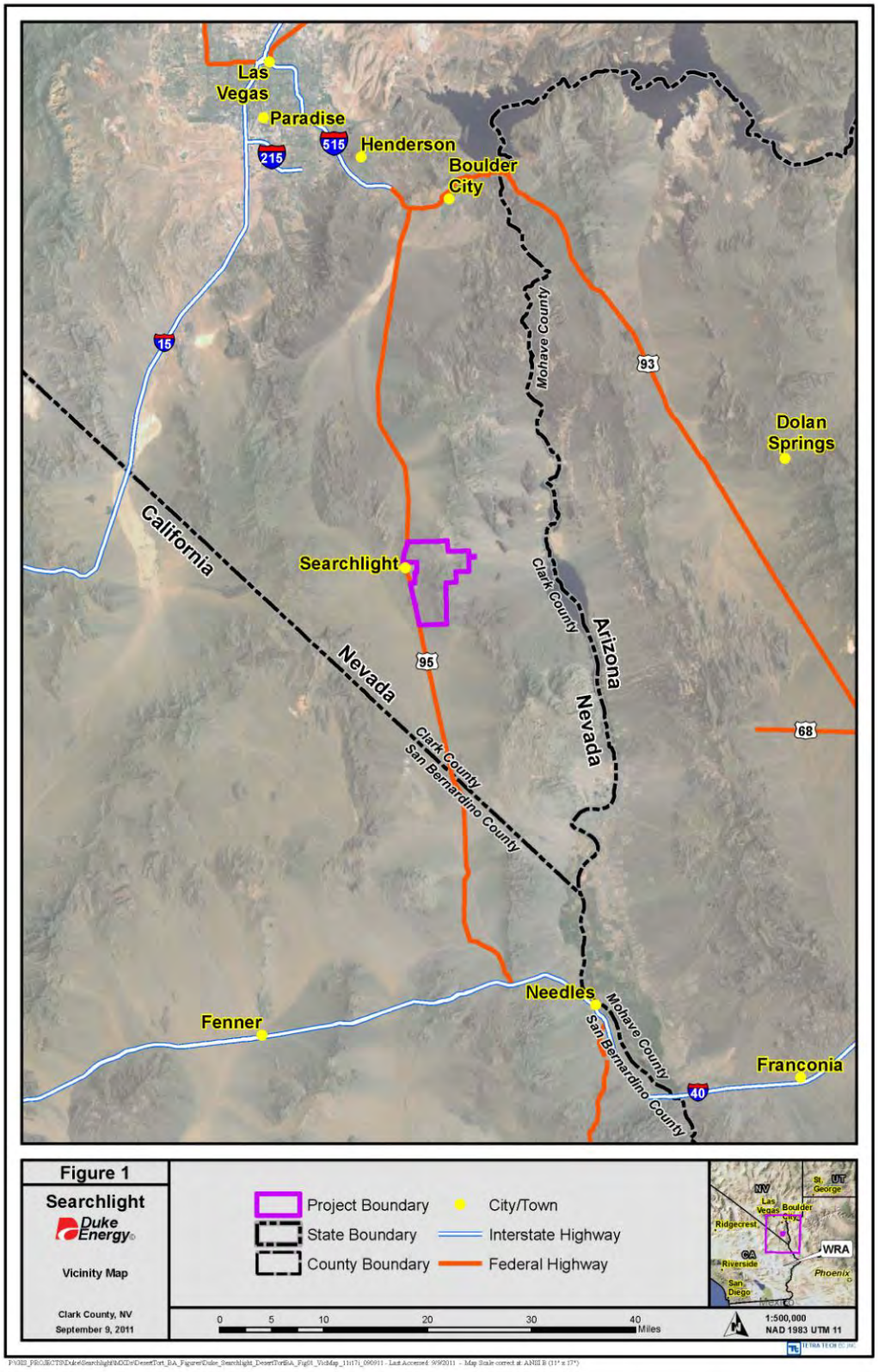

Figure 1. Project Vicinity Map

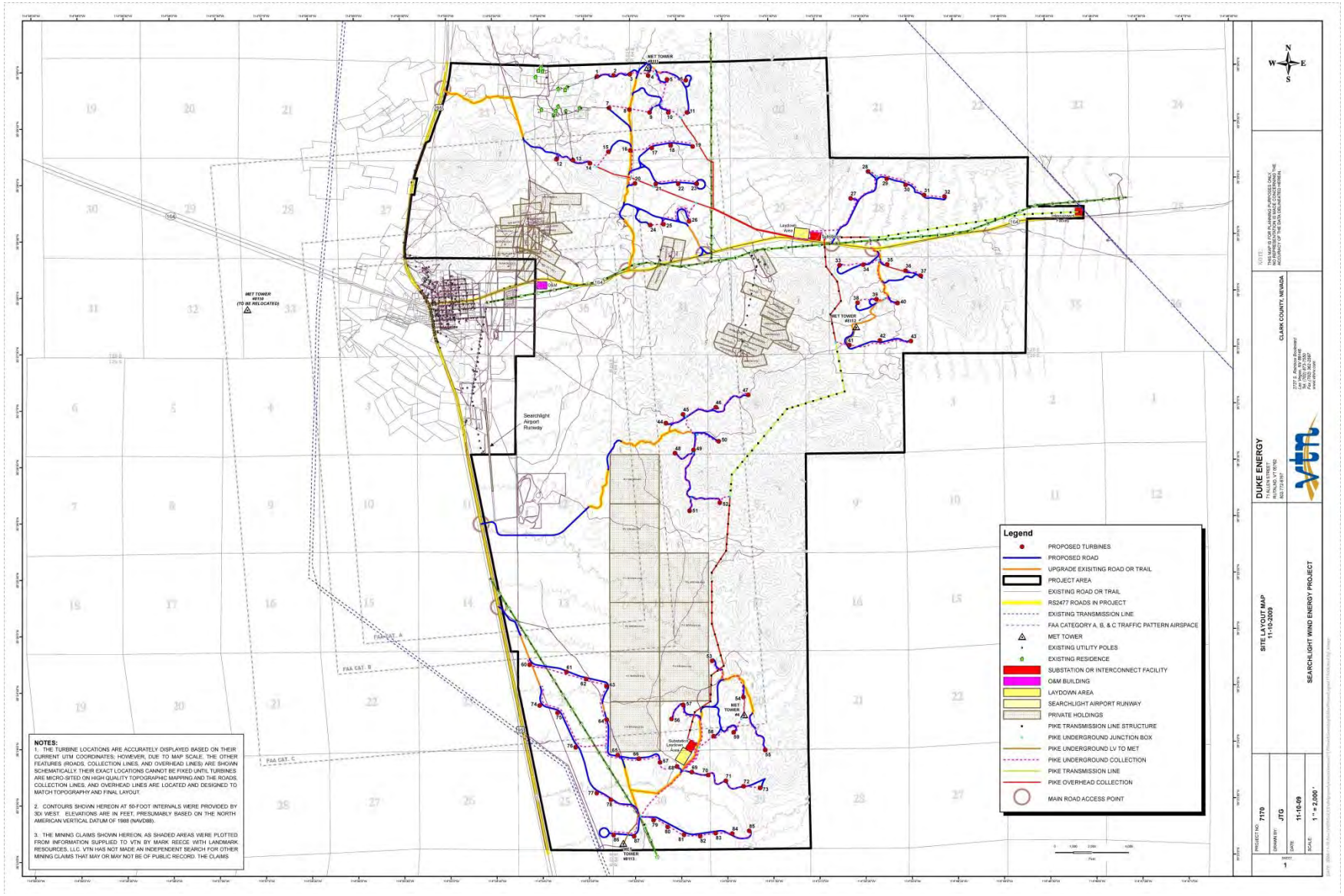

Figure 2. Project Layout

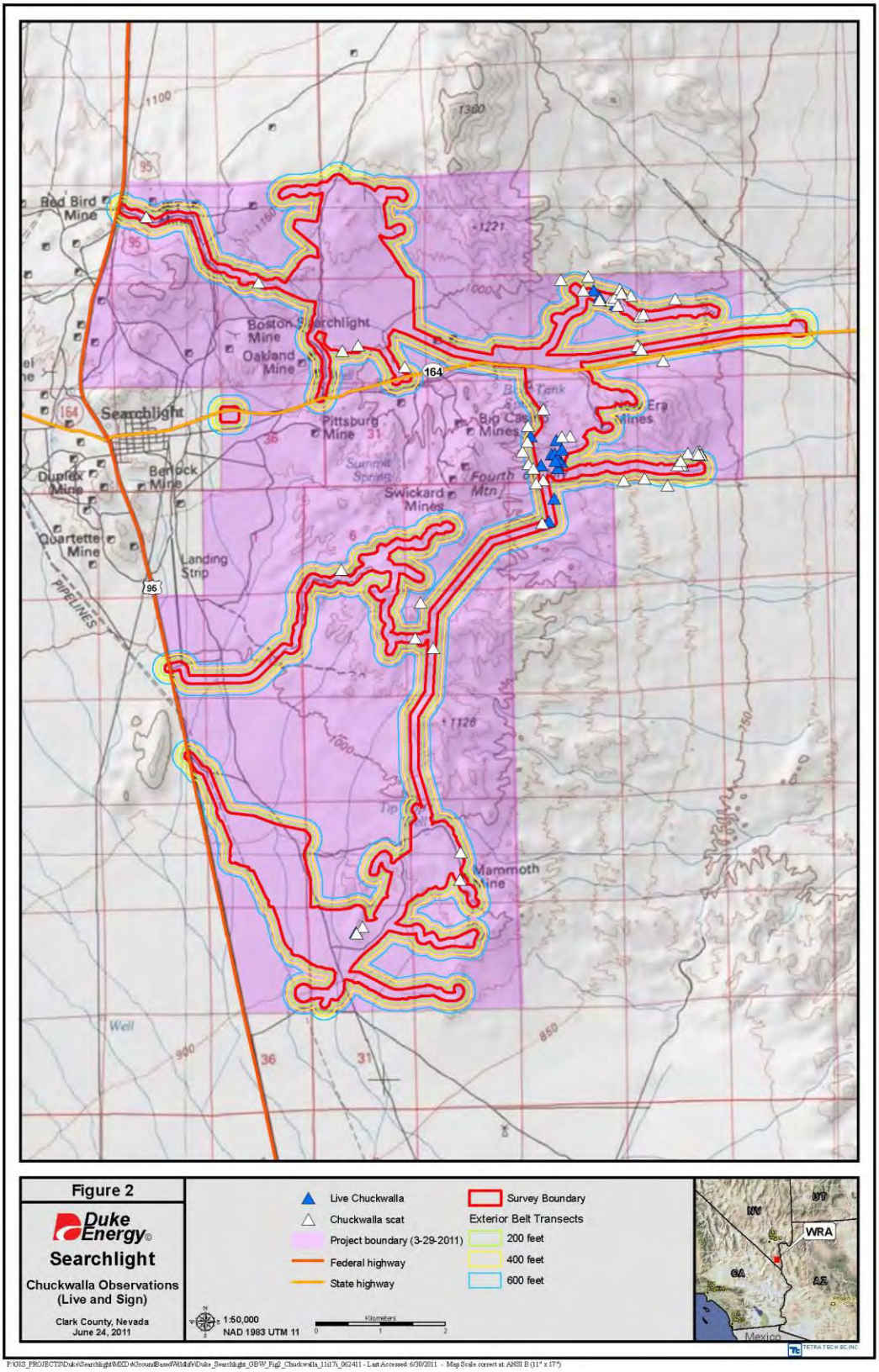

Figure 3. Observations of Chuckwalla and Sign

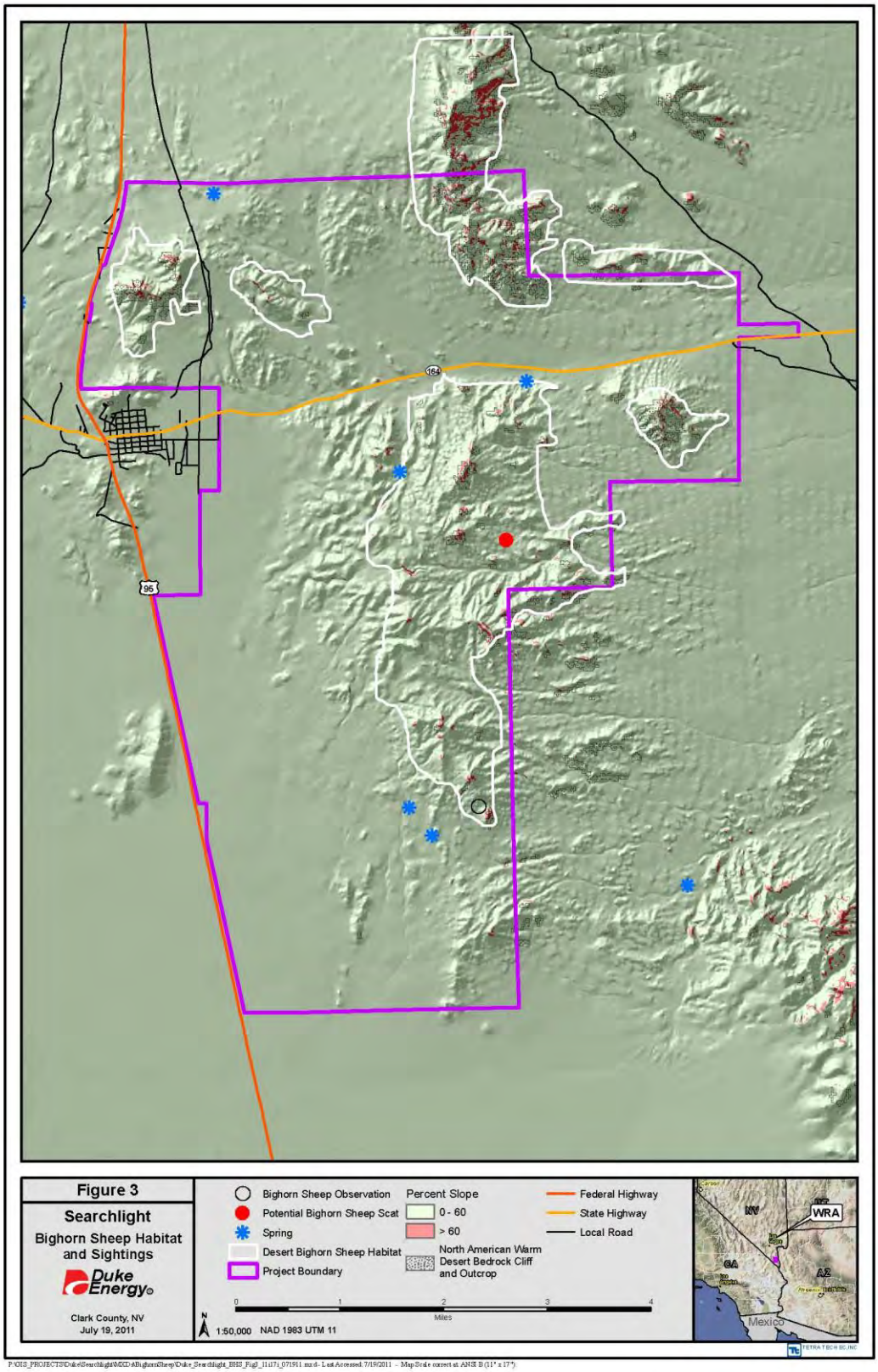

Figure 4. Observations of Bighorn Sheep and Sign and Potential Habitat

APPENDIX A

Terrestrial Wildlife Survey Report

APPENDIX B

Incidental Wildlife Reporting Forms

Gila Monster Reporting Form

OBSERVATION DETAILS		
Date: / /	Observer:	Phone:
Organization:	Email:	
Type of observation: Live and uninjured Injured Carcass (circle one)		
Person notified at NDOW:		Date and time:
Landscape context photo no.:	Overhead body shot photo no.:	
Overhead head close-up photo no.:		
Found in harm's way: Yes No (circle one)	Action taken: Yes No (circle one)	
Description of actions taken: (e.g., captured and detained, taken to vet, carcass taken to NDOW)		
Details or behavior of animal:		
IF CAPTURED		
Description of containment container:		
Time of capture:	Time NDOW staff arrived:	
Circumstances: Biological survey Construction Maintenance Other-explain (circle one)		
Notes:		
IF TAKEN TO VETERINARIAN		
Description of injuries:		
Name of veterinarian:		Phone:
Name of clinic:		
Address of clinic:		
IF CARCASS FOUND		
Carcass frozen: Yes No (circle one)	Date transported to NDOW:	
LOCATION OF OBSERVATION/CAPTURE LOCATION		
Nearest Landmark: Turbine Pole Milemarker Sign Other (circle one)		Details:
Distance from Landmark:	Direction from Landmark:	
UTM (NAD 83 Zone 11) N:	E:	
ENVIRONMENTAL CONDITION		
Habitat: Desert wash Cliff Spring Riparian area Desert scrub Road (circle one)		
Substrate: Scree Sand Gravel Rock Dirt Pavement (circle all that apply)		
Vegetation: Riparian Shrub-scrub Grasses (circle all that apply)		
Slope:_____°	Aspect: facing N NE E SE S SW W NW (circle one)	
COMMENTS:		

Form to be submitted to NDOW office, Southern Region, 4747 W. Vegas Drive, Las Vegas, NV 89108
Ph: 702 486-5127 Fax: 702 486-5133 Photos may be emailed to ctomlinson@ndow.org

Incidental Wildlife Reporting Form

OBSERVATION DETAILS

Date: / /	Observer:	Phone:
Organization:	Email:	
Type of observation: Live Observation Wildlife Incident (circle one)		
Photo No.		
Who was notified, and when?		
Actions Taken (e.g., left in place, taken to rehab):		
Details or Behavior of Animal:		

WILDLIFE INCIDENT DETAILS

Injured likely due to Project? Yes No (circle one)	Killed likely due to Project? Yes No (circle one)
Description of incident:	

LOCATION OF OBSERVATION/INCIDENT

Nearest Landmark: Turbine Pole Milemarker Sign Other (circle one)		Details:
Distance from Landmark:		Direction from Landmark:
UTM N:	E:	Datum:
Found: On Road Off Road (circle one)		Location Remarks:

IDENTIFICATION

Species: Chuckwalla Desert Bighorn Sheep Other-explain (circle one)	
Sex: Male Female Unknown (circle one)	Age: Adult Juvenile Unknown (circle one)
Is Animal Tagged? Yes No (circle one)	Notes:

ENVIRONMENTAL CONDITION

Habitat: Desert wash Cliff Spring Riparian area Desert scrub Road (circle one)	
Substrate: Scree Sand Gravel Rock Dirt Pavement (circle all that apply)	
Vegetation: Riparian Shrub-scrub Grasses (circle all that apply)	
Slope:_____°	Aspect: facing N NE E SE S SW W NW (circle one)
COMMENTS:	