

CORDOVA ROAD PROJECT
DRAFT DESERT TORTOISE FOCUSED SURVEY



TOWN OF APPLE VALLEY, SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

Terra Nova Planning and Research
42635 Melanie Place, Suite 101
Palm Desert, CA 92211
Nicole Criste, Principal
(760) 341-4800

Prepared by:

WSP USA Environment & Infrastructure Inc.
862 E Hospitality Ln #350
San Bernardino, CA 92408
Dale Hameister, Senior Biologist

(909) 888-1106

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1.0 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP USA) was contracted by Terra Nova Planning and Research to conduct a focused survey for the desert tortoise (*Gopherus agassizii*) at a proposed warehouse facility project (project) in the town of Apple Valley, San Bernardino County, California. This report provides methods, results, and discussion of the focused survey.

1.1 Project Location and Topography

The project is entirely within the town of Apple Valley, San Bernardino County, California (Figure 1). It is located primarily on the 7.5-minute Apple Valley North, Calif. United States Geological Survey (USGS) quadrangle (Figure 2). It is in Section 16 of Township 6 North Range 3 West. Project topography is relatively flat at elevations ranging from approximately 3072 to 3131 feet (936-954 meters). The project consists of three (3) parcels totaling approximately 100-acres, located north of Cordova Road, South of Quarry Road, East of Dale Evans Parkway and West of Navajo Road, in the town of Apple Valley, San Bernardino County.

1.2 Project Description

The project site is approximately 100-acres that will be developed as a warehouse facility. The entire project site will be development and include the main warehouse building and associated parking, truck access, landscaping and other associated infrastructure.

2.0 BACKGROUND ON THE DESERT TORTOISE

The desert tortoise is a long-lived, terrestrial turtle, with a domed carapace (upper shell) and rounded, stumpy elephantine hind limbs. The front limbs are flattened and heavily scaled for digging and without webbed toes. The carapace is oblong with rounded sides due to the joining of the carapace to the plastron (lower shell). The scutes are often yellowish in the middle and have grooved, parallel, concentric growth rings that form outward with age toward the scute margins. The plastron is typically yellowish, becoming brown around the scute margins. The head is relatively small and rounded in front with reddish-tan coloring and the iris being greenish-yellow. The front and hind feet are about equal in size and the tail is of short length.

Desert tortoises in the Mojave and Colorado deserts west and north of the Colorado River were listed by the U.S. Fish and Wildlife Service (USFWS) as threatened on April 2, 1990 (USFWS 1990). They are also listed as threatened by the State of California. Proposed actions within the range of the Mojave desert tortoise fall under purview of the federal Endangered Species Act 1973, as amended (ESA), in addition to State regulations. These tortoises have since been named as a full species, still *G. agassizii*, no longer conspecific with tortoises south and east of the Colorado River that were reclassified as *G. morafkai* (Murphy et al. 2011). USFWS (2019). For purposes of the ESA, desert tortoise habitat is defined as 1) areas with presence of desert tortoises or desert tortoise sign, 2) dispersal areas (i.e., habitat corridors), or 3) areas suitable for desert tortoises as identified by the USFWS or in the most recent approved recovery plan for the Mojave population of the desert tortoise (USFWS 2011).

The desert tortoise is most common in desert scrub, desert wash, and Joshua tree habitats in a variety of terrain types, including alluvial fans, valleys, rocky hillsides, and washes. They require friable soil for burrow and nest construction. Burrows are typically found at the base of shrubs, in the interspaces between shrubs, and occasionally in caliche soil bank areas or underneath boulders/rocks. They are herbivores and feed on a variety of plants including annual herbs and perennial grasses.

Tortoise activity is greatest during the spring and early summer, and to a lesser extent during the fall; however, tortoises can be active at any time of the year during appropriate weather conditions. Although tortoises hibernate during the winter and typically emerge in late February or early March, hatchlings and juveniles can be fairly active during the winter months. Adults will also emerge from their burrows to drink if water resources have been limited during the previous activity season and/or winter precipitation has provided standing water. Their activity is usually much reduced during hot summer months, but they may be active following summer rains or if temperatures are moderate (Boarman 2003). They retreat into their horizontal burrow to avoid surface temperature extremes and to escape from predators. Desert tortoises are known to utilize an average of 7-12 burrows at any given time. Multiple tortoises are also known to occasionally share a single burrow (Bureau of Land Management "BLM" 2006).

Threats to desert tortoises include loss or degradation of habitat, vandalism, poaching, intentional killing, predation on young tortoises by the common raven (*Corvus corax*) and other predators (e.g. kit fox, snakes, etc.), and disease (e.g. Mycoplasmosis). Off-road vehicles, military training maneuvers, mining, and livestock grazing also affect tortoise habitat by collapsing burrows, eroding soils, reducing availability of food plants, eliminating shrubs which would provide shade for tortoises and support for their burrows, and ultimately results in surface disturbance that promotes conditions more conducive to invasion by exotic plant species, which provide less nutritional value to tortoises than the native species that were replaced. Human activities, including garbage dumping, landfills, roads, increased nesting opportunities, irrigation, and increased vehicle use have also led to increased numbers of common ravens in California deserts. Ultimately, the increased predation on young tortoises by common ravens reduces recruitment into breeding populations (Boarman 2003).

Tortoises are most often detected by scat, sign, and burrows/pallets. Tortoises themselves can sometimes be detected aboveground foraging or moving about or in burrows by shining a light within. Tortoise sign includes scat, tracks, eggshell fragments, courtship rings, drinking depressions, carcasses, or fragments thereof. Presence of sign is an indication that tortoises either occur, or have recently occurred, at a particular location that is likely to be part or all of a lifetime home range. Sign can be detected at any time of the year and always indicates suitable habitat, if not occupied habitat.

3.0 METHODS

3.1 Literature Review and Records Search

A literature review and record search were conducted to identify occurrences of desert tortoise, critical habitat for desert tortoise, or any designated desert tortoise management areas within the project footprint. The review included:

- A report from the California Department of Fish and Wildlife' (CDFW's) California Natural Diversity Data Base (CNDDDB) for a five-mile radius of the project site (CDFW 2023a),
- The USFWS (2023) Environmental Conservation Online System (ECOS) including critical habitat mapping and an Information for Planning and Consultation (IPaC) report.
- Aerial photographs, and
- Pertinent documents from the WSP USA library and project files (*e.g.*, other biological surveys from the general vicinity).

3.2 Focused Survey

WSP USA biologists Dale Hameister and Phil Clevinger conducted a desert tortoise focused survey 31 August 2023 (see Appendix A). The surveys followed guidance in the protocol: *Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise* (USFWS 2019). The survey included the entire project property. Ten-meter transects were walked at a speed no greater than two miles per hour (2 mph). If suitable burrows, or any evidence of desert tortoise are detected during the survey, they will be mapped using a GPS unit and cataloged on standardized data sheets (Appendix B).

4.0 RESULTS

4.1 Focused Survey

The vegetation community present throughout the project area is Creosote Bush Scrub dominated by creosote bush (*Larrea tridentata*) with various co-dominants including Anderson thornbush (*Lycium andersonii*), and burrobush (*Ambrosia salsola*). There were also ten (10) Joshua trees scattered throughout the project area. Vegetation communities in the project footprint are mapped on Figure 4). A full list of plant and vertebrate wildlife species detected on-site is included in the Biological Resources Assessment Report (WSP USA 2023).

The land immediately adjacent to the project site is an extension of the undeveloped Creosote Bush Scrub similar to the project site. Quarry road, north of the project site, is a busy hauling road for trucks carrying dirt and rock to/from the White Rock Mountain Quarry located east of the project site. Most undeveloped lands are not pristine, showing signs of anthropogenic disturbance, such as mechanical disturbance of soil, vegetation removal, off road vehicle tracks, and trash dumping. There are also a number of developments within two miles of the project site including the Apple Valley Speedway, Walmart and Big_Lots Distribution Centers, and a small airport. Nevertheless, the undeveloped lands provide potential habitat and corridors for desert tortoise between developed/disturbed areas.

Soils series mapped within the project area include Helendale-Byman loamy sands, Mirage-Joshua complex, and Nebona-Cuddeback complex.

The Helendale series consists of very deep, well drained soils that formed in alluvium from granitoid rocks. Helendale soils are on fan piedmonts, fan remnants, alluvial fans and terraces. Slopes range from 0 to 15 percent. The mean annual precipitation is about 125 millimeters (5 inches) and the mean annual temperature is about 17 degrees C (62.5 degrees F).

The Mirage series consist of deep, well drained soils that formed in mixed alluvium, dominantly from granitic sources. Mirage soils are on old terraces with well-developed erosion pavement and have slopes of 2 to 5 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 63 degrees.

The Nebona series consists of shallow, well drained soils that formed in mixed alluvium. Nebona soils are on terraces and have slopes of 2 to 9 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 63 degrees F.

4.2 Literature Review

The closest desert tortoise record within the CNDDDB (CDFW 2023) is 3.7 miles southwest of the project area. The record is from 1990. There are no recent records within the vicinity (3 miles) of the project (USFWS 2011). It is not within designated critical habitat for the desert tortoise (see Figure 5).

There is no desert tortoise critical habitat designated on the project site. The closest designated critical habitat area is approximately 14 miles to the northeast. The vegetation community occurring on the project site (*e.g.* Creosote Bush Scrub) is habitat typically utilized by desert tortoises, and the CNDDDB reported populations 3.7 miles to the southwest, however from over 30 years ago in 1990. This information obtained from the literature review is evidence that there is some potential for desert tortoise to occur within the project site.

5.0 DISCUSSION

The focused survey detected no desert tortoises or desert tortoise sign within the project footprint and action area. Despite the absence of desert tortoise and sign, the project area is surrounded by potential habitat with past occupied habitat nearby. For these reasons desert tortoises may enter the project area in the future. The following mitigation and minimization measures are recommended to ensure that any potential impacts to the desert tortoise are avoided:

- 1) A worker's environmental awareness program (WEAP) would be implemented to educate the construction crew of potential special status species present on the project site.
- 2) A pre-construction clearance survey will be required immediately prior to ground disturbing activities. If no evidence of tortoise are identified, no additional monitoring will be required.
- 3) Construction and maintenance personnel will be required to inspect for desert tortoises under vehicles prior to moving the vehicle. If a desert tortoise is found beneath a vehicle, it should not be moved and allowed leave of its own accord. If it is in immediate harms way, USFWS has allowed for emergency relocation, but otherwise a qualified desert tortoise handler should be contacted to safely relocate the tortoise. All desert tortoise observations would be reported to a qualified biologist and the wildlife agencies.
- 4) If Construction and maintenance personnel identify a tortoise within the project site, a qualified biologist will be required to monitor any remaining soil disturbance activities to ensure that tortoises do not enter the work area and that they are not disturbed if present
- 5) Any open trenches adjacent to habitat should be covered nightly. If left open overnight or at any time when not monitored, they should be fenced and/or covered to prevent entry by desert tortoises. Exit ramps should be present within open trenches.

Based on the survey results, desert tortoise are absent from the project site. However, there is still some potential for desert tortoise to occur in the surrounding area. Desert tortoises cannot be taken (harmed, harassed) under state and federal law. This report and any recommended mitigation measures do not constitute authorization for incidental take of the desert tortoise. If present, and construction activities may affect desert tortoise, an incidental take permit will be required.

6.0 REFERENCES

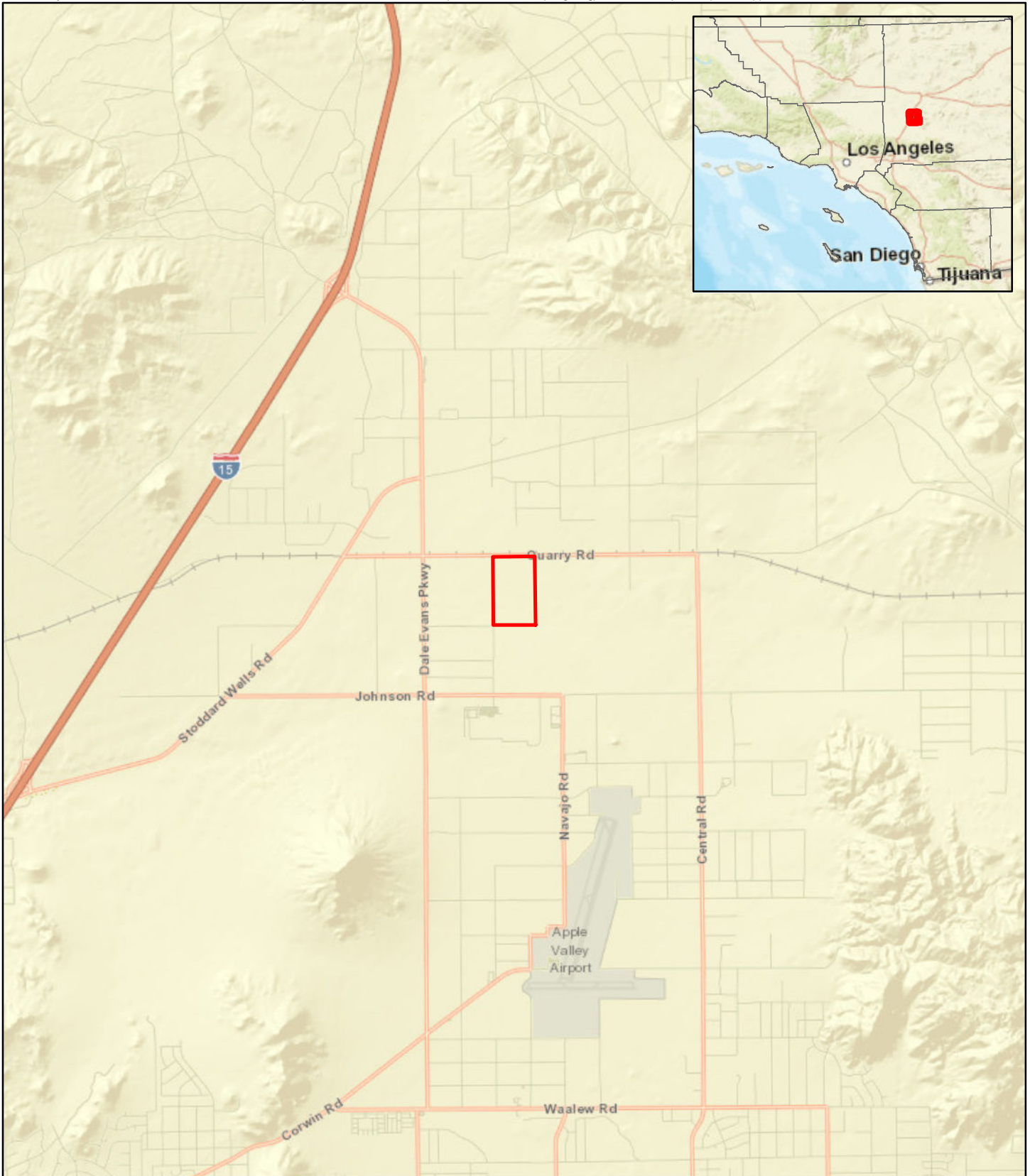
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Cordova Road Project
Desert Tortoise Focused Survey
October 2023

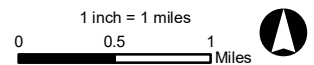
United States Geological Survey (USGS). 2004. Mojave Desert Ecosystem Program: Central Mojave Vegetation Database.

WSP USA Environment & Infrastructure Inc. (WSP USA). 2023. Cordova Road Project Draft Biological Resources Assessment. Town of Apple Valley, San Bernardino County, California. Unpublished report prepared for Terra Nova Planning and Research.

Appendix A Maps

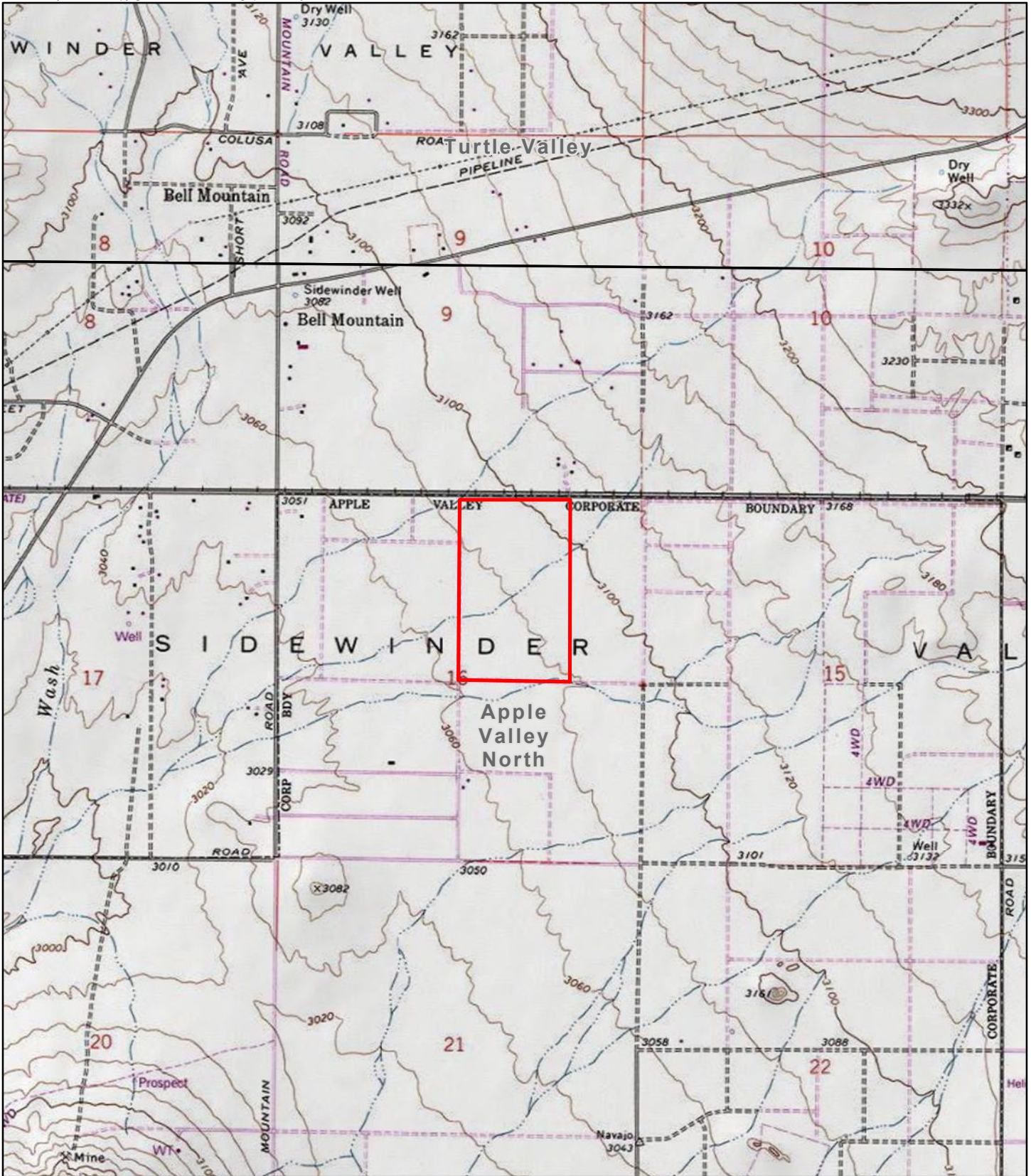


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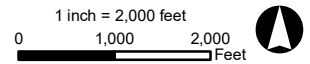


 Project Boundary

FIGURE 1
Vicinity and Location
Desert Tortoise Survey
Cordova Road Project
Riverside County, California

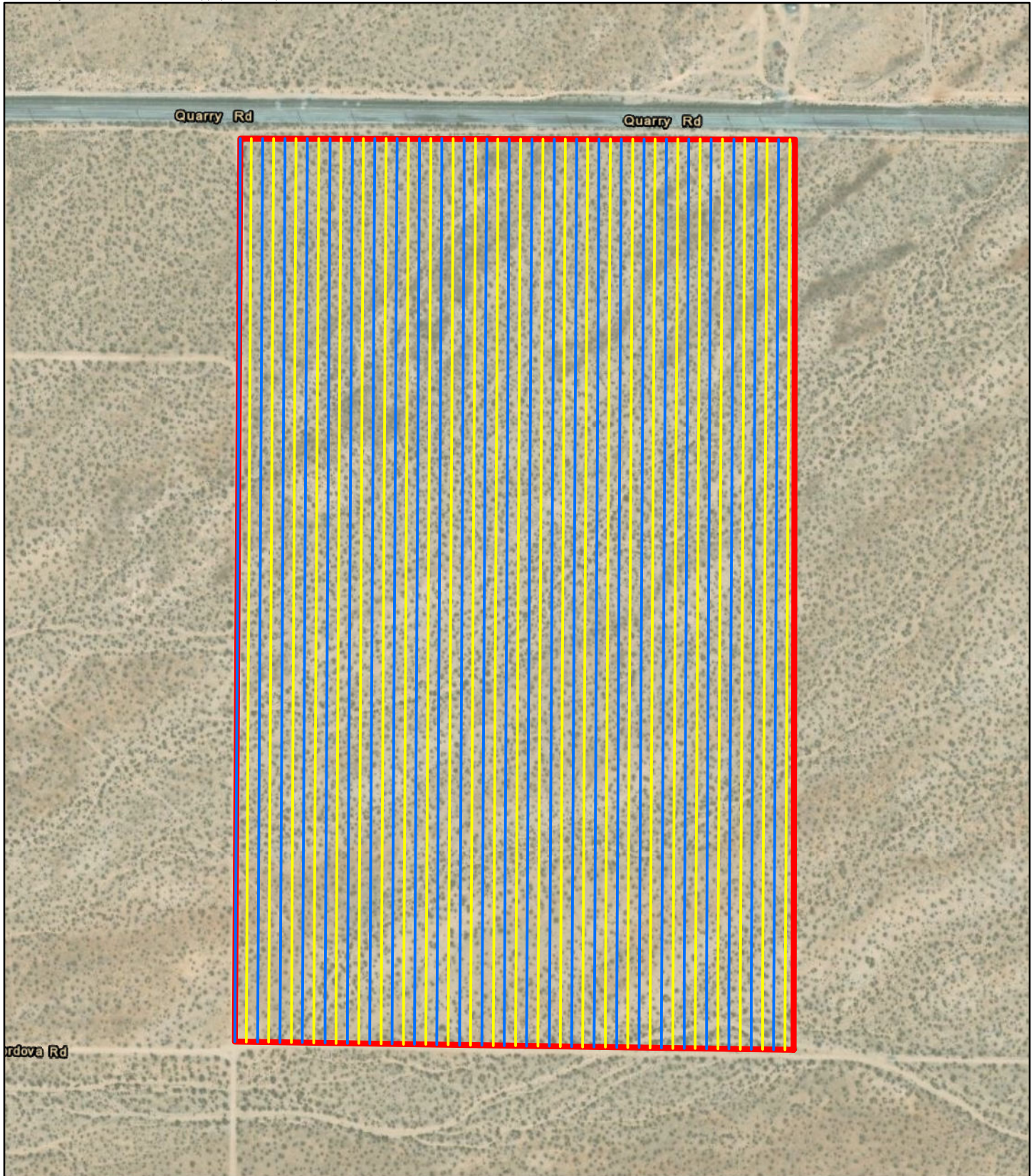


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 Project Boundary




FIGURE 2
USGS 7.5' Topo Quad: Apple Valley North
Desert Tortoise Survey
Cordova Road Project
Riverside County, California



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Survey Transects (10 meters wide)

-  Even
-  Odd
-  Project Boundary

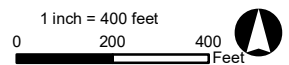


FIGURE 3
Survey Map
Desert Tortoise Survey
Cordova Road Project
Riverside County, California

Appendix B Survey Forms

Date of survey: 31/8/2023 Survey biologist(s): Dale Hameister and Phil Clevinger
(day, month, year) (name, email, and phone number)
 Site description: Cordova Road Project - Apple Valley - 100 acres
(project name and size; general location)
 County: San Bernardino Quad: Apple Valley North Location: 482173 E, 3830017 N
(UTM coordinates, lat-long, and/or TRS; map datum)
 Circle one: 100% coverage or Sampling Area size to be surveyed: 100 acre Transect #: Transect length: .5 mi
 GPS Start-point: 481838 E, 382961 N 948 m Start time: 6:00 am am/pm
(easting, northing, elevation in meters)
 GPS End-point: 482404 E, 382962 N 943 m End time: 2:35 pm am/pm
(easting, northing, elevation in meters)
 Start Temp: 21 °C End Temp: 24 °C

Live Tortoises

Detection number	GPS location		Time	Tortoise location <i>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</i>	Approx MCL ≥180 mm? <i>(Yes, No or Unknown)</i>	Existing tag # and color, if present
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location		Type of sign <i>(burrows, scats, carcass, etc)</i>	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				