

FOR CONTRACT NO.: 06-328504

INFORMATION HANDOUT

PERMITS

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

NOTIFICATION NO. 2081-2009-025-04

MATERIALS INFORMATION

INFORMATION SUMMARY

CALTRANS INFORMATION BROCHURE PROTECTION OF THE DESERT TORTOISE
(GOPHERUS AGASSIZII) LIMITED SCOPE PROJECTS

SALVAGING INJURED, RECENTLY DEAD, ILL AND DYING WILD, FREE-ROAMING
DESERT TORTOISES (GOPHERUS AGASSIZII)

ROUTE: 06-Ker-58-125.2

Material Site 252

Information Package Summary

This is just a summary of the Incidental Take Permit No. 2081-2009-025-04 (ITP) requirements for this project.

ITP Permit

1. The ITP Permit includes protection for the desert tortoise and Mohave ground squirrel.
2. Table in Attachment 1 of ITP shall be filled out and updated weekly then submitted to Engineer or Caltrans Biologist by close of business every Friday.
3. Copies of the ITP shall always be maintained at the worksite (ITP 4.4).
4. DB shall clearly delineate with fencing, stakes, or flags the boundaries of the 5-acre area to be physically reclaimed within the Project Site (ITP 4.8).
5. Reclamation activities shall be conducted between September 1 and October 31 (ITP 6.2).
6. Contractor shall be responsible for hiring one Designated Biologist (DB) who has a Scientific Collectors Permit with the California Department of Fish and Game for desert tortoise and Mohave ground squirrel. The DB will be approved by the California Department of Fish and Game (CDFG) and is the only person allowed to handle desert tortoises (ITP 4.2 and 6.10). The DB shall be responsible for implementing the ITP and associated documents for both the desert tortoise and Mohave ground squirrel (ITP 6.4 and Page 8).
7. The DB shall be present at ALL times work is being done (ITP 6.4).
8. The DB shall follow the guidelines established in the translocation plan which has been provided by Caltrans (ITP 6.1).

General

The Designated Biologist (DB) is not to directly contact Department of Fish and Game (DFG); the DB will work directly with the Engineer or Caltrans Biologist. Caltrans shall provide a biologist to work with the DB.

The DB is responsible for adhering to all requirements of the ITP with the exception of: land acquisition, payment of enhancement and endowment fees, and writing the translocation plan.



California Department of Fish and Game
Central Region
1234 East Shaw Avenue
Fresno, California 93710

California Endangered Species Act
Incidental Take Permit No. 2081-2009-025-04

California Department of Transportation
Material Site 252 Reclamation Project
Kern County

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the Department of Fish and Game (DFG) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, title 14, section 783.0 et seq. CESA prohibits the take¹ of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.² DFG, however, may authorize the take of any such species by permit if the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c) are met. (See also Cal. Code Regs., tit. 14, § 783.4.)

Permittee: California Department of Transportation (Caltrans)

Name and title of principal officer: Tom Mills, Senior Environmental Planner (760) 872-0690

Contact person: Wendy Campbell, Associate Biologist (760) 872-2331

Mailing address: Department of Transportation, District 9
500 South Main Street, Bishop CA 94514

Effective Date and Expiration Date of the ITP:

This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of the ITP and returned to DFG's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by DFG, this ITP's authorization to take the Covered Species shall expire on **October 31, 2014**.

¹Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

²"Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code section 2074.2.

Project Location:

The Project is located 12.5 miles east of the City of Mojave, south of California City and north of State Route (SR) 58 post mile (PM) 125.2, in Township 11 North, Range 10 West, Section 20, in Kern County (see Figure 1).

Project History:

At the time Material Site (MS) 252 was active, the California Department of Transportation (Permittee) leased 60 acres (APN 234-042-25) from the Department of the Interior, Bureau of Land Management (BLM). Within this parcel, approximately 10.1 acres were used for mining. In 2000, the parcel was sold to Catellus Development Corporation. In 2004, the parcel was sold to a private person. Since that time the property has been sold between private entities several times.

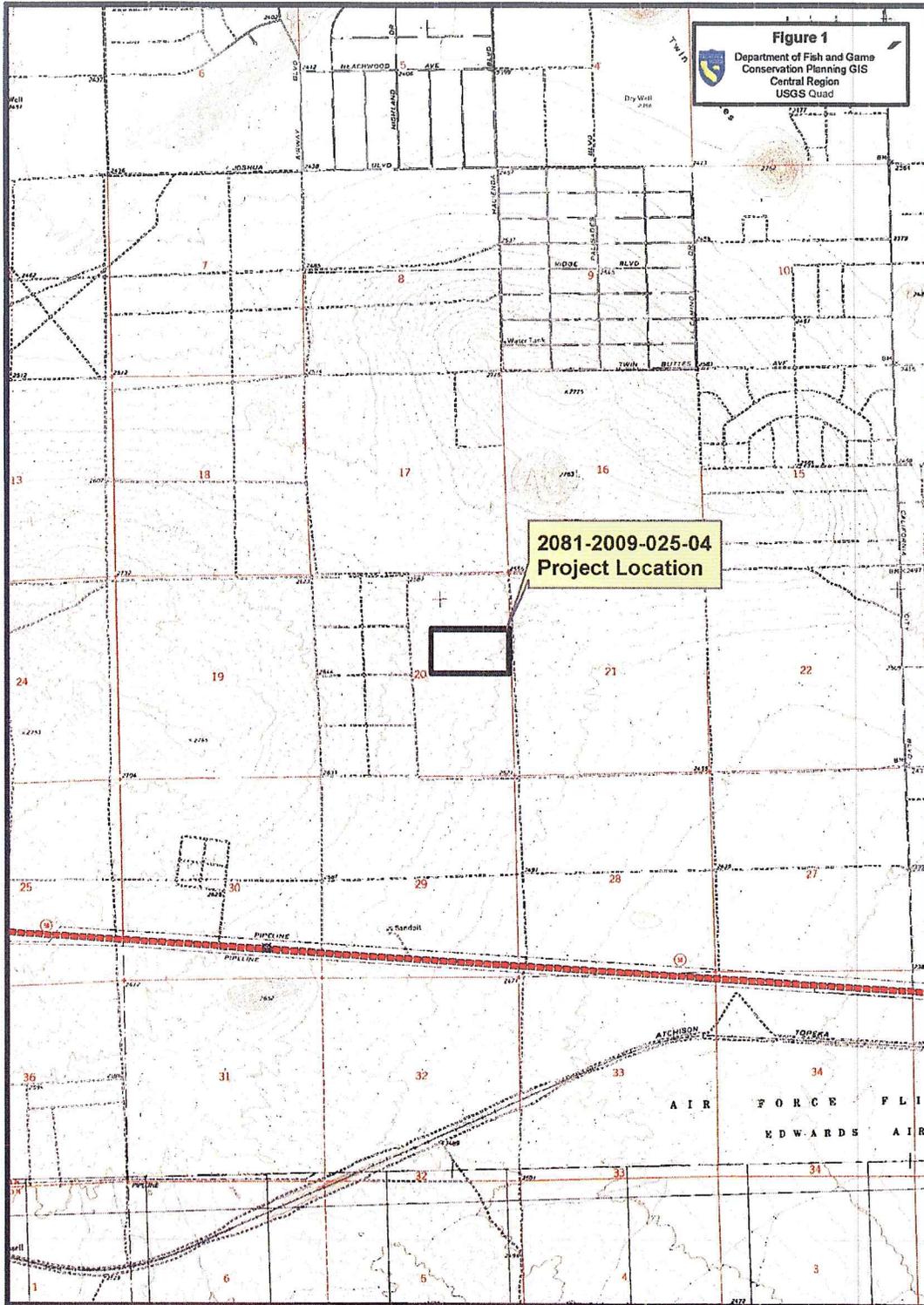
Project Description:

Permittee is proposing to implement the final closing proceedings to reclaim disturbed land on the 60 acre parcel, known as MS 252 (Project). MS 252 was mined for sand and gravel to be used on Federal and State transportation projects. It is estimated that approximately 200,000 cubic yards of material was mined from MS 252. However, MS 252 has been closed for over 15 years and no further mining by the Permittee is anticipated. As required by the California Surface Mining and Reclamation Act (SMARA) (Pub. Resources Code, § 2710 et seq.) and related regulations (Cal. Code Regs., tit. 14, § 3500 et seq.), Permittee will carry out activities to restore wildlife habitat and overall site quality to pre-mining conditions in accordance with a Reclamation Plan approved by Kern County on January 11, 2001. A total to 11.9 acres will be reclaimed within MS 252. This 11.9 acre area is hereafter referred to as the Project Site. The Project Site consists of a 10.1 acre mining area and 1.8 acres of access roads (see Figure 2). As required by SMARA and related regulations, the success of Permittee’s reclamation will be monitored for three years, or until the performance standards are met (see Table 1). Pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) Permittee adopted a Negative Declaration (ND) for the reclamation on May 24, 2000 (SCH No. 99111049).

Table 1

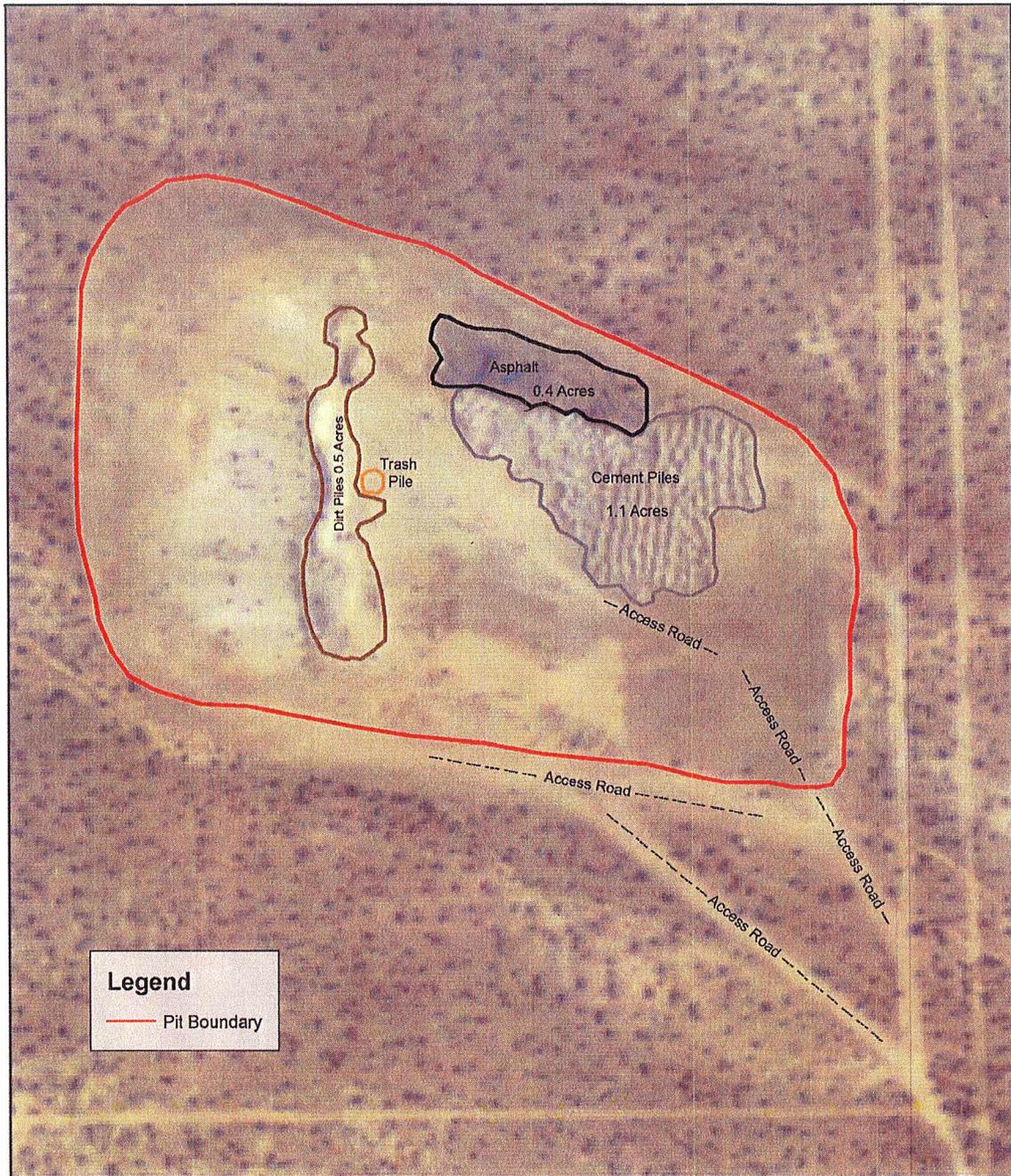
Item	Measure	Baseline of Surrounding Habitat	Performance Standard
Density	Perennial plants /100 sq ft	6	2
Cover	% Horizontal area	20	7
Species Richness	Species /100 sq ft	4	1

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Figure 2: 2009 Aerial of MS 252 - Showing Current Site Conditions



0 50 100 200 300 400 500 600 700 800 900 1,000 Feet

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The Project Site and surrounding area are predominately desert habitat consisting of Mojave Mixed Woody Scrub plant communities. The surrounding area also supports creosote bush, salt bush, sagebrush, buckwheat, and rabbitbrush. Total cover of the off-site shrub layer is approximately 20 percent. A dry wash enters from the west and drains into the Project Site.

According to the ND, native plant species have successfully recolonized some disturbed areas of the Project Site such that approximately 7 acres of the Project Site are being naturally reclaimed by the surrounding environment and further disturbance to this area would be more harmful than beneficial. Therefore, the Permittee proposes to treat this area with the same sensitivity as the surrounding habitat and has submitted a new Reclamation Plan to Kern County which covers active reclamation of the remaining 5 acres of the Project Site that will be physically reclaimed. Activities proposed within the remaining 5 acres to be physically reclaimed (see Figure 3) consist of the following:

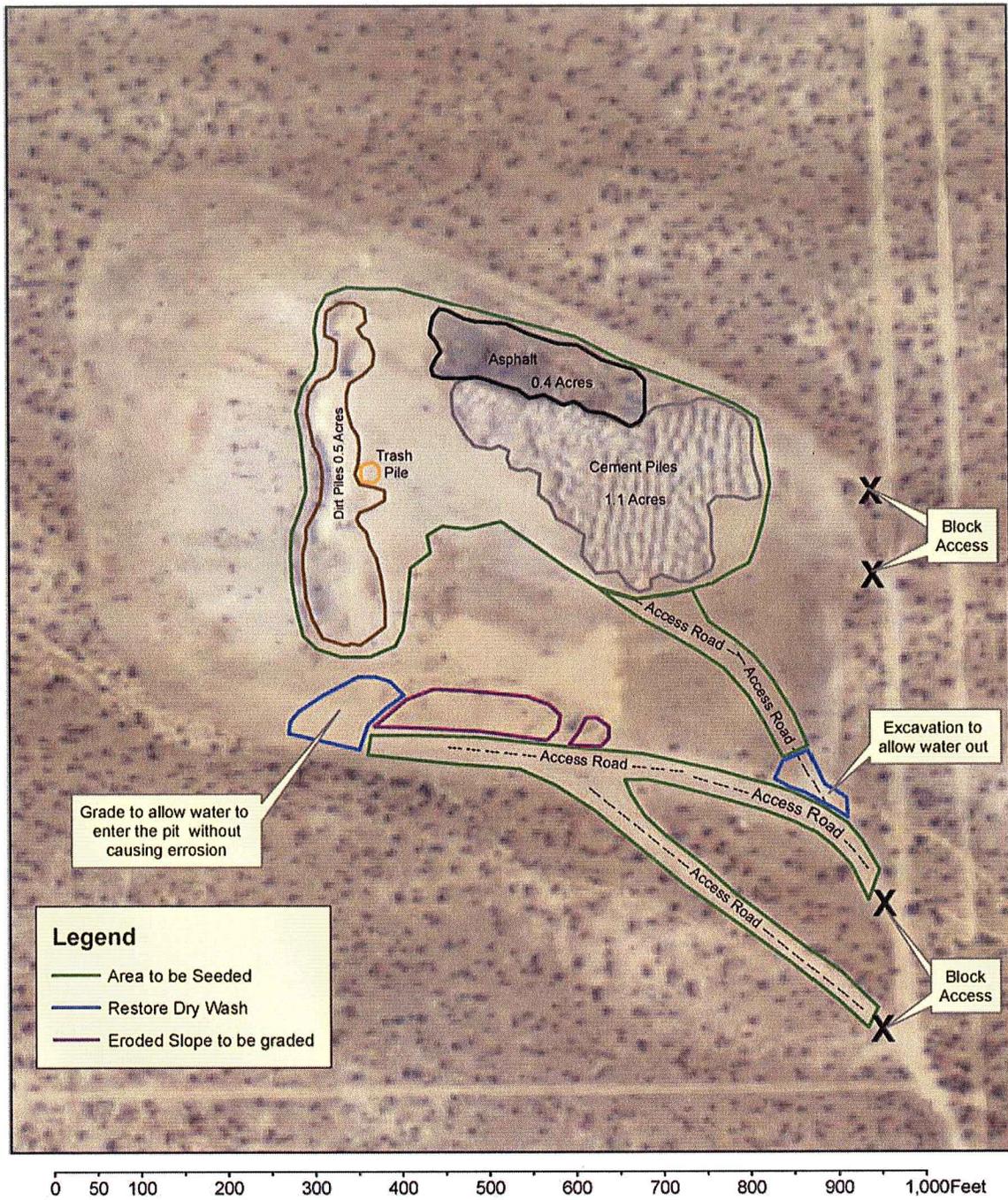
1. On-site concrete, asphaltic waste, and other refuse material will be removed and disposed at a waste facility site with the appropriate permits for receiving such materials (waste is located within approximately 2 acres of the total 5 acres being physically reclaimed).
2. Slopes steeper than 3 horizontal to 1 vertical (3H:1V) and aggregate piles will be re-graded to 3H:1V or less.
3. All roads and other compacted areas will be de-compacted (ripped or disked) to facilitate looser soil for root growth.
4. De-compacted and re-graded areas will be seeded with certified weed-free seed obtained from a local source at a rate of 10 pounds per acre (see Table 2). Noxious weeds will be handled in accordance with both Caltrans Highway Design Manual topic 110.5 "Control of Noxious Weeds- Exotic and Invasive Species" and Executive Order 13112 and by means approved by Permittee's Licensed Landscape architect and Permittee's Vegetation Control Specialist.

Table 2

Scientific Name	Common Name	Min % Germ	Seed Lb / Acre
Larrea tridentate	Creosote Bush	50	2
Encelia farinosa	Brittle Brush	60	2
Atriplex polycarpa	Allscale Saltbush	50	1
Sphaeralcea ambigua	Desert Mallow	60	1
Achnatherum hymenoides	Indian rice grass	50	3
Chrysothamnus nauseosus	Rabbitbrush	50	1
		Total	10

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Figure 3: 2009 Aerial of MS 252 - Showing Proposed Work Areas



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5. The dry wash that enters the Project Site from the west will be restored so that water is able to exit the Project Site at the southeast corner and resume its natural flow in its channel from that point on. This will require grading the high spot at the edge of the pit and equalizing the elevation from within the pit to the exiting channel. The point where the water enters the Project Site also needs to be addressed to prevent future erosion. Current erosion, caused in the last two years, along the southern edge of the pit will be graded as required by Kern County to meet SMARA requirements.
6. Two dirt roads providing access to the Project Site from the southeast and two access points at the northeast corner of the Project Site will be blocked with berms to prevent future vehicle entry via the road that runs north-south just east of the Project Site.
7. The entire Project Site will be monitored by Permittee until reclamation is deemed complete according to the guidelines set forth within the Reclamation Plan, as stated above in Table 1. If additional seeding is needed to meet the standards in the areas of the Project Site not being physically reclaimed, the seed will be applied and raked in by hand. No heavy equipment will be used outside the area that Permittee is proposing to physically reclaim.
8. Western burrowing owl, a species designated by DFG to be of Special Concern, is also known to utilize the cement piles on the Project Site. To avoid impacts to Western burrowing owl, Permittee will not start the reclamation until after the nesting season which ends on September 1.

The Permittee is not seeking, and this ITP does not cover, incidental take in areas outside of the areas being physically reclaimed. Therefore, Project-related activities will result in temporary impacts to approximately 5 acres of Mohave ground squirrel and desert tortoise habitat within the active reclamation area of the Project Site. These activities may result in the incidental take of individual Mohave ground squirrel and desert tortoise, species designated as threatened under CESA. (Cal. Code Regs. tit. 14 § 670.5, subs. (b)(6)(A) and (b)(4)(A).)

Covered Species Subject to Take Authorization Provided by this ITP:

This ITP covers the following species:

Name	CESA Status³
<u>Mammals</u> Mohave ground squirrel (<i>Spermophilus mohavensis</i>)	Threatened
<u>Reptiles</u> Desert tortoise (<i>Gopherus agassizii</i>)	Threatened

These species and only these species are hereinafter referred to as the “Covered Species.”

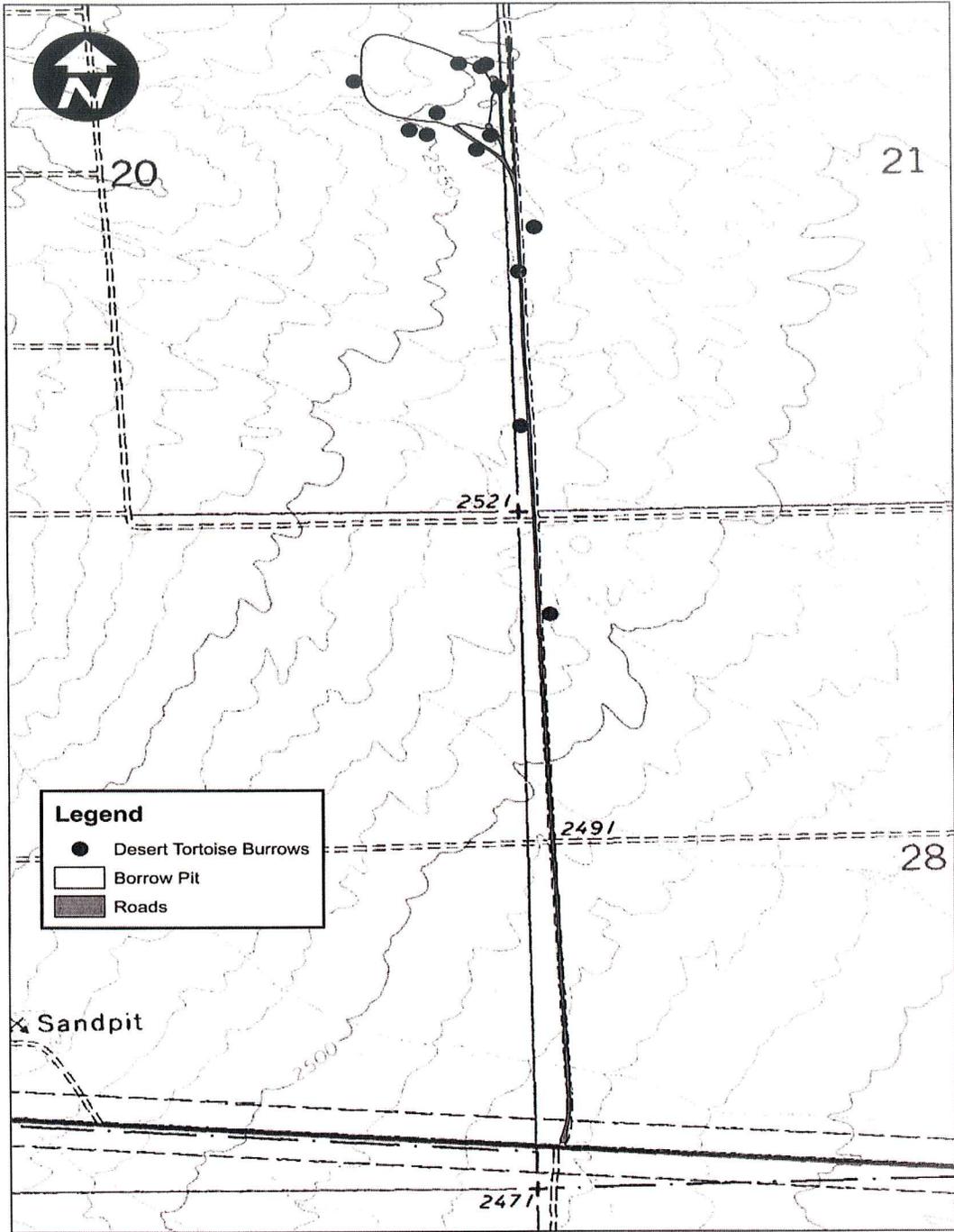
Impacts to Covered Species:

The Project activities described above and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. Specifically, desert tortoises have been found in and adjacent to the Project Site (see Figure 4) and certain habitat features and associated vegetation indicate the area is suitable for Mohave ground squirrel. Incidental take of individuals of the Covered Species is expected to occur as a result of several Project activities. Vehicle strikes during the transportation of material and equipment on- and off-site may result in Covered Species mortality. Project activities involving heavy equipment may cause occupied burrows to cave in, resulting in mortality. The process of picking up debris could crush individual Covered Species, or an individual Covered Species could be crushed as a result of dropped debris. The Project will result in temporary impacts to 5 acres of habitat for the Covered Species. All of these are direct impacts of the taking to the Covered Species.

Impacts of the taking covered by this ITP also include adverse impacts to the Covered Species related to indirect impacts. These impacts include temporal losses, disturbance causing individuals to leave the protection of their burrows exposing them to adverse environmental conditions they would otherwise avoid, increased predation in the work area from predators attracted by human activity, and the spread of harmful diseases through the improper handling of desert tortoise. Impacts such as increased habitat fragmentation and edge effects that are normally associated with construction projects would decrease over the long term as a result of the Project.

Figure 4

³Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species. All other species are “unlisted.”



Mojave East Material Site 252

12/16/2004
WLP

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To minimize direct take, Permittee will have an approved biologist present during all Project activities and will remove the cement piles by plucking from the top, rather than scooping from the ground up.

Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, DFG authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Project as described above, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species (except for capture and relocation of Covered Species as authorized by this ITP).

Conditions of Approval:

Unless specified otherwise, the following measures shall pertain to all ground- or vegetation-disturbing activities within the Project Site, including areas used for ingress and egress routes during Project activities, and staging and parking areas. DFG's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

1. Permittee shall comply with all applicable State, Federal, and local laws in existence on the effective date of this ITP or adopted thereafter.
2. Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Negative Declaration (SCH Number 1999111049) adopted by the Permittee on May 24, 2000, as the lead agency for the Project under CEQA.
3. Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.

4. General Provisions:

- 4.1. Before initiating ground- or vegetation-disturbing Project activities, Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and overseeing compliance with this ITP. The Permittee shall notify DFG in writing, prior to commencement of ground- or vegetation-disturbing activities, of the Designated Representative's name, business address, and contact information, and shall notify DFG in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.

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- 4.2. At least 30 days before initiating ground- or vegetation-disturbing activities, Permittee shall submit to DFG in writing the name, qualifications, business address, and contact information for a biological monitor (Designated Biologist). The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of the Covered Species. The Designated Biologist shall be responsible for monitoring Project activities to help minimize and avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain DFG approval of the Designated Biologist prior to the commencement of Project-related activities that may result in the incidental take of the Covered Species.
- 4.3. To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this ITP, and/or to order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species. Neither the Designated Biologist nor DFG shall be liable for any costs incurred in complying with the Conditions of Approval, including cease-work orders issued by DFG.
- 4.4. Permittee shall conduct an education program for all persons employed or otherwise working on the Project Site prior to performing any work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Copies of this ITP shall be maintained at the worksite. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and be available to DFG upon request.
- 4.5. Permittee shall initiate a trash abatement program prior to initiation of Project activities and shall continue the program throughout the duration of the Project. Trash and food items shall be contained in closed (animal-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.
- 4.6. Permittee shall implement dust control measures during Project activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee

shall keep the amount of water used to the minimum amount needed, and shall not allow water to form puddles.

- 4.7. Permittee shall prohibit firearms and domestic dogs from the Project Site and site access routes during Project activities, except those in the possession of authorized security personnel or local, State, or Federal law enforcement officials.
- 4.8. Prior to initiating ground- or vegetation-disturbing Project activities, Permittee shall clearly delineate with fencing, stakes, or flags the boundaries of the 5-acre area to be physically reclaimed within the Project Site. Permittee shall maintain all fencing, stakes and flags until completion of Project activities.
- 4.9. Project-related personnel shall access the Project Site during Project activities using existing routes and shall not cross Covered Species' habitat outside of or en route to the Project Site. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour in order to avoid Covered Species on or traversing the roads. If Permittee determines construction of off-site routes for travel are necessary, Permittee shall contact DFG prior to carrying out such an activity. DFG may require an amendment to this ITP if additional take of Covered Species may result from Project modification.
- 4.10. Permittee shall confine all Project-related storage areas, laydown sites, equipment storage, and all other surface-disturbing activities to the 5-acre area to be physically reclaimed within the Project Site. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the Project Site unless specifically provided for in Condition 4.9 of this ITP. No take is authorized outside of the restoration areas shown in Figure 3.
- 4.11. Permittee shall immediately stop/repair and clean up any fuel or hazardous waste leaks or spills on the Project Site during Project activities at the time of occurrence. Permittee shall exclude the storage and handling of hazardous materials from the Project Site and shall properly contain and dispose of any unused or leftover hazardous products off-site.
- 4.12. Permittee shall provide DFG staff with reasonable access to the Project Site and mitigation lands under Permittee control, and shall otherwise fully cooperate with DFG efforts to verify compliance with or effectiveness of mitigation measures set forth in the ITP.
- 4.13. Upon completion of Project activities, Permittee shall remove from the Project Site and properly dispose of all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine,

buckets, metal or plastic containers, and boxes.

4.14. Notwithstanding any expiration date on the take authorization provided by this ITP, Permittee's obligations under this ITP do not end until DFG accepts as complete the Permittee's Final Mitigation Report required by Condition 5.7 of this ITP.

4.15. Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to arrive at the site.

5. Monitoring, Notification, and Reporting Provisions:

5.1. Permittee shall notify DFG 14 calendar days before initiating ground- or vegetation-disturbing activities and shall document compliance with all pre-Project Conditions of Approval before initiating ground- or vegetation-disturbing activities.

5.2. Permittee shall immediately notify DFG in writing if it determines that it is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in this ITP and/or the MMRP. Permittee shall report any non-compliance with the ITP during the construction phase of the Project to DFG within 24 hours.

5.3. The Designated Biologist shall be on-site daily while Project activities, including all surface-disturbing activities, are taking place to: (1) minimize incidental take of the Covered Species; (2) check for compliance with all mitigation and avoidance measures; (3) check all exclusion zones; and (4) ensure that signs, stakes, and fencing are intact, and that human activities are restricted outside of these protective zones. The Designated Representative or Designated Biologist shall prepare daily written observation and inspection records summarizing: oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP.

5.4. All Covered Species sightings confirmed by the Designated Biologist shall include the following documented information: the date, time, and location of each occurrence using Global Positioning System (GPS) technology, the name of the party that actually identified the animal, circumstances of the incident, the general condition and health of each individual, any diagnostic markings, sex, age (juvenile or adult), actions undertaken, and habitat description. The Permittee shall submit this information to the California Natural Diversity Database (CNDDDB).

5.5. Monthly Compliance Report: Permittee shall compile the observation and inspection records identified in Condition 5.3 into a Monthly Compliance Report and submit it to

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DFG along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Monthly Compliance Reports shall be submitted to DFG's Regional Office at the office listed in the Notices section of this ITP or via e-mail to DFG's Regional Representative. At the time of this ITP's approval, the DFG Regional Representative is Laura Peterson-Diaz (e-mail address lpdiaz@dfg.ca.gov). DFG may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If DFG determines the reporting schedule is inadequate, DFG will notify Permittee by letter of the new reporting schedule.

- 5.6. Annual Status Report: Permittee shall provide DFG with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of the ITP and continuing until DFG accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Monthly Compliance Reports identified in Condition 5.5, (2) a general description of the status of the Project Site and Project activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; and (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and mitigating Project impacts.
- 5.7. Final Mitigation Report: No later than 45 days after completion of the Project, including completion of all mitigation measures, Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: (1) a summary of all Monthly Compliance Reports identified in Condition 5.5 and all ASRs, (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) dates of Project activities; (6) an assessment of the effectiveness of the ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.
- 5.8. If a Covered Species is killed by a Project-related activity, or if a Covered Species is otherwise found dead within the Project boundary, Permittee shall immediately notify the Designated Biologist. The Designated Biologist or Designated Representative shall provide initial notification to DFG by calling the Regional Office at (559) 243-4005. The initial notification to DFG shall include information regarding the location, species, number of animals injured or killed, and the ITP Number. Following initial notification, Permittee shall send DFG a written report within 2 calendar days. The report shall include the date and time of the finding or incident, location of the carcass,

and if possible provide a photograph, explanation as to cause of death, and any other pertinent information.

6. Take Minimization Measures:

Avoidance of Covered Species is the first priority of this ITP. The second priority is the minimization of incidental take of Covered Species that are discovered within the work area, both prior to ground- or vegetation-disturbing activities and during Project activities. Permittee shall implement and adhere to the following conditions to avoid or minimize take of Covered Species:

- 6.1. Permittee shall develop a translocation plan for the Covered Species and submit it to DFG for review and approval prior to the start of ground-disturbing activities.
- 6.2. Permittee shall conduct all reclamation activities between September 1 and October 31 in order to avoid the desert tortoise reproductive season, potentially harmful summer heat, and winter torpor or hibernation.
- 6.3. No more than 30 days prior to ground-disturbing activities, Designated Biologists shall conduct pre-construction clearance surveys for Covered Species. These surveys shall cover 100 percent of the Project Site, the existing access route and a 50-foot buffer zone around these areas. The Designated Biologists shall flag all potential dens and burrows within this area to alert biological and work crews to their presence. Within 30 days of performing the pre-construction clearance surveys, the Designated Biologists shall submit a report to DFG documenting their results.
- 6.4. Designated Biologists shall be present at ALL times work is being done to monitor ALL activities, to ensure impacts to Covered Species are minimized. To provide adequate coverage, two Designated Biologists shall be on-site at all times during Project activities; one to monitor the reclamation activities and another to monitor the approach and departure of vehicles on the access road.
- 6.5. Environmentally Sensitive Area (ESA) fencing may be used in addition to having full-time monitoring, but it shall not be considered adequate as desert tortoise exclusion fencing without having the Designated Biologists present to act as monitors. The Permittee may conduct reclamation activities without installing temporary desert tortoise exclusion fencing, as described in Specifications for Desert Tortoise Exclusion Fencing (Attachment 2), because the Designated Biologists shall be present at ALL times work is being done to monitor ALL activities, to ensure impacts to Covered Species are minimized as described in Condition of Approval 6.4.
- 6.6. Immediately prior to the start of ground-disturbing activities, the Designated Biologists shall conduct a second survey of the Project Site, access route, and buffer zone for

the Covered Species and their burrows. Designated Biologists shall attempt to locate all Covered Species above and below ground within the surveyed area. Within the Project Site, the use of specialized equipment (e.g., fiber optics) may be necessary to thoroughly inspect all burrows in preparation for collapsing them. Before initiating the collapse of any burrows or dens, the Permittee shall adhere to the following provisions specific to each species and the DFG-approved translocation plan.

- 6.7. Designated Biologists shall fully excavate by hand all burrows present within the 5-acre area to be physically reclaimed that are suspected or known to be occupied by Mohave ground squirrels. Designated Biologists shall allow any Mohave ground squirrels encountered in the excavated burrows during their active period to escape out of harm's way. Designated Biologists shall collect and immediately move all Mohave ground squirrels encountered during their dormant period to an artificial burrow at a protected off-site location approved in advance by DFG's Regional Representative. The Mohave ground squirrel may only be relocated by Designated Biologists. Designated Biologists shall prepare relocation burrows in the following manner: a hole of at least two feet deep shall be dug, a nine inch diameter non-collapsible plastic container shall be placed in the hole, cotton bedding material shall be placed in the container, the container shall be connected to a flexible three inch diameter non-collapsible plastic pipe that runs to the ground surface at a 45 degree angle, and the artificial burrow shall be covered with dirt with the surface end of the three inch pipe remaining open. Designated Biologists shall place the Mohave ground squirrel in the artificial burrow and lightly plug the burrow mouth with soil in a manner that is similar to a natural Mohave ground squirrel burrow.
- 6.8. The Designated Representative shall immediately notify DFG of any Mohave ground squirrels encountered, or no later than noon on the next business day if the incident occurs outside of normal business hours. Notification to DFG shall be via telephone or e-mail, followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident, the name of the party that actually relocated the individual, and the location (including GPS coordinates) where the animal was moved.
- 6.9. Using the methods described in the Tortoise Handling Guidelines (Attachment 3), Designated Biologists shall capture, collect measurement and identification data, permanently mark, and relocate any desert tortoises found within the Project Site to suitable, undisturbed off-site habitat approved in advance by DFG. If a desert tortoise is found by a Designated Biologist above ground, the Designated Biologist shall release it above ground in the shade. Designated Biologists shall relocate all desert tortoises removed from burrows to unoccupied burrows of similar size. If no such burrows are available for relocating, the Designated Biologists shall construct artificial burrows that are approximately the same size, depth, and orientation as the original burrow. The Designated Biologists shall follow all protocols for the construction of

artificial burrows found in the Desert Tortoise Handling Guidelines. Designated Biologists shall record the position of all tortoise burrows, tortoises, and relocation sites using GPS technology. In order to prevent re-occupancy, Designated Biologists shall collapse all potential or actual desert tortoise burrows present within the work site after establishing that they are not currently occupied by desert tortoise.

- 6.10. Designated Biologists shall follow all procedures described in the Tortoise Handling Guidelines in order to protect the health and well-being of desert tortoises. These procedures include, but are not limited to, ensuring that tortoises do not overheat or show signs of overheating (e.g., gaping, foaming at the mouth, etc.), and ensuring that desert tortoises are not placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Designated Biologists shall keep desert tortoises shaded at all times until the Designated Biologist determines it is safe to release them. In an effort to prevent further spread of Upper Respiratory Tract Disease (URTD), Designated Biologists shall use plastic gloves whenever desert tortoises are handled. After handling each desert tortoise, Designated Biologists shall dispose of the gloves, and all equipment that came into contact with the desert tortoise shall be sterilized. Only Designated Biologists shall handle desert tortoises.
- 6.11. Designated Biologists shall maintain a record of all desert tortoises handled. This information shall include the following for each tortoise: (1) the locations (narrative and maps) and dates of observation; (2) the general condition and health, including injuries, state of healing, and whether the desert tortoise voided its bladder; (3) the location moved from and location moved to (using GPS technology); (4) diagnostic markings (i.e., identification numbers or marked lateral scutes); (5) ambient temperature when handled and released; and (6) digital photographs of each handled desert tortoise as described below. Designated Biologists shall mark each desert tortoise moved from within the Project Site for future identification. Designated Biologists shall place an identification number using the acrylic paint/epoxy covering technique on the fourth left costal scute as described in the Desert Tortoise Handling Guidelines. Designated Biologists shall take digital photographs of the carapace, plastron, and fourth costal scute of each desert tortoise handled. No notching of scutes shall be allowed. The Designated Representative shall record the information detailed above in the daily written observation and inspection records and provide it to DFG as directed in Condition 5.5.
- 6.12. If an active desert tortoise nest is detected during burrow excavation or during reclamation activities, the Designated Biologist shall follow the procedures outlined in the Desert Tortoise Handling Guidelines. Designated Biologists shall notify DFG immediately upon discovery of an active desert tortoise nest, and shall not relocate the nest until the site of egg relocation has been approved by DFG.

- 6.13. During Project implementation, all workers shall inform a Designated Biologist if a Covered Species is seen within or near the Project Site. Permittee shall immediately cease all work in the vicinity of the Covered Species until the Covered Species is moved by a Designated Biologist or until it moves from the area of its own accord.
- 6.14. Permittee shall remove all cement and other loose debris by slowly plucking from the top, rather than scooping from the ground up. This method will minimize the possibility of harming a Covered Species that may be hiding under the debris, and allow it to escape.
- 6.15. Permittee shall ensure that all workers inspect for desert tortoise under vehicles and equipment every time the vehicles or equipment are moved. If a desert tortoise is present, construction personnel shall not move the vehicle, equipment, or building material and the Permittee shall immediately stop all work until a Designated Biologist has relocated the animal in accordance with this ITP or has allowed it to move on.
- 6.16. Designated Biologists shall inspect all open trenches, auger holes, and other excavations that may trap Covered Species prior to any work in or around them and before they are back filled. Designated Biologists shall safely remove and relocate any Covered Species that are found in accordance with this ITP.
- 6.17. If a Covered Species is injured as a result of Project-related activities, it shall be immediately taken to a DFG-approved wildlife rehabilitation or veterinary facility. Permittee shall identify the facility prior to the start of ground- or vegetation-disturbing activities. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. The Permittee shall notify DFG of the injury to the Covered Species immediately unless the incident occurs outside of normal business hours. In that event, DFG shall be notified no later than noon on the next business day. Notification to DFG shall be via telephone or e-mail, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident and the name of the facility where the animal was taken.

7. Mitigation Measures/Compensation for Take:

DFG has determined that permanent protection and perpetual management of compensatory habitat is necessary and required under CESA to fully mitigate impacts of the taking on Covered Species that will result from implementation of this Project. This determination is based on factors including an assessment of the quality of the habitat at the Project Site and the increased habitat value for the Covered Species that can be achieved through land management at the mitigation location.

- 7.1. Prior to initiating ground- or vegetation-disturbing Project activities, or no later than 18 months from the effective date of this ITP if a Funding Assurance Letter is provided pursuant to Condition 8 below, the Permittee shall acquire and permanently preserve

5.5 acres of Habitat Management Lands (HM Lands). The 5.5 acres of HM Lands is necessary to fully mitigate for the incidental taking on Covered Species that will occur as a result of the temporary habitat loss and mortality of individuals related to other Project activities. DFG estimates that acquisition of appropriate HM Lands will cost approximately \$3,000.00/acre for 5.5 acres for a total of approximately **\$16,500.00**. A minimum of 3 months prior to acquiring the HM Lands, the Permittee shall submit to DFG for approval a formal Proposed Lands for Acquisition Form (see Attachment 4) identifying the land to be purchased as mitigation for the Project's impacts on Covered Species. As part of this Condition, Permittee shall:

7.1.1. Transfer fee title to the HM Lands to DFG;

7.1.2. Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents specified in Attachment 5 and/or requested by the DFG Regional Representative. The Permittee shall be responsible for all costs associated with obtaining and providing the required documents. All documents conveying the HM Lands and all conditions of title are subject to the approval of DFG, the Wildlife Conservation Board and if applicable, the Department of General Services;

7.1.3. Provide for the initial protection and enhancement of HM Lands as determined by DFG once Permittee identifies the HM Lands. DFG estimates that initial protection and enhancement will cost approximately \$250.00/acre for 5.5 acres. Alternatively, Permittee may fund DFG's initial protection and enhancement of the lands by providing the funds required (**\$1,375.00**) for the initial protection and enhancement to DFG. If payment is to be submitted to DFG, Permittee shall submit payment using the Mitigation Payment Transmittal Form included as Attachment 6 of this ITP;

7.1.4. Provide for the perpetual management of the HM Lands to benefit the Covered Species by doing one of the following:

A) Conduct a Property Analysis Record (PAR) or PAR-like analysis once the HM Lands have been identified to determine the appropriate endowment amount to fund the in-perpetuity management of the 5.5 acres of required HM Lands. Permittee shall provide the required endowment to DFG after DFG reviews and approves the PAR.

or,

B) Provide to DFG a permanent non-wasting endowment in the amount of **\$7,150.00** (\$1,300.00/acre for 5.5 acres) prior to initiation of ground- or

vegetation-disturbing Project activities, The per acre amount is based on recent PAR analyses conducted on comparable lands near Little Dixie Wash.

Interest from the endowment amount shall be available for reinvestment in the principal and for the long-term operation, management, and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to biological carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM Lands. Monies received by DFG pursuant to this Condition shall be deposited in a special deposit account established pursuant to Fish and Game Code section 13014. DFG may pool the endowment with other endowments for the operation, management and protection of HM Lands for local populations of the Covered Species. Endowment funds provided pursuant to either A) or B) above may alternatively be held by a DFG-approved non-profit organization qualified to hold endowment funds;

7.1.5. Reimburse DFG for reasonable expenses incurred during title and documentation review, expenses incurred from other State agency reviews, and overhead related to transfer of HM Lands to DFG. DFG estimates that this Project will create an additional cost to DFG of no more than \$3,000.00 for every fee title deed or easement processed.

8. Performance Security:

8.1. Permittee may proceed with ground- or vegetation-disturbing activities before completing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only if Permittee ensures funding to complete those activities by providing to DFG prior to commencing ground- or vegetation disturbing activities or within 30 days after the effective date of this ITP, whichever occurs first, written documentation that Permittee has allocated sufficient funds, acceptable to and approved by DFG, in the Expenditure Authorization for the Project to ensure implementation of the Conditions of Approval of this ITP. The written documentation shall identify and display in itemized form, at a minimum, the following estimated costs of implementing the ITP's mitigation, monitoring, and reporting requirements, which total **\$25,025.00**:

8.1.1. Land acquisition costs for impacts to habitat, calculated at \$3,000.00/acre for 5.5 acres: **\$16,500.00**;

8.1.2. Costs of enhancing HM Lands, calculated at \$250.00/acre for 5.5 acres: **\$1,375.00**;

8.1.3. Endowment estimate, calculated at \$1,300.00/acre for 5.5 acres: **\$7,150.00**.

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The written documentation submitted by Permittee to satisfy this Condition shall be on official letterhead and signed by both the District Deputy Director of Project Management and the District Deputy Director of Environment, and shall include a statement that the funds identified have been allocated specifically for the purpose of fulfilling Permittee's mitigation obligations associated with this ITP and will not be redirected for other Project purposes. Even if the Funding Assurances are provided, Permittee must complete the required acquisition, protection, and transfer of all HM Lands no later than 18 months after the start of ground-disturbing activities.

Amendment:

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may also be amended without the concurrence of the Permittee as provided by law, including if DFG determines that continued implementation of the Project under existing ITP conditions would jeopardize the continued existence of the Covered Species or that Project changes or changed biological conditions necessitate an ITP amendment to ensure that impacts to the Covered Species are minimized and fully mitigated.

Stop-Work Order:

DFG may issue Permittee a written stop-work order to suspend any activity covered by this ITP for an initial period of up to 25 days to prevent or remedy a violation of ITP conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. Permittee shall comply with the stop-work order immediately upon receipt thereof. DFG may extend a stop-work order under this provision for a period not to exceed 25 additional days, upon written notice to the Permittee. DFG shall commence the formal suspension process, pursuant to California Code of Regulations, Title 14, section 783.7, within five (5) working days of issuing a stop-work order.

Compliance with Other Laws:

This ITP contains DFG's requirements for the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable State, Federal, and local laws.

Notices:

The Permittee shall deliver the fully executed duplicate original ITP by first class mail or overnight delivery to the following address:

Habitat Conservation Planning Branch
California Department of Fish and Game
Attention: CESA Permitting Program

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1416 Ninth Street, Suite 1260
Sacramento, California 95814

Written notices, reports, and other communications relating to this ITP shall be delivered to DFG by first class mail at the following addresses, or at addresses DFG may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2009-025-04) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Jeffrey R. Single, Ph.D., Regional Manager
1234 East Shaw Avenue
Fresno, California 93710
Telephone (559)243-4005
Fax (559) 243-4026

Copy of cover without attachment(s) to:

Office of the General Counsel
California Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

And:

Habitat Conservation Planning Branch
California Department of Fish and Game
1416 Ninth Street, Suite 1260
Sacramento, California 95814

Unless Permittee is notified otherwise, DFG's Regional Representative for purposes of addressing issues that arise during implementation of the ITP is:

Laura Peterson-Diaz
1234 East Shaw Avenue
Fresno, California 93710
Telephone (559) 243-4017, extension 225
Fax (559) 243-4020

Compliance with CEQA:

DFG's issuance of the ITP is subject to CEQA. DFG is a responsible agency under CEQA with respect to the ITP because of prior environmental review of the Project by the Permittee as lead agency. (See generally Pub. Resources Code, §§ 21067, 21069.) The lead

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agency's prior environmental review of the Project is set forth in the ND (SCH Number 1999111049) adopted by the Permittee as lead agency on May 24, 2000. At the time Permittee adopted the ND and approved the Project, Permittee also adopted all mitigation measures described in the ND as conditions of Project approval.

In fulfilling its obligations as a responsible agency, DFG's obligations under CEQA are more limited than the lead agency. DFG, in particular, is responsible for considering only the effects of those activities involved in the Project which it is required by law to carry out or approve and mitigating or avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve. (Pub. Resources Code, § 21002.1, subd. (d); CEQA Guidelines, §§ 15041, subd. (b), 15096, subds. (f)-(g).)⁴ Accordingly, because DFG's exercise of discretion is limited to issuance of the ITP, DFG is responsible for considering only the environmental effects that fall within its permitting authority under CESA.

This ITP, along with DFG's CEQA findings for the ITP and Project, which are available as a separate document, provide evidence of DFG's consideration of the Permittee's lead agency ND for the Project and the environmental effects related to issuance of the ITP. (CEQA Guidelines, § 15096, subd. (f).) DFG finds that issuance of the ITP will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, DFG finds adherence to and implementation of the Conditions of Project Approval adopted by the Permittee as lead agency, as well as adherence to and implementation of the Conditions of Approval imposed by DFG through the issuance of this ITP, will avoid or reduce to below a level of significance any such potential effects. DFG consequently finds that issuance of the ITP will not result in any significant, adverse impacts on the environment.

Findings under CESA:

These findings are intended to document DFG's compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds, (a)-(b), 783.5, subd. (c)(2).)

DFG finds that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs under CESA:

- (1) Take of Covered Species as defined in the ITP will be incidental to the otherwise lawful activities covered under the ITP;

⁴The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

- (2) Impacts of the taking of the Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) establishment of Covered Species avoidance zones; (3) worker education; and (4) Monthly Compliance Reports. DFG evaluated the quality of the habitat on the Project Site, the scope and extent of direct impacts, the scope and extent of indirect impacts, and other relevant information available to DFG or provided by the Permittee. Based on this evaluation, DFG determined that the protection and management in perpetuity of 5.5 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being impacted by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP fully mitigates the impacts of the taking caused by the Project;
- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;
- (6) The ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;
- (7) Permittee has ensured adequate funding to implement the measures required by the ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and
- (8) Issuance of the ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, DFG's finding is based, in part, on DFG's express authority to amend the terms and conditions of the ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

ATTACHMENT 1

Mitigation Monitoring and Reporting Program

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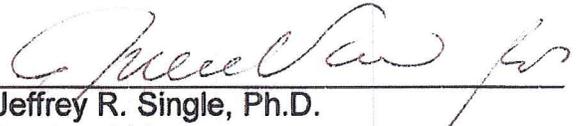
ATTACHMENT 2
ATTACHMENT 3
ATTACHMENT 4
ATTACHMENT 5
ATTACHMENT 6

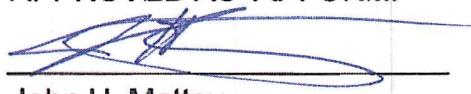
Specifications for Desert Tortoise Exclusion Fencing
Desert Tortoise Handling Guidelines 1999
Proposed Lands for Acquisition Form (PLFAF)
Habitat Management Lands Checklist
Mitigation Payment Transmittal Form

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ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

on May 11, 2010


Jeffrey R. Single, Ph.D.
Regional Manager
CENTRAL REGION

APPROVED AS TO FORM:

John H. Mattox
Senior Staff Counsel

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of this ITP, and (3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP.

By: Kirsten Helton Date: 5/11/10

Printed Name: Kirsten Helton Title: Senior Environmental Planner

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Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND GAME
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT**

INCIDENTAL TAKE PERMIT NO. 2081-2009-025-04

PERMITTEE: California Department of Transportation

PROJECT: Material Site 252 Reclamation Project

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the Department of Fish and Game (DFG) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by DFG is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of an ITP requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance of all mitigation measures and for reporting to DFG on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

DFG may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation

measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

Mitigation Measure		Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE DISTURBING SOIL OR VEGETATION					
1	Before initiating ground- or vegetation-disturbing activities, Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and overseeing compliance with this ITP. Permittee shall notify DFG in writing prior to commencement of ground- or vegetation-disturbing activities of the representative's name, business address, and contact information, and shall notify DFG in writing if a substitute representative is designated.	ITP Condition # 4.1	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
2	At least 30 days before initiating ground- or vegetation-disturbing activities, Permittee shall submit to DFG in writing the name, qualifications, business address, and contact information for a biological monitor (Designated Biologist). The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of the Covered Species and will be responsible for monitoring construction and/or ground- or vegetation-disturbing activities in areas of Covered Species' habitat to help avoid the take of individual animals and to minimize habitat disturbance. The Permittee must obtain DFG approval of the Designated Biologist prior to the commencement of Project activities that may result in the incidental take of the Covered Species.	ITP Condition # 4.2	Before commencing ground- or vegetation-disturbing activities	Permittee	
3	Permittee shall conduct an education program for all persons employed on the Project prior to their performing work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Copies of this ITP shall be maintained at the worksite. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and be available to DFG upon request.	ITP Condition # 4.4	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
4	Permittee shall initiate a trash abatement program during pre-construction phases of the Project and continue the program throughout the duration of the Project. Trash and food items shall be contained in closed (raven-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.	ITP Condition # 4.5	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
5	Permittee shall implement dust control measures during Project activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. The amount of water shall be kept to the minimum amount needed and no water will be allowed to form puddles.	ITP Condition # 4.6	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
6	Prior to initiating ground- or vegetation-disturbing Project activities, Permittee shall clearly delineate with fencing, stakes, or flags the boundaries of the 5 acre area to be physically reclaimed within the Project Site. Permittee shall maintain all fencing, stakes and flags until completion of Project activities.	ITP Condition # 4.8	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
7	Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to arrive at the site.	ITP Condition # 4.15	Before commencing ground- or vegetation-disturbing activities	Permittee	
8	Permittee shall notify DFG 14 calendar days before initiating ground- or vegetation-disturbing activities and shall document compliance with all pre-Project Conditions of Approval before initiating ground- or vegetation-disturbing activities.	ITP Condition # 5.1	Before commencing ground- or vegetation-disturbing activities	Permittee	
9	Permittee shall develop a translocation plan for the Covered Species and submit it to DFG for review and approval prior to the start of ground disturbing activities.	ITP Condition # 6.1	Before commencing ground- or vegetation-disturbing activities	Permittee	
10	No more than 30 days prior to ground disturbing activities, Designated Biologists shall conduct pre-construction clearance surveys for Covered Species. These surveys shall cover 100 percent of the Project Site, the existing access route and a 50-foot buffer zone around these areas. The Designated Biologists shall flag all potential dens and burrows within this area to alert biological and work crews to their presence. Within 30 days of performing the pre-construction clearance surveys, the Designated Biologists shall submit a report to DFG documenting their results.	ITP Condition # 6.3	Before commencing ground- or vegetation-disturbing activities	Permittee	
11	Immediately prior to the start of ground disturbing activities, the Designated Biologists shall conduct a second survey of the Project Site, access route, and buffer zone for the Covered Species and their burrows. Designated Biologists shall attempt to locate all Covered Species above and below ground within the surveyed area. Within the Project Site, the use of specialized equipment (e.g., fiber optics) may be necessary to thoroughly inspect all burrows in preparation for collapsing them. Before initiating the collapse of any burrows or dens, the Permittee shall adhere to the following provisions specific to each species and the DFG-approved translocation plan.	ITP Condition # 6.6	Before commencing ground- or vegetation-disturbing activities	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
12	<p>Designated Biologists shall fully excavate by hand all burrows present within the 5-acre area to be physically reclaimed that are suspected or known to be occupied by Mohave ground squirrels. Designated Biologists shall allow any Mohave ground squirrels encountered in the excavated burrows during their active period to escape out of harm's way. Designated Biologists shall collect and immediately move all Mohave ground squirrels encountered during their dormant period to an artificial burrow at a protected off-site location approved in advance by DFG's Regional Representative. The Mohave ground squirrel may only be relocated by Designated Biologists. Designated Biologists shall prepare relocation burrows in the following manner: a hole of at least two feet deep shall be dug, a nine inch diameter non-collapsible plastic container shall be placed in the hole, cotton bedding material shall be placed in the container, the container shall be connected to a flexible three inch diameter non-collapsible plastic pipe that runs to the ground surface at a 45 degree angle, and the artificial burrow shall be covered with dirt with the surface end of the three inch pipe remaining open. Designated Biologists shall place the Mohave ground squirrel in the artificial burrow and lightly plug the burrow mouth with soil in a manner that is similar to a natural Mohave ground squirrel burrow.</p>	ITP Condition # 5.7	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
13	<p>The Designated Representative shall immediately notify DFG of any Mohave ground squirrels encountered, or no later than noon on the next business day if the incident occurs outside of normal business hours. Notification to DFG shall be via telephone or e-mail, followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident, the name of the party that actually relocated the individual, and the location (including GPS coordinates) where the animal was moved.</p>	ITP Condition # 6.8	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
14	<p>Using the methods described in the Tortoise Handling Guidelines (Attachment 3 of the ITP), Designated Biologists shall capture, collect measurement and identification data, permanently mark, and relocate any desert tortoises found within the Project Site to suitable, undisturbed off-site habitat approved in advance by DFG. If a desert tortoise is found by a Designated Biologist above ground, the Designated Biologist shall release it above ground in the shade. Designated Biologists shall relocate all desert tortoises removed from burrows to unoccupied burrows of similar size. If no such burrows are available for relocating, the Designated Biologists shall construct artificial burrows that are approximately the same size, depth, and orientation as the original burrow. The Designated Biologists shall follow all protocols for the construction of artificial burrows found in the Desert Tortoise Handling Guidelines. Designated Biologists shall record the position of all tortoise burrows, tortoises, and relocation sites using GPS technology. In order to prevent re-occupancy, Designated Biologists shall collapse all potential or actual desert tortoise burrows present within the work site after establishing that they are not currently occupied by desert tortoise.</p>	ITP Condition # 6.9	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
15	<p>Designated Biologists shall follow all procedures described in the Tortoise Handling Guidelines in order to protect the health and well-being of desert tortoises. These procedures include, but are not limited to, ensuring that tortoises do not overheat or show signs of overheating (e.g., gaping, foaming at the mouth, etc.), and ensuring that desert tortoises are not placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Designated Biologists shall keep desert tortoises shaded at all times until the Designated Biologist determines it is safe to release them. In an effort to prevent further spread of Upper Respiratory Tract Disease (URTD), Designated Biologists shall use plastic gloves whenever desert tortoises are handled. After handling each desert tortoise, Designated Biologists shall dispose of the gloves, and all equipment that came into contact with the desert tortoise shall be sterilized. Only Designated Biologists shall handle desert tortoises.</p>	ITP Condition # 6.10	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
16	<p>Designated Biologists shall maintain a record of all desert tortoises handled. This information shall include the following for each tortoise: (1) the locations (narrative and maps) and dates of observation; (2) the general condition and health, including injuries, state of healing, and whether the desert tortoise voided its bladder; (3) the location moved from and location moved to (using GPS technology); (4) diagnostic markings (i.e., identification numbers or marked lateral scutes); (5) ambient temperature when handled and released; and (6) digital photographs of each handled desert tortoise as described below. Designated Biologists shall mark each desert tortoise moved from within the Project Site for future identification. Designated Biologists shall place an identification number using the acrylic paint/epoxy covering technique on the fourth left costal scute as described in the Desert Tortoise Handling Guidelines. Designated Biologists shall take digital photographs of the carapace, plastron, and fourth costal scute of each desert tortoise handled. No notching of scutes shall be allowed. The Designated Representative shall record the information detailed above in the daily written observation and inspection records and provide it to DFG as directed in Condition 5.5.</p>	ITP Condition # 6.11	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
17	<p>if an active desert tortoise nest is detected during burrow excavation or during reclamation activities, the Designated Biologist shall follow the procedures outlined in the Desert Tortoise Handling Guidelines. Designated Biologists shall notify DFG immediately upon discovery of an active desert tortoise nest, and shall not relocate the nest until the site of egg relocation has been approved by DFG.</p>	ITP Condition # 6.12	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	
18	<p>If a Covered Species is injured as a result of Project-related activities, it shall be immediately taken to a DFG approved wildlife rehabilitation or veterinary facility. Permittee shall identify the facility prior to the start of ground- or vegetation-disturbing activities. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. The Permittee shall notify DFG of the injury to the Covered Species immediately unless the incident occurs outside of normal business hours. In that event, DFG shall be notified no later than noon on the next business day. Notification to DFG shall be via telephone or e-mail, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident and the name of the facility where the animal was taken.</p>	ITP Condition # 6.17	Before commencing ground- or vegetation-disturbing activities / Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
19	<p>Prior to initiating ground- or vegetation-disturbing Project activities, or no later than 18 months from the effective date of this ITP if a Funding Assurance Letter is provided pursuant to Condition 8 below, the Permittee shall acquire and permanently preserve 5.5 acres of Habitat Management Lands (HM Lands). The 5.5 acres of HM Lands is necessary to fully mitigate for the incidental taking on Covered Species that will occur as a result of the temporary habitat loss and mortality of individuals related to other Project activities. DFG estimates that acquisition of appropriate HM Lands will cost approximately \$3,000.00/acre for 5.5 acres for a total of approximately \$16,500.00. A minimum of 3 months prior to acquiring the HM Lands, the Permittee shall submit to DFG for approval a formal Proposed Lands for Acquisition Form (see Attachment 4) identifying the land to be purchased as mitigation for the Project's impacts on Covered Species.</p> <p>Permittee shall transfer fee title to the HM Lands to DFG.</p>	ITP Condition # 7.1	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security approved by DFG is provided)	Permittee	
20	<p>Permittee shall provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents specified in Attachment 5 and/or requested by the DFG Regional Representative. The Permittee shall be responsible for all costs associated with obtaining and providing the required documents. All documents conveying the HM Lands and all conditions of title are subject to the approval of DFG, the Wildlife Conservation Board and if applicable, the Department of General Services.</p>	ITP Condition # 7.1.1	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security approved by DFG is provided)	Permittee	
21	<p>Permittee shall provide for the initial protection and enhancement of HM Lands as determined by DFG once Permittee identifies the HM Lands. DFG estimates that initial protection and enhancement will cost approximately \$250.00/acre for 5.5 acres. Alternatively, Permittee may fund DFG's initial protection and enhancement of the lands by providing the funds required (\$1,375.00) for the initial protection and enhancement to DFG. If payment is to be submitted to DFG, Permittee shall submit payment using the Mitigation Payment Transmittal Form included as Attachment 6 of the ITP;</p>	ITP Condition # 7.1.2	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security approved by DFG is provided)	Permittee	
22	<p>Permittee shall provide for the initial protection and enhancement of HM Lands as determined by DFG once Permittee identifies the HM Lands. DFG estimates that initial protection and enhancement will cost approximately \$250.00/acre for 5.5 acres. Alternatively, Permittee may fund DFG's initial protection and enhancement of the lands by providing the funds required (\$1,375.00) for the initial protection and enhancement to DFG. If payment is to be submitted to DFG, Permittee shall submit payment using the Mitigation Payment Transmittal Form included as Attachment 6 of the ITP;</p>	ITP Conditions # 7.1.3	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security approved by DFG is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
23	<p>Permittee shall provide for the perpetual management of the HM Lands to benefit the Covered Species by doing one of the following:</p> <p>A) Conduct a Property Analysis Record (PAR) or PAR-like analysis once the HM Lands have been identified to determine the appropriate endowment amount to fund the in-perpetuity management of the 5.5 acres of required HM Lands. Permittee shall provide the required endowment to DFG after DFG reviews and approves the PAR. Permittee shall provide funding assurances for the endowment in the Security (See Condition 8, below).</p> <p>or,</p> <p>B) Provide to DFG a permanent non-wasting endowment in the amount of \$7,150.00 (\$1,300.00/acre for 5.5 acres) prior to initiation of ground- or vegetation-disturbing Project activities. The per acre amount is based on recent PAR analyses conducted on comparable lands near Little Dixie Wash.</p> <p>Interest from the endowment amount shall be available for reinvestment in the principal and for the long term operation, management, and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to biological carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM Lands. Monies received by DFG pursuant to this Condition shall be deposited in a special deposit account established pursuant to Fish and Game Code section 13014. DFG may pool the endowment with other endowments for the operation, management and protection of HM Lands for local populations of the Covered Species. Endowment funds provided pursuant to either A) or B) above may alternatively be held by a DFG-approved non-profit organization qualified to hold endowment funds.</p>	ITP Conditions # 7.1.4	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security approved by DFG is provided)	Permittee	
24	<p>Reimburse DFG for reasonable expenses incurred during title and documentation review, expenses incurred from other State agency reviews, and overhead related to transfer of HM Lands to DFG. DFG estimates that this Project will create an additional cost to DFG of no more than \$3,000.00 for every fee title deed or easement processed.</p>	ITP Conditions # 7.1.5	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security approved by DFG is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
25	<p>Permittee may proceed with ground- or vegetation-disturbing activities before completing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only. Permittee ensures funding to complete those activities by providing to DFG prior to commencing ground- or vegetation disturbing activities or within 30 days after the effective date of the ITP, whichever occurs first, written documentation that Permittee has allocated sufficient funds, acceptable to and approved by DFG, in the Expenditure Authorization for the Project to ensure implementation of the Conditions of Approval of the ITP. The written documentation shall identify and display in itemized form, at a minimum, the following estimated costs of implementing the ITP's mitigation, monitoring, and reporting requirements, which total \$25,025.00:</p> <ul style="list-style-type: none"> • Land acquisition costs for impacts to habitat, calculated at \$3,000.00/acre for 5.5 acres: \$16,500.00; • Costs of enhancing HM Lands, calculated at \$250.00/acre for 5.5 acres: \$1,375.00; • Endowment estimate, calculated at \$1,300.00/acre for 5.5 acres: \$7,150.00. <p>The written documentation submitted by Permittee to satisfy this Condition shall be on official letterhead and signed by both the District Deputy Director of Project Management and the District Deputy Director of Environment, and shall include a statement that the funds identified have been allocated specifically for the purpose of fulfilling Permittee's mitigation obligations associated with the ITP and will not be redirected for other Project purposes. Even if the Funding Assurances are provided, Permittee must complete the required acquisition, protection, and transfer of all HM Lands no later than 18 months after the start of ground-disturbing activities.</p>	ITP Condition # 8.1	Before commencing ground- or vegetation-disturbing activities	Permittee	
DURING CONSTRUCTION					
26	<p>Permittee shall immediately notify DFG in writing if it determines that it is not in compliance with any Condition of Approval of the ITP, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in the ITP and/or this MMRP. Permittee shall report any non compliance with the ITP during the construction phase of the Project to DFG within 24 hours.</p>	ITP Condition # 5.2	Entire Project	Permittee	
27	<p>The Designated Biologist shall be on-site daily while Project activities, including all surface disturbing activities, are taking place to: (1) minimize incidental take of the Covered Species; (2) check for compliance with all mitigation and avoidance measures; (3) check all exclusion zones; and (4) ensure that signs, stakes, and fencing are intact; and that human activities are restricted outside of these protective zones. The Designated Representative or Designated Biologist shall prepare daily written observation and inspection records summarizing: oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by the ITP.</p>	ITP Condition # 5.3	Entire Project	Permittee	
28	<p>All Covered Species sightings confirmed by the Designated Biologist shall include the following documented information: the date, time, and location of each occurrence using Global Positioning System (GPS) technology, the name of the party that actually identified the animal, circumstances of the incident, the general condition and health of each individual, any diagnostic markings, sex, age (juvenile or adult), actions undertaken, and habitat description. The Permittee shall submit this information to the California Natural Diversity Database (CNDDDB).</p>	ITP Condition # 5.4	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
29	<p>Monthly Compliance Report: Permittee shall compile the observation and inspection records identified in Condition 5.3 into a Monthly Compliance Report and submit it to DFG along with a copy of this MMRP table with notes showing the current implementation status of each mitigation measure. Monthly Compliance Reports shall be submitted to DFG's Regional Office at the office listed in the Notices section of the ITP or via e-mail to DFG's Regional Representative. At the time of the ITP's approval, the DFG Regional Representative is Laura Peterson Diaz (e-mail address lpdiaz@dfg.ca.gov). DFG may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If DFG determines the reporting schedule is inadequate, DFG will notify Permittee by letter of the new reporting schedule.</p>	ITP Condition # 5.5	Entire Project	Permittee	
30	<p>Annual Status Report: Permittee shall provide DFG with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of the ITP and continuing until DFG accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Monthly Compliance Reports identified in Condition 5.5, (2) a general description of the status of the Project Site and Project activities, including actual or projected completion dates, if known; (3) a copy of this MMRP table with notes showing the current implementation status of each mitigation measure; and (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and mitigating Project impacts.</p>	ITP Condition # 5.6	Entire Project	Permittee	
31	<p>If a Covered Species is killed by a Project-related activity, or if a Covered Species is otherwise found dead within the Project boundary, Permittee shall immediately notify the Designated Biologist. The Designated Biologist or Designated Representative shall provide initial notification to DFG by calling the Regional Office at (559) 243-4005. The initial notification to DFG shall include information regarding the location, species, number of animals injured or killed, and the ITP Number. Following initial notification, Permittee shall send DFG a written report within 2 calendar days. The report shall include the date and time of the finding or incident, location of the carcass, and if possible provide a photograph, explanation as to cause of death, and any other pertinent information.</p>	TP Condition # 5.8	Entire Project	Permittee	
32	<p>To ensure compliance with the Conditions of Approval of the ITP, the Designated Biologist shall have authority to immediately stop any activity that is not in compliance with the ITP, and/or to order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species. Neither the Designated Biologist nor DFG shall be liable for any costs incurred in complying with the Conditions of Approval, including cease-work orders issued by DFG.</p>	ITP Condition # 4.3	Entire Project	Permittee	
33	<p>Permittee shall prohibit firearms and domestic dogs from the Project Site and site access routes during Project activities, except those in the possession of authorized security personnel or local, State, or Federal law enforcement officials.</p>	ITP Condition # 4.7	Entire Project	Permittee	
34	<p>Project-related personnel shall access the Project Site during Project activities using existing routes and shall not cross Covered Species' habitat outside of or en route to the Project Site. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour in order to avoid Covered Species on or traversing the roads. If Permittee determines construction of off-site routes for travel are necessary, Permittee shall contact DFG prior to carrying out such an activity. DFG may require an amendment to the ITP if additional take of Covered Species may result from Project modification.</p>	ITP Condition # 4.9	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
35	Permittee shall confine all Project-related storage areas, laydown sites, equipment storage, and all other surface-disturbing activities to the 5 acre area to be physically reclaimed within the Project Site. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the Project Site unless specifically provided for in Condition 4.9 of the ITP. No take is authorized outside of the restoration areas shown in Figure 3 of the ITP.	ITP Condition # 4.10	Entire Project	Permittee	
36	Permittee shall immediately stop/repair and clean up any fuel or hazardous waste leaks or spills on the Project Site during Project activities at the time of occurrence. Permittee shall exclude the storage and handling of hazardous materials from the Project Site and shall properly contain and dispose of any unused or leftover hazardous products off-site.	ITP Condition # 4.11	Entire Project	Permittee	
37	Permittee shall provide DFG staff with reasonable access to the Project Site and mitigation lands under Permittee control, and shall otherwise fully cooperate with DFG efforts to verify compliance with or effectiveness of mitigation measures set forth in the ITP.	ITP Condition # 4.12	Entire Project	Permittee	
38	Permittee shall conduct all reclamation activities between September 1 and October 31 in order to avoid the desert tortoise reproductive season, potentially harmful summer heat, and winter torpor or hibernation.	ITP Condition # 6.2	Entire Project	Permittee	
39	Designated Biologists shall be present at ALL times work is being done to monitor ALL activities, to ensure impacts to Covered Species are minimized. To provide adequate coverage, two Designated Biologists shall be on site at all times during Project activities; one to monitor the reclamation activities and another to monitor the approach and departure of vehicles on the access road.	ITP Condition # 6.4	Entire Project	Permittee	
40	Environmentally Sensitive Area (ESA) fencing may be used in addition to having full time monitoring, but it shall not be considered adequate as desert tortoise exclusion fencing without having the Designated Biologists present to act as monitors. The Permittee may conduct reclamation activities without installing temporary desert tortoise exclusion fencing, as described in Specifications for Desert Tortoise Exclusion Fencing (Attachment 2), because the Designated Biologists shall be present at ALL times work is being done to monitor ALL activities, to ensure impacts to Covered Species are minimized as described in Condition of Approval 6.4.	ITP Condition # 6.5	Entire Project	Permittee	
41	During Project implementation, all workers shall inform a Designated Biologist if a Covered Species is seen within or near the Project Site. Permittee shall immediately cease all work in the vicinity of the Covered Species until the Covered Species is moved by a Designated Biologist or until it moves from the area of its own accord.	ITP Condition # 6.13	Entire Project	Permittee	
42	Permittee shall remove all cement and other loose debris by slowly plucking from the top, rather than scooping from the ground up. This method will minimize the possibility of harming a Covered Species that may be hiding under the debris, and allow it to escape.	ITP Condition # 6.14	Entire Project	Permittee	
43	Permittee shall ensure that all workers inspect for desert tortoise under vehicles and equipment every time the vehicles or equipment are moved. If a desert tortoise is present, construction personnel shall not move the vehicle, equipment, or building material and the Permittee shall immediately stop all work until a Designated Biologist has relocated the animal in accordance with this ITP or has allowed it to move on.	ITP Condition # 6.15	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
44	Designated Biologists shall inspect all open trenches, auger holes, and other excavations that may trap Covered Species prior to any work in or around them and before they are back filled. Designated Biologists shall safely remove and relocate any Covered Species that are found in accordance with the ITP.	ITP Condition # 6.16	Entire Project	Permittee	
POST-CONSTRUCTION					
45	Upon completion of Project activities, Permittee shall remove from the Project Site and properly dispose of all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.	ITP Condition # 4.13	Post-construction	Permittee	
46	Final Mitigation Report: No later than 45 days after completion of the Project, including completion of all mitigation measures, Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: (1) a summary of all Monthly Compliance Reports identified in Condition 5.5 and all ASRs, (2) a copy of this MMRP table with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) dates of Project activities; (6) an assessment of the effectiveness of the ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.	ITP Condition # 5.7	Post-construction and after completion of mitigation	Permittee	
47	DFG accepts the Final Mitigation Report as complete.	ITP Condition # 4.14	Post-construction	Department of Fish and Game	

Attachment 2

RECOMMENDED SPECIFICATIONS FOR DESERT TORTOISE EXCLUSION FENCING September 2005

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

FENCE CONSTRUCTION

Materials

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

Retrofitting Existing Livestock Fence

Option 1 (see enclosed drawing)

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

Option 2 (see enclosed drawing)

In situations where burying the fence is not practical because of rocky or undigable substrate, the fence material should be bent at a 90° angle to produce a lower section approximately 14 inches wide which will be placed parallel to, and in direct contact with, the ground surface; the remaining 22-inch wide upper section should be placed vertically against the existing fence, perpendicular to the ground and attached to the existing fence with hog rings at 12 to 18-inch intervals. The lower section in contact with the ground should be placed within the enclosure in the direction of potential tortoise encounters and level with the ground surface. Soil and cobble (approximately 2 to 4 inches in diameter; can use larger rocks where soil is shallow) should be placed on top of the lower section of fence material on the ground covering it with up to 4 inches of material, leaving a minimum of 18 inches of open space between the cobble surface and the top of the tortoise-proof fence. Care should be taken to ensure that the fence material parallel to the ground surface is adequately covered and is flush with the ground surface.

New Fence Construction

Options 1 or 2 should be followed except in areas that require special construction and engineering such as wash-out sections (see below). T-posts should be driven approximately 24 inches below the

ground surface spaced approximately 10 feet apart. Livestock wire should be stretched between the T-posts, 18 to 24 inches above the ground to match the top edge of the fence material; desert tortoise-proof fencing should be attached to this wire with hog rings placed at 12 to 18-inch intervals. Smooth (barb-less) livestock wire should be used except where grazing occurs. If fence is constructed within the range of bighorn sheep, two smooth-strand wires are required at the top of the T-post, approximately 4 inches apart, to make the wire(s) more visible to sheep. A 20 to 24-inch gap must exist between the top of the fence material and the lowest smooth-strand wire at the top of the T-post. The lower of the top two smooth-strand wires must be at least 43 inches above the ground surface. (72-inch T-posts: 24 inches below ground + 18 inches of tortoise fence above ground + 20 to 24-inch gap to lower top wire + 4 inches to upper top wire = 66 to 70 inches).

INSPECTION OF DESERT TORTOISE BARRIERS

The risk level for a desert tortoise encountering a breach in the fence is greatest in the spring and fall, particularly around the time of precipitation including the period during which precipitation occurs and at least several days afterward. All desert tortoise fences and cattleguards should be inspected on a regular basis sufficient to maintain an effective barrier to tortoise movement. Inspections should be documented in writing and include any observations of entrapped animals; repairs needed including bent T-posts, leaning or non-perpendicular fencing, cuts, breaks, and gaps; cattleguards without escape paths for tortoises or needed maintenance; tortoises and tortoise burrows including carcasses; and recommendations for supplies and equipment needed to complete repairs and maintenance. All fence and cattleguard inventories should be inspected at least twice per year. However, during the first 2 to 3 years all inspections will be conducted quarterly at a minimum, to identify and document breaches, and problem areas such as wash-outs, vandalism, and cattleguards that fill-in with soil or gravel. GPS coordinates and mileages from existing highway markers should be recorded in order to pinpoint problem locations and build a database of problem locations that may require more frequent checking. Following 2 to 3 years of initial inspection, subsequent inspections should focus on known problem areas which will be inspected more frequently than twice per year. In addition to semi-annual inspections, problem areas prone to wash-outs should be inspected following precipitation that produces potentially fence-damaging water flow. A database of problem areas will be established whereby checking fences in such areas can be done efficiently.

REPAIR AND MAINTENANCE OF DESERT TORTOISE BARRIERS

Repairs of fence wash-outs: (1) realign the fence out of the wash if possible to avoid the problem area, or (2) re-construct tortoise-proof fencing using techniques that will ensure that an effective desert tortoise barrier is established that will not require frequent repairs and maintenance. Gaps and breaks will require either: (a) repairs to the existing fence in place, with similar diameter and composition of original material, (b) replacement of the damaged section to the nearest T-post, with new fence material that original fence standards, (c) burying fence, and/or (d) restoring zero ground clearance by filling in gaps or holes under the fence and replacing cobble over fence constructed under Option 2. Tortoise-proof fencing should be constructed and maintained at cattleguards to ensure that a desert tortoise barrier exists at all times. All fence damage should be repaired in a timely manner to ensure that tortoises do not travel through damaged sections. Similarly, cattleguards will be cleaned out of deposited material underneath them in a timely manner. In addition to periodic inspections, debris should be removed that accumulates along the fence. All cattleguards that serve as tortoise barriers should be installed and maintained to ensure that any tortoise that falls underneath has a path of escape without crossing the intended barrier.

**GUIDELINES FOR HANDLING DESERT TORTOISES
DURING CONSTRUCTION PROJECTS**

July 1994
(Revised July 1999)

prepared by:

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prepared for:

U.S. Fish and Wildlife Service
U.S. Bureau of Land Management
California Department of Fish and Game
Nevada Department of Wildlife
Arizona Game and Fish Department
Utah Division of Wildlife Resources

Warning: These Guidelines do not authorize individuals to handle tortoises. Such authorization should come from Federal and State wildlife resource agencies, including, at least, those listed above.

GUIDELINES FOR HANDLING DESERT TORTOISES DURING CONSTRUCTION PROJECTS

Developed by the Desert Tortoise Council

Handling of desert tortoises and other forms of "take" (includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) are prohibited by section 9 of the Endangered Species Act of 1973, as amended. Desert tortoise handling can only be authorized through an incidental take statement in a biological opinion, an incidental take permit (section 10(a)(1)(B) permit), or a scientific collecting permit (section 10(a)(1)(A) permit). The regulatory document(s) or permit(s) authorizing handling are the ultimate guides to how desert tortoises should be handled. We expect that these documents will often authorize handling in accordance with the following handling guidelines.

The following Guidelines have been reviewed and are based on information provided to the Desert Tortoise Council (DTC) by the U.S. Fish and Wildlife Service (Reno and Las Vegas, NV; Ventura and Carlsbad, CA; Phoenix, AZ; Salt Lake City, UT), California Department of Fish and Game (Chino and Long Beach, CA), Utah Division of Wildlife Resources (Cedar City, UT), Nevada Department of Wildlife (Las Vegas, NV), Arizona Game and Fish Department (Phoenix, AZ), U.S. Bureau of Land Management (Saint George, UT; Riverside, CA; Phoenix, AZ), several private consultants, and other individuals. Individuals contacted to develop and/or review these Guidelines are listed in Attachment 1.

The Guidelines are intended for use during construction projects monitored by authorized biologists (tortoise monitors) who are working on behalf of a project proponent in the absence of special regulatory requirements, such as a 10(a)(1)(A) scientific collecting permit. The Guidelines will be helpful to tortoise monitors performing clearance surveys and construction monitoring where tortoises need to be moved out of harm's way. They are intended to be used in coordination with U.S. Fish and Wildlife Service (USFWS) Biological Opinions issued to federal action agencies (e.g., U.S. Bureau of Land Management (BLM), U.S. Army Corps of Engineers, etc.), and state agency documents for state-authorized actions. Although useful information is provided, the Guidelines are **not** intended to replace scientific research project methodologies for handling and processing tortoises.

These Guidelines do not authorize tortoise handling. Depending on the project, responsible federal and state agencies review a person's résumé and authorize him/her to handle tortoises. These Guidelines are provided for tortoise monitors already authorized, or who hope to be authorized, by federal and state agencies. The DTC assumes that such monitors are qualified to handle and process tortoises. These Guidelines include methods and alternatives that are effectively used by professional tortoise researchers to safely handle tortoises in the field. The DTC believes that tortoise handling should be an evolving process, continually updated to include the latest, most effective and efficient methods for safe handling. A wealth of information is already available, and these Guidelines provide that information to construction monitors.

A sequential checklist for use in the field is included (section **F**). When necessary, the checklist should be cross-referenced with the Guidelines for more detailed information. The inexperienced monitor should use the checklist as a reminder of steps to be taken when handling and processing tortoises, and should be completely familiar with the Guidelines **before** handling tortoises. The experienced monitor may also gain useful information from these Guidelines.

You are encouraged to submit comments on these Guidelines to the USFWS and the DTC. In subsequent years, the DTC will work with the USFWS, using your input, to ensure that the Guidelines are revised to incorporate new information and techniques.

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GUIDELINES FOR HANDLING DESERT TORTOISES

A. PRELIMINARY STEPS

A.1. Federal and state authorizations

Once you are selected by a project proponent to monitor construction, your résumé is typically submitted to the nearest field office of the USFWS at least 15 days prior to construction. You may also need to submit your résumé to the federal action agency (i.e., the federal agency with whom the USFWS has consulted under Section 7 of the Act) and state wildlife agencies. Within the State of Utah, any individual (including any qualified biologist) must obtain a section 10(a)(1)(A) permit from the USFWS to be authorized to handle desert tortoises. Within the States of Arizona, California, Nevada, and Utah, individuals must obtain the appropriate permits from the respective State wildlife agency to be authorized to handle tortoises. If your résumé has not been previously accepted by the responsible agency(s), you should not assume that you are approved until you have written or verbal confirmation from them. After you are authorized, you must read and comply with any federal and state regulatory documents for the project.

A.2. Specific requirements for monitors

The USFWS requires that you observe field demonstrations for egg handling or artificial burrow construction before performing either of these activities. Since 1993, the DTC has arranged for USFWS-authorized biologists to demonstrate these procedures at its annual workshop. Those observing the demonstrations were given certificates. Such demonstrations may be available at future DTC workshops, depending on demand.

The USFWS distinguishes between desert tortoise biologists and environmental monitors as follows: Biologists should (a) possess a bachelor's or graduate degree in biology, ecology, wildlife biology, herpetology, or related fields; (b) demonstrate a minimum of 60 days prior field experience using accepted resource agency techniques to survey for desert tortoises; and (c) have the ability to recognize and to accurately identify and record all types of desert tortoise sign. Generally, only qualified biologists, and not environmental monitors, may handle tortoises. Environmental monitors may handle tortoises in emergency situations, but only if they have explicit authorization to do so by the appropriate office of the USFWS.

A.3. Sequential numbering scheme

Prior to beginning the project, you should contact the USFWS and/or other regulatory agency to determine if tortoises are to be marked for your project. In California, the BLM and United States Geological Survey - Biological Resources Division (USGS - BRD) assign tortoise numbers that are used by scientists to mark tortoises on study plots located throughout the Mojave and Colorado Deserts. If your project is near one of these plots, it is important that you contact the appropriate offices of the BLM and USGS - BRD before marking tortoises to ensure that your numbers will not be confused with those used by the federal agencies.

A.4. Examples of numbering schemes

If tortoises are to be marked, they should be identified by project initials and numbers. Examples include: (a) initials of the project followed by a sequential number; (e.g., "MB1" for the first tortoise marked on the Morongo Basin Pipeline project, "MB2" for the second, etc.); (b) initials of the monitoring organization followed by a sequential number; (e.g., "DTC1" for the first tortoise marked by the Desert Tortoise Council on a project, "DTC2" for the second, etc.).

A.5. Getting organized

The materials that you are likely to need for handling tortoises are listed in Attachment 2. Many researchers organize their materials so that they have a "tortoise handling kit for the field," "tortoise handling kit for the truck," "burrow excavation kit," "tortoise marking kit," etc. In any case, it is important that you have all the materials that you need to safely and quickly handle tortoises. It is equally important that you be organized and ready to handle tortoises expeditiously when they are found.

B. IN THE FIELD

While monitoring construction, you will observe tortoises either aboveground or in burrows. When aboveground, tortoises should only be moved if in harm's way. If not, do not handle them, but monitor them to ensure that they are not adversely affected by construction. Depending on the circumstances, tortoises that are beneath machinery, in trenches or pipes, under pallets, or anywhere within the right-of-way may be in danger and need to be moved. If they must be moved, use the appropriate recommendations in these Guidelines to ensure safe handling.

You will also find tortoises in burrows in areas where they will be harmed if not moved. The following sections advise you on how to handle such tortoises.

B.1. Prior to excavating burrows

B.1.a. Determining if burrows should be excavated - According to most agency documents, tortoise burrows are excavated only if they occur within a construction right-of-way, in an area to be cleared of vegetation, or in areas that will not be cleared, but will be negatively impacted by heavy equipment, such as staging areas and turnarounds. The agency document typically requires that such areas be flagged and that construction activities be confined to those areas.

If a tortoise burrow is inside the designated construction area and will be damaged or destroyed, excavate it. Spider webs, litter, and other debris may accumulate in burrow openings overnight, and openings may collapse during winter rains. Do not assume that a burrow is inactive if it looks unused or collapsed. Tortoises may use canid or mustelid digs, and may be found in burrows of other animals, particularly kit foxes. Burrowing owls may use tortoise burrows, but do not assume that burrows occupied by owls are not also occupied by tortoises. Juvenile tortoise burrows may resemble rodent burrows, or juveniles may be inside such burrows. Therefore, excavate **all** burrows that will be lost to construction. If a burrow opening is outside the construction area, but a tortoise at the end of the burrow may be within the area, excavate it. Remember that a burrow may extend 30 feet beyond the opening.

B.1.b. Describing burrows - When possible, we recommend that you take measurements of the burrow before excavating it. The information should be recorded in your field notebook, and, if a tortoise is present, would be transferred to the data sheet (section **E.**). Measure the width and height just inside the opening of the burrow, the length (in many cases you cannot measure the length until you are finished excavating the burrow), determine burrow orientation using a compass, and record its condition using the categories given below. We recommend that you use permanent black ink and high rag content, acid-free paper for recording data. The following categories may be used to describe the conditions of burrows (U.S. Fish and Wildlife Service 1992):

- Class:**
1. currently active, with tortoise or recent tortoise sign
 2. good condition, definitely tortoise; no evidence of recent use
 3. deteriorated condition; definitely tortoise (please describe)
 4. good condition; possibly tortoise (please describe)
 5. deteriorated condition; possibly tortoise (please describe)

B.1.c. Other considerations - Depending on the time of year and other conditions (*B.5.c.ii.*) you may need to construct a burrow **before** you remove a tortoise from its natural burrow. Recommended techniques for burrow construction are discussed in section *B.5.f.*

B.2. Mapping burrows

If a burrow is to be excavated, there are several important reasons for mapping it: (a) resource agencies can determine how many tortoises were encountered on the project compared with the number of burrows excavated; (b) the information will be available for future projects in the same area; (c) burrow locations may be important for organizing monitors and determining tortoise "hot spots" versus areas where few, if any, tortoises are found; and (d) the number and location of burrows found during initial tortoise surveys can be compared with the number and location of burrows found during monitoring; (i.e., the data may provide information to determine appropriate take limits based on the findings of initial surveys). Typically, the USFWS requires that the number of tortoises observed during construction be reported. Mapping the information will show the location of the tortoises. Some monitoring supervisors require that all tortoise sign be mapped. If an artificial burrow is used, we recommend that it be accurately mapped. If the burrow is blocked (section *B.5.f.i.*), it is essential that you map it and mark it in the field so you can find and unblock it later.

B.3. Map types

When you map burrows, we recommend that they be numbered and shown on maps of appropriate scale. If monitoring a linear right-of-way, it often helps to number burrows sequentially within a given section of the alignment (e.g., "B-23-2," for burrow #23 on reach 2). Mapping is important if many monitors are locating, numbering, and mapping burrows simultaneously. United States Geological Survey (USGS) 7.5' topographical maps (scale 1" = 2,000'), or enlargements of them, are useful. Project maps at a scale of 1" = 100' or 1" = 200' are particularly useful when burrows are common and better resolution is necessary. The assigned numbers may be cross-referenced with data sheets, field notes, and photographs.

B.4. Excavating burrows

B.4.a. Looking for eggs - Feel for tortoise eggs by gently probing the soil in front of the burrow opening (i.e., the mound) and along the floor as you excavate the burrow. Eggs have been found up to six feet in front of burrow openings and up to six feet within the entrance of a burrow; they may occur in the mound at the burrow opening. To avoid crushing eggs, do not scrape the shovel across the bottom of the burrow, but continue to probe the area with your fingers as you proceed. Removal of the top ten inches of soil (or until a hard layer of soil is encountered) will typically ensure that you find any tortoise eggs. Be particularly careful between late April and mid-October when eggs are most likely present. If found, follow the USFWS's egg handling protocol (Attachment 3). Although not included in the protocol, we strongly recommend that you wear disposable latex gloves when handling eggs.

B.4.b. Excavating burrows - We recommend that monitors wear leather or cloth gloves during burrow excavation to avoid being bitten or stung by venomous animals. Blunt-nosed shovels or garden trowels are useful. If available, two monitors, each with a shovel, may excavate a burrow. One person may place his/her shovel in the burrow entrance and the other person, using a similar shovel or spade, would slice away the ceiling. Excavate the burrow slowly and carefully and stop often to see if a tortoise is within reach. It may take several minutes or several hours to excavate a tortoise burrow, depending on its length and other characteristics.

If you are the only monitor present, we recommend the following. Depending on the size and depth of the burrow, carefully slide an appropriate-sized plank six inches to two feet into the opening. You could use a 1" x 2" plank for smaller burrows and a 2" x 4" plank for larger burrows. Gradually collapse the burrow onto the plank, and remove the soil from the burrow tunnel as you go. Do not collapse the burrow ahead of the plank. You should feel the shovel contact the plank with each stroke. In this way, you will avoid striking a tortoise with the shovel. Alternatively, you may use a second shovel instead of the plank, which will facilitate removing soil from the burrow as you collapse it.

B.4.c. Finding and removing all tortoises - Regardless of the excavation method, you should always excavate the burrow to its absolute end(s), then excavate an additional foot-or-so of harder soil beyond the suspected end to ensure that a tortoise is not behind a dirt "plug" or mound. Search all side tunnels within the burrow for tortoises, especially in kit fox dens. If a tortoise is found, do not assume that it is alone. After removing the first tortoise encountered, you should return to the burrow and continue to excavate it looking for additional tortoises. After excavating the burrow, leave it collapsed so that no tortoise may reuse it easily.

B.5. Finding tortoises in burrows

B.5.a. Taking temperature readings - When a tortoise is encountered during burrow excavation, we recommend that you stop digging and check and record the air temperature [thermometer shaded at 1.5 m (4.9 ft) above the ground] and ground temperature [thermometer shaded at 1.0 cm (0.4 in) above the ground].

B.5.b. Deciding if tortoises should be processed - Data collected in a consistent manner during construction projects will be useful to resource agencies developing mitigation measures for future projects. However, the health of a tortoise is your number one priority. Only process a tortoise (i.e., weigh, measure, sex, and photograph it; section **B.7.**) if the situation allows you to do so without harming it or neglecting additional tortoises that may enter the construction site. If you are unable to do more than move a tortoise out of harm's way and monitor it to ensure its safety, you have done your job. Skip section **B.7.** if the situation is not right for processing a tortoise. The following sections discuss situations where you should or should not process tortoises.

B.5.c. Specific considerations before processing tortoises

B.5.c.i. Tortoise temperature preferences - The preferred daytime body temperature of desert tortoises is 69 °F to 101 °F (McGinnis and Voigt 1971). The critical maximum body temperature is between 103 °F and 112 °F (Brattstrom 1965, Naegle 1976). Berry and Turner (1984) found that juvenile tortoises preferred air temperatures of 63 °F to 66 °F during March, and 77 °F to 83 °F during June. Consequently, more juvenile tortoises were located in the morning (76.1%) than in the afternoon (23.9%). USFWS (1991) requires that measures be taken to ensure a tortoise does not overheat if it is processed when air temperature exceeds 90 °F at 1.5 m above the ground or if ground temperature exceeds 95 °F. Unless detailed processing (i.e., weighing, measuring, and photographing tortoises) is specifically required by federal or state agencies, we recommend that tortoises **not** be completely processed when air temperature exceeds 90 °F or ground temperature exceeds 95 °F. Under such conditions, the tortoise should be only inspected (section *B.7.d.*, *B.7.e.*, *B.7.f.*), marked (section *B.7.g.*), and released (section *B.8.*).

B.5.c.ii. Other considerations - Based on the time of year and other conditions, we make the following recommendations to help you decide if tortoises should be processed. In this section, we assume that (1) you are authorized to handle tortoises during the authorized construction project, and (2) the tortoise must be moved out of harm's way regardless of extreme weather conditions or other potentially threatening situations.

B.5.c.ii.(a). During hot temperatures - When air temperature is greater than 90 °F or if the ground temperature is greater than 95 °F at the time you find a tortoise in a burrow that must be excavated, we recommend that you only inspect, mark, and release the tortoise (section *B.5.c.i.*); construction of an artificial burrow may be necessary (*B.5.f.*). If possible, only excavate burrows and remove tortoises when temperatures do not exceed these limits. If a tortoise is found aboveground when these upper temperatures are exceeded, and the tortoise must be moved from harm's way, place it in the shade of a shrub, ideally in the vicinity of a nearby burrow of similar size (*B.8.a.*).

B.5.c.ii.(b). During cold temperatures - When tortoises are likely inactive (section *B.5.e.*), prior to removing them from their burrows, construct an artificial burrow and place the tortoise inside after it has been processed. The USFWS requires that you receive written permission from the private land owner if a tortoise is to be placed on private property.

B.5.c.ii.(c). At or near sunset - If a tortoise with a midline carapace length (MCL) (section *B.7.h.*) less than or equal to 180 mm is rescued from the construction site at or near sunset, we recommend that it be held overnight in a clean, unused cardboard box and released the next morning near the capture site. A larger tortoise (i.e., MCL greater than 180 mm), which may be less prone to predation than a juvenile tortoise, does not need to be held overnight, but should be released under a shrub (section **B.8.** for more information on releasing tortoises). We recommend that the tortoise be monitored until it resumes normal behavior, "settles in" for the night, or until you are no longer able to watch it due to darkness. In such a situation, we recommend that you be at the release site at or before sunrise the next morning to look for and continue to monitor the tortoise.

B.5.c.ii.(d). If tortoises are seriously ill - If a tortoise has prevalent signs of Upper Respiratory Tract Disease (section *B.7.d.iv.*) or hyperthermia (section *B.6.a.i.*), or otherwise appears to be seriously ill, we recommend that you construct a burrow, place the tortoise inside, block its entrance (section *B.5.f.i.*), and call the USFWS or the action agency to inform them of the situation. If you are unable to reach the appropriate agency for further instruction, check the tortoise on the next day(s), continue to record observations on its health, and contact the agency as soon as possible.

B.5.c.ii.(e). Other situations - There will be times when you will be required to exercise judgment on the appropriate disposition of a tortoise. For example, if you are the only monitor on a pipeline project in an area of high tortoise density, you would not likely process tortoises because other tortoises may wander, unseen, into harm's way while you were doing so. You may put an "excavated" tortoise in an artificial, plugged burrow until pipe installation has moved out of the area. Use your common sense, and always keep the welfare of the tortoise in mind.

B.5.d. Transporting tortoises

B.5.d.i. Use a box - There are a few situations where a tortoise may be taken from the field, held overnight, and then released the next morning. We recommend that during transport each tortoise remain in a clean, unused cardboard box that is covered or closed. Newspaper placed in the bottom will absorb any urine that is voided. The box should be ventilated in such a way that a tortoise's leg or head will not get stuck. Never put more than one tortoise in a box. Do not allow tortoises to roam freely in the vehicle, nor should they be transported in shopping bags or other containers less sturdy than a new cardboard box. Mark the box or discard it immediately after use to be sure that it is not used for another tortoise.

B.5.d.ii. Precautions - Never place tortoises over the catalytic converter or other area that becomes hot with vehicle operation. Truck beds or floorboards should be padded and travel should be at speeds that minimize vibrations or shifting of the box. A tortoise should never be left unattended in a vehicle. During summer months, desert tortoises may be transported in an air conditioned vehicle as long as they are in a covered cardboard box and the vehicle interior temperature is maintained between approximately 75 °F and 80 °F. If a tortoise is taken during the winter inactivity period, it should be maintained at approximately 55 °F, which will be less stressful to it than much warmer temperatures, and may allow it to remain in a physiological state of hibernation.

B.5.e. Preliminary steps to handling tortoises - When a tortoise is encountered, stop digging. If it is during the tortoise inactivity period (i.e., typically during July and August, and between November and February, when tortoises are less likely found aboveground; in Arizona the inactivity period may begin in late May or June), we recommend that you or another monitor construct an artificial burrow into which the tortoise will be placed after processing. If it is during the activity period (i.e., when tortoises are typically found aboveground between March and June and again between September and October), we recommend that you place the tortoise in the shade of a shrub, or depending on conditions (section *B.5.c.ii.*), in an artificial burrow.

In previous federal Biological Opinions, the USFWS has recommended that a tortoise removed from its burrow be placed in a similar-sized burrow found in the area. We do not recommend this for the following two reasons: (a) there is the possibility of exposing a clinically healthy tortoise to URTD or another pathogen in the similar-sized burrow; and, (b) burrows are often too deep to tell if a resident tortoise is already in the burrow, and placing the "excavated" tortoise into an occupied burrow would result in stressing both tortoises. Therefore, if conditions are appropriate (section *5.c.ii.*), we recommend that the tortoise be placed *beside* a burrow of similar size or be placed in an artificial burrow as described below.

B.5.f. Constructing burrows - A reasonable amount of time to create an artificial burrow is from 30 minutes to several hours depending on the substrate. A suitable burrow may be created in several minutes using a gas-powered auger.

B.5.f.i. The "traditional method" - An artificial burrow is intended to provide immediate shelter and protection to a tortoise that was hibernating or aestivating when you removed it from its natural burrow. The following are guidelines to assist artificial burrow construction (after Tortoise Group 1994). The USFWS requires that you observe a field demonstration before constructing a burrow.

Dig a burrow that is (a) roughly the same orientation and size as the burrow from which the tortoise was taken, (b) six feet long, and (c) slanted downward about 15 to 20° below the horizontal line of the ground. Next, slide the plywood top onto the shelf. Avoid knocking dirt into the tortoise crawl space by inserting the plywood onto the three-sided shelf from the front end of the burrow. Do not drop the plywood onto the burrow from above. Once you are sure the plywood fits snugly, remove the plywood, smooth out the bottom of the burrow, and be sure that it will accommodate the tortoise. Loosen the soil along the floor of the crawl space to a depth of six inches to allow a tortoise to dig its way out should the plywood sag and possibly trap or pin it in the burrow. Replace the plywood and shovel dirt on top. Mound the dirt so that rain water will not puddle on top of the finished burrow.

We recommend that you cover the opening of the artificial burrow with rocks or wood for two or three days to ensure that the tortoise remains within the burrow and out of harm's way, or that it resumes hibernation or aestivation. This is particularly important if most of a tortoise's burrows have been lost to construction and it would be unable to find an existing burrow in a reasonable amount of time. After several days, when construction activities have left the area (i.e., as on a pipeline or transmission line), or when you are reasonably sure that the tortoise is safely hibernating or aestivating, **it is absolutely essential that you remove the rocks from the opening of the blocked burrow.**

B.5.f.ii. Another method - EnviroPlus (Goodlett 1992) has found that a safe burrow can be created quickly using a gas-powered auger. They have observed wild tortoises voluntarily enter these burrows shortly after they are made. Different-sized augers are available to create burrows for juvenile or large adult tortoises. With an extension, the burrow can be dug to a depth of about five feet. Using an auger, you can make a burrow that meets the criteria suggested above for a traditional burrow.

B.5.f.iii. Mapping and finding blocked burrows - If you block a tortoise inside a burrow, you must find that burrow in a few days to unblock it. Accurately map the burrow so that you can find it again. Additionally, we recommend that you mark the area. For example, Tierra Madre Consultants (LaRue 1993) marks burrows with lath or ribbon placed a standard distance and direction from each burrow. A cryptic message is written on the lath to show burrow location: "B23-2100FTS," to indicate that "Burrow #23 on Reach 2 is 100 feet south of the lath." The area must be discreetly marked to avoid attracting people or ravens to the burrow.

B.6. Handling tortoises

B.6.a. Precautions while handling tortoises

B.6.a.i. Avoiding hyperthermia - Do not expose a tortoise to direct sunlight. Keep it in the shade of your body, a shrub, a truck, etc. Remember that ground temperatures are much hotter than air temperatures. You should not place a tortoise on the hot ground, but may remove the top several inches of hot sand to expose a cooler layer below. Indications of hyperthermia may include aggressive struggling by the tortoise, a tortoise hot to the touch, frothing at the mouth (i.e., excessive salivation), or voiding of the bladder. The critical maximum body temperature for desert tortoises is between 103 °F and 112 °F (Brattstrom 1965, Naegle 1976).

If an animal begins frothing at the mouth (i.e., salivating excessively) it is probably nearing a lethal body temperature and immediate action is required: (a) if already constructed, place the tortoise in the artificial burrow, or create a pallet burrow in the shade of a bush and place the tortoise inside; (b) pour water on the ground beneath a shrub and place the tortoise in the shade on the water; (c) pour tepid (approximately 68-95 °F) water over the shell and/or wipe the skin and shell with a wet cloth; and, (d) if an air conditioned vehicle is available, place the tortoise into a box and take it into the cool vehicle (section *B.5.d.ii.*). Heat-stressed tortoises should not be released until they resume normal behavior. They should be monitored after release.

B.6.a.ii. Avoiding transmission of Upper Respiratory Tract Disease - At all times, you should handle a tortoise as if it has URTD, and in such a way that you will not transmit the disease from one tortoise to another. Much of the following information was developed by Dr. Kristin Berry (Berry 1993, 1988).

B.6.a.ii.(a). Treating clothing - Do not allow a tortoise to contact your clothing. If it does, change your clothes before handling another tortoise. Contaminated clothes should be washed before you wear them again while handling tortoises. It is advisable to have a change of clothes on-hand. Change your clothes, including your shoes, before leaving the site for another geographical region; (e.g., another valley or mountain range would be considered a separate region). Dipping the bottoms of your shoes into a sterilizing solution [section *B.6.a.ii.(d).*] or wiping them with a rag dipped in the solution may be sufficient for the shoes to be worn at another location. When visiting multiple sites on a single trip, always visit sites with known occurrence of URTD last. This will minimize the probability of spreading disease.

B.6.a.ii.(b). Treating vehicles - The USFWS recommends that you wash vehicle undercarriages and tires prior to traveling from a site where URTD is known or expected to occur to a site where URTD has not been reported. With appropriate planning, you should be able to accomplish this task.

B.6.a.ii.(c). Treating processing implements - The tips of calipers, which contact tortoises during shell measurements (section *B.7.h.*), may be covered with material to avoid direct contact with a tortoise and therefore contamination of the calipers. However, as with all other implements not directly contacting a tortoise, handling a tortoise, then handling the calipers results in contamination, and we believe that the instrument should be sterilized even if the tips are "protected." Alice Karl, who has handled tortoises for many years, only touches a tortoise with one hand, leaving the other one free and uncontaminated to handle the implements and record the data (personal communication, 6 August 1993). In such a case, the covered caliper tips are sufficiently protected. A metal or plastic rule may be used to measure the plastron (section *B.7.h.*), but do not use wooden rules, which are too porous and cannot be properly sterilized. Although using a file to notch tortoises is not used for construction monitoring, if a researcher uses this technique (only with prior approval from the USFWS), the file should also be sterilized before use on another tortoise.

B.6.a.ii.(d). Sterilizing solutions - The USFWS requires that you sterilize all materials that contact a tortoise in one of the following solutions: (a) 95% isopropyl alcohol, (b) 95% ethyl alcohol, or (c) 25% solution of chlorine bleach and water. However, given that the organism is now known to be a mycoplasma, Berry (personal communication, 1 March 1994), citing discussions with Dr. Elliot Jacobson, indicated that of these three solutions, only bleach would be effective against the organism. All implements should be soaked in the solution for at least 20 minutes prior to using them on a different tortoise.

B.7. Processing tortoises

Processing a tortoise (i.e., weighing, measuring, sexing, and photographing it) should only be done by experienced monitors. If you have never handled or processed a tortoise, we recommend that you obtain experience before doing so in the field. Careful practice on pet tortoises, or observing more experienced biologists handling tortoises in the field, are recommended. Experts say that with practice you should be able to process a tortoise in 15 - 20 minutes. We do not recommend that you process a tortoise if the temperature is too hot, or if there is a chance that a second tortoise may be endangered while you are processing the first one. If processing a tortoise will endanger it or other tortoises, or if you have little or no experience in processing tortoises, skip this section and continue with section **B.8.**

B.7.a. Maintaining sterile conditions - Before touching a tortoise, the USFWS requires that you put on clean latex disposable gloves, and that you have them on during the entire process. Even if you do not process the tortoise, but only move it out of harm's way, you should wear gloves. We recommend that if a glove is torn while handling the tortoise, which is likely when its toenails scrape the glove, you should put a new glove on over the torn one. Once used, disposable materials such as latex gloves, t-shirt bags, or surveyor's tape (section *B.7.b.*) must be disposed of promptly. We recommend that each monitor have a garbage bag on hand, and that disposable materials be placed in the bag immediately after use. For non-disposable materials, the USFWS requires that each item be sterilized before it is used on a separate tortoise [section *B.6.a.ii.(c).*]. Additional recommendations and USFWS requirements are given in subsections of section *B.6.a.ii.*

B.7.b. Weighing tortoises - If the situation allows, you may weigh a tortoise. Experts recommend weighing a tortoise immediately after it is removed from the burrow. This way you have a true weight should the tortoise void its bladder, and can weigh it afterwards to determine how much fluid has been lost. One reason for weighing a tortoise is to determine if it is underweight, which may be one sign that it has URTD or another disease.

B.7.b.i. Using spring scales - If you are using a spring scale, a plastic grocery bag, cotton string, or surveyor's tape may be used to suspend the tortoise from the scale. If you use string or surveyor's tape as a sling, be sure that the material is strong enough to support the tortoise. The tape may be doubled for use with very heavy tortoises. Smaller tortoises may be placed inside a grocery bag or ziplock bag and weighed. Larger tortoises can be weighed by making a sling with one loop of the bag placed posterior to its forelimbs and the other loop placed anterior to its hindlimbs. Never suspend a tortoise far from the ground; suspend the tortoise over sand rather than large rocks; keep weighing time to a minimum; and take every precaution to prevent the tortoise from falling.

The following scale sizes are recommended: (a) 0 to 100 g scale with a 1.0 g precision for small tortoises, (b) 1 kg scale with a 10 g precision for moderate-sized tortoises, and (c) 5 kg scale with a 50 g precision for large tortoises. *Pesola* brand spring scales have been recommended. It is best to use the smallest scale that will accommodate the weight of a tortoise. Occasionally a tortoise will weigh more than 5 kg; mark that information on the data sheet. Keep scales clean. When weighing a tortoise, hold the ring at the top of the scale to ensure that the scale is suspended vertically and the correct weight is being taken. Record the information on the data sheet. Note: Some researchers use electronic *Mettler* scales or *Chantillon* balances for more accurate weights.

B.7.c. Immobilizing tortoises

B.7.c.i. Using coffee cans - A desert tortoise may be placed on the top of a coffee can or other large can to facilitate observations and measurements as described in the following sections. The can should be large enough to support the tortoise and small enough to prevent any waving appendages from touching the can. (Note that coffee cans come in several sizes and can be "nested" in one another for ease of transport and for handling different-sized tortoises). Freedom to move its appendages may encourage a tortoise to extend its head, which allows you to observe the eyes, nares, chin glands, and beak where most signs of URTD are observed. The can must be sterilized before using it with another tortoise, or you may place waterproof plastic, such as a baggy, on top of the can, the tortoise on top of the plastic, and discard the plastic afterwards.

B.7.c.ii. Using towels - A tortoise may be held on a clean cloth between your knees as you kneel. Use your body to shade the tortoise during processing. You may scrape away the hot, upper surface of the soil down to a cooler level onto which you can place the towel and the tortoise. While holding the tortoise firmly between your knees, carefully press down on its back to immobilize it. The cloth prevents direct tortoise contact with your clothing, but may not prevent urine or nasal exudate from soaking through the towel and contaminating your clothes. If this happens, you should change your clothes before processing another tortoise. In either case, the cloth must be soaked in a disinfecting solution and laundered before it can be used on another tortoise. Disposable baby changing sheets have been suggested in place of cloth towels.

B.7.d. Observing tortoises - If the situation allows, we recommend that you observe a tortoise and record ectoparasites, shell lesions, signs of osteoporosis or osteomalacia, injuries, and evidence of URTD. Much of this information is taken from Berry (1993, 1988).

B.7.d.i. Ectoparasites - Potentially encountered parasites of tortoises include adobe tick (*Ornithodoros turicata*), mites (*Trombicula* sp.), and bot fly larvae (Family: Cuterebridae). In some areas, ticks are the most common parasite observed on wild tortoises. They generally adhere to the growth areas between scutes, particularly on rear marginal scutes. If present, mites will be found on the skin. Bot fly larvae would appear as a large swelling or bulge (1.0 - 1.5 cm long) on the neck, leg, or tail. There will be a small hole through which you may observe the larva. Experts recommend that you do not try to remove parasites. Such unnecessary handling would likely injure and/or stress the tortoise. We recommend that the numbers and locations of each parasite be recorded on the data sheet.

B.7.d.ii. Shell lesions - There are many types of lesions, ranging from injuries caused by predators to diseases of scute and bone. The field worker should look for and record any observations on scute and bone irregularities, discoloration, apparent damage (healed or healing), open wounds, holes, pits, etc. Since we do not know much about shell diseases in the desert tortoise at this time, photographs and written descriptions will be very useful. See section **B.7.h.** for taking photographs of plastrons.

B.7.d.iii. Osteoporosis and Osteomalacia - These diseases can manifest themselves to the observer by depressed scutes and/or thinning scutes with exposed bone beneath. Some scute depression and thinning is part of the normal aging process of the shell, or may result from nutritional deficiencies or pathologies. It is recommended that the field worker photograph such conditions and record the information on the data sheet.

B.7.d.iv. Upper Respiratory Tract Disease - Tortoises may have this disease and not show any obvious sign of it. Therefore, **treat every tortoise as if it has URTD to avoid spreading the disease to healthy tortoises.** Observe all tortoises for the following signs of URTD: (a) wheezy, rattling breath; (b) clear to green mucous coming from the nostrils or dirt caked around the nostrils; (c) dirt caked on forelimbs due to mucous being rubbed there; (d) puffy eyes or eyes sunken and dull; (e) swollen, oozing chin glands; (f) lethargic, with legs or head listlessly distended from shell; etc. Very low body weight, lack of skin luster, or a dry mummified appearance may be evidence of URTD or another disease (Kristin Berry, personal communication, 2 February 1994). We recommend that these signs or abnormal behavior be recorded on the data sheet. Photo-documentation of signs of URTD is strongly recommended.

B.7.e. Recording distinctive features - If the situation allows, we recommend that you record on the data sheet diagram any marks or anomalies (e.g., unique morphological features, damaged limbs, damaged shell, manmade marks on the shell, etc.). Captive tortoises may be marked with paint, have initials carved in their carapaces, have holes drilled in their marginal scutes, or have raised centers on their carapace scutes due to abnormally high growth rates. Some anomalies may include irregular gulars, extra vertebral scutes (normal is five), paired or malformed costal scutes (normal is four on each side), extra marginal scutes (normal is 11 on each side), or missing scutes. There may be too many or too few toes, or malformed toe nails. We recommend that you describe a tortoise in enough detail that another monitor would recognize it from your description. This information may be important to distinguish "problem" tortoises that persistently enter construction sites.

B.7.f. Sexing tortoises - If the situation allows, we recommend determining the sex of a tortoise if its midline carapace length (MCL) is greater than or equal to 180 mm (section *B.7.h.*); the sex of smaller tortoises is not easily, if at all, determinable. If the MCL is less than 180 mm, mark "sex unknown" on the data sheet. Generally, the following **male** characteristics may help differentiate them from females: (a) concave plastron; (b) longer, more curved gulars; (c) larger size; (d) longer, broader, more conical tail; (e) shorter, thicker toenails; and (f) larger, well-developed chin glands. For less experienced monitors, pay particular attention to the gular projection and the shape of the plastron, which are the two best characters for differentiating the sexes. For very large tortoises, you can feel the concave (male) or flattened (female) plastron or see it by holding the tortoise at eye level without turning the tortoise over on its back. When in doubt, record all other information and mark "sex unknown" on the data sheet.

B.7.g. Marking tortoises - If the situation allows and if you are required to mark a tortoise by painting an identification number on a scute, we recommend the following. Use a clean, sterile toothbrush to remove dirt from the left fourth costal scute, where the tortoise will be marked. If this scute is damaged, use the right fourth costal scute. The number is likely to last longer if placed on a rough, off-centered surface where shell-wear is less common, which is one reason only the fourth costal scutes are used for marking. Next, place a small dot (i.e., no larger than 1/4 inch diameter) of "white-out" or acrylic paint on the scute. Once the spot is dry, write the pre-arranged number on the spot using a waterproof, permanent black ink pen. Some biologists recommend using a capillary type technical pen with a point diameter of about 0.25 mm.

Allow the number to dry before applying epoxy. Devcon brand, five-minute epoxy has been recommended by some field-workers. It is advisable to mix the epoxy on a file card or piece of paper, then transfer the mixed epoxy to the number on the shell with something such as a toothpick, wooden coffee stirrer, or tongue depressor. Wait several seconds until the epoxy starts to thicken but is still liquid enough to spread over the numbered spot with ease. Cover the paint spot overlapping its edges just enough to seal the paint. **Never allow the epoxy to spill over onto the growth area, which occurs at the border between two scutes.** Anticipate this when applying the paint so there will be space for the epoxy to overlap the paint without entering the seams. It may be helpful to cover the margins of the scute with 1/2" wide masking tape before applying the epoxy, to ensure that the epoxy does not touch the growth area, especially on smaller tortoises. Record the assigned number on the data sheet.

B.7.h. Measuring tortoises - If the situation allows, while the epoxy is drying (be careful to avoid smearing the epoxy), we recommend that you measure the tortoise and record the following information on the data sheet: (a) carapace length at the midline (MCL), (b) plastron length from the gular notch to the anal notch (PLN), (c) width at the junction of the seventh and eighth marginal scutes (Width M7/M8), and (d) maximum height from the intersection of the abdominal and femoral scutes (i.e., at the junction of the two largest scutes on the plastron and the two immediately posterior) to the corresponding position on the carapace (Max height). The USFWS requires that all measurements be in millimeters. Use calipers for the most accurate measurements, or a plastic/metal rule as an alternative.

While taking measurements, tortoises are to be handled carefully. Do not turn the tortoise over to measure its plastron. This measurement can be made with the tortoise in an upright position. Mishandling may result in pulmonary edema, psychogenic shock, or intestinal torsion. If eggs inside a female are broken while you are handling her, she may die from egg yolk peritonitis.

B.7.i. Photographing tortoises - If the agency requires that you photograph processed tortoises, we recommend that you take the following color, **slide** photographs: (a) dorsal view of the carapace, (b) ventral view of the plastron, (c) the numbered scute, and (d) frontal view of the tortoise's face and forelegs. If the tortoise is too large for you to hold while taking a photograph of the plastron from the underside, do not take this photo. If present, have another monitor hold the tortoise while you take the plastral photograph. It is important that each object fill 80 - 90% of the frame and that the object be clearly focused. Kodachrome film has been suggested because the slides last longer with less discoloration than Ektachrome, for example. We recommend that the following information appear in the photograph: date, biologist's name, project name, and tortoise number. Two types of labels have been recommended:

(a) hold a small card adjacent to the tortoise so that the above information is clearly visible on the photograph without blocking the part of the tortoise being photographed; or,

(b) attach a 1/2" x 1/2", adhesive "Avery label" to the tortoise to allow for closer, more detailed photographs of the subject.

It is suggested that you keep a log of the photographs in your field notes (e.g., "Roll 1, Slide 23, carapace of Tortoise 4.") If you are inexperienced with photography, we recommend that you not photograph tortoises. If you are only somewhat experienced, we recommend that you shoot several test rolls of film prior to photographing tortoises in the field. Use only camera settings that produce the clearest slides. If available, we recommend that a second monitor take the photograph while you, the processor, hold the tortoise. We recommend that processed slides be labeled with the following information: date, biologist's name, project name, tortoise number, township, range, section, county, and state.

B.8. Releasing tortoises

B.8.a. Translocating tortoises - Once a tortoise has been processed, or moved out of harm's way, do not move the tortoise more than 1,000 feet from the collection site unless otherwise directed by the USFWS. You should carefully consider the situation before you release tortoises (section *B.5.c.ii*). The minimum distance from the edge of the construction zone that a tortoise can be translocated will be determined by its age and sex (different home range sizes), the presence or absence of tortoise-proof fencing around the perimeter of the construction zone, and the duration of the construction activity. The USFWS has required that tortoises removed from construction sites be placed in the shade of a shrub, in a natural unoccupied burrow, or in an artificial burrow (section *B.5*). We do not recommend that tortoises found aboveground be placed inside an artificial burrow, but rather released as described elsewhere (section *B.8.b*). Further, the DTC recommends that tortoises **not** be put into existing burrows for reasons given in section *B.5.e*. A tortoise should not be placed on private land without the written permission of the landowner.

B.8.b. Releasing tortoises

B.8.b.i. Temperature considerations - The USFWS requires that tortoises be released at a temperature that is suitable for activity, with reasonable expectation that the temperature will remain within the tortoise's thermal preference long enough for it to adjust to its surroundings. McGinnis and Voigt (1971) found the preferred daytime body temperature of tortoises to be 80.6 °F to 100.4 °F during July, and somewhat lower during May (section *B.5.c*). Some situations and recommended procedures are given in section *B.5.c.ii*.

B.8.b.ii. Discouraging urination - Many experts state that tortoises are most likely to urinate while being carried, and that the longer you handle them, the more likely they are to urinate. A tortoise may be more prone to void its bladder during drought conditions, which is also when water availability is at its lowest. You may discourage bladder voiding by pressing the tortoise's tail against its vent while you are carrying it. Also, press the tail against its vent if it starts to urinate. If it

does, record on the data sheet the quantity, color, and viscosity of the urine. If the tortoise has already been weighed, weigh it again to estimate the amount of lost fluid.

B.8.b.iii. Monitoring released tortoises - Upon releasing a tortoise, the USFWS requires: (a) that each tortoise be accompanied by an authorized monitor, (b) that each tortoise be monitored at the release site until it is exhibiting normal behavior, and (c) that there be no mass releases of animals.

C. FOLLOW-UP SUGGESTIONS

C.1. Caring for field supplies

Some of the materials you may use are very sensitive to desert conditions. Spring scales will register incorrect weights if they become clogged or rusty; surveyor's tape may become brittle and not support the weight of a tortoise; masking tape will dry up and be useless. It is best if you have well-maintained materials for handling tortoises. Non-disposable materials should be cleaned and sterilized between uses on different tortoises, and may need to be cleaned before using them at the beginning of a project if they have not been used in a long time. Care for field materials is equivalent to the care you can offer a desert tortoise.

C.2. Information sharing

The USFWS typically requires a follow-up report to construction projects authorized by their Biological Opinions. We recommend that each project be considered an opportunity to provide information to the resource agencies on the best ways to accomplish tortoise monitoring. We feel that a consistent approach to handling and processing tortoises and recording the data will ultimately benefit the conservation effort for the species. The DTC is very appreciative of the many individuals, representing many organizations, who have already shared information to develop these Guidelines. Their names are listed in Attachment 1, and they are to be commended for their invaluable input.

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DATA SHEET FOR HANDLING DESERT TORTOISES

Complete both sides of this data sheet when either a tortoise is moved out of harm's way, or a burrow is excavated and a tortoise found.

Project Identification

Date: _____ Project Name: _____ Monitor's Name(s) _____

Location: State: _____ County: _____

USGS quadrangle: _____ T: _____ R: _____ 1/4 of _____ 1/4 _____

Comments: _____

Project Description

Slope: _____ Aspect: _____ Elevation: _____

Topography

- _____ Flat
- _____ Small hills
- _____ Large hills
- _____ Small wash
- _____ Large wash
- _____ Bajada
- _____ Dune

Soil Type

- _____ Sandy loam
- _____ Blow sand
- _____ Gravel
- _____ Cobble
- _____ Caliche
- _____ Rocky
- _____ Pavement

Vegetation

- _____ Creosote bush
- _____ Saltbush scrub
- _____ Blackbrush
- _____ Desert wash
- _____ Joshua tree
- _____ Thorn scrub
- _____ Grassland

Location found

- _____ Burrow
- _____ Pallet burrow
- _____ Other
- _____ Under shrub
- _____ In open
- _____ Caliche cave
- _____ Rock shelter

Describe: _____

Tortoise Burrow Data

Time of excavation: Start: _____ End: _____ Burrow #: _____

Temperature during excavation (1.5m/1.0cm): Start: _____ End: _____

Burrow: Width: _____ Height: _____ Length: _____

Orientation: _____ Condition: _____

Burrow description/contents: _____

TORTOISE MEASUREMENTS AND OBSERVATIONS

Tortoise #: _____ Numbered Scute: _____ Tortoise Weight (g): _____ Sex: _____

Measurements (mm): MCL: _____ PLN: _____ Width M7/M8: _____ Max Height: _____

Photos Taken: Carapace: _____ Plastron: _____ Frontal: _____ Numbered Scute: _____

Comments: _____

Tortoise Health Profile (indicate the best description with an "x" in the appropriate space).

Nasal Description

- ____ Nostrils dry
- ____ Nostrils damp
- ____ Nostrils wet
- ____ Nasal exudate present
- ____ Bubbles from nostrils

Breathing

- ____ Clear
- ____ Wheezing
- ____ Rasping
- ____ Bubbly
- ____ Normal

URTD Determination

- ____ Sufficient sign present
- ____ Insufficient sign present

Describe: _____

Posture and Behavior

- ____ Alert, responsive
- ____ Lethargic
- ____ Appendages limp
- ____ Head hanging

Shell Disease*

- ____ Lesions present
- ____ Sunken scutes
- ____ Thinning scutes
- ____ None observed

Trauma*

- ____ Head
- ____ Forelimbs
- ____ Hindlimbs
- ____ Shell, gular horn

Describe: _____

* Sketch all features mentioned above, including the epoxied number, gular horn, anomalies, and other identifying features.

F. CHECKLIST FOR HANDLING DESERT TORTOISES

The following sequence is recommended for handling and processing tortoises. If this differs from an established sequence that you, as an experienced monitor, have developed, the DTC does not require that you abandon your approach, but that you consider the information. For the inexperienced monitor, we **do** recommend that you follow this sequence. Each step is cross-referenced with sections in the Guidelines. See the Table of Contents for page numbers. The bold word, "**data**," follows a given instruction where we recommend information be recorded on your data sheet, maps, or personal journal.

Before going to the field, be authorized (A.1.) and trained (A.2.), determine if tortoises are to be marked (A.3.), if so, develop a numbering scheme (A.4.), and have your materials organized (A.5.).

Upon finding a burrow, determine if it will be excavated (B.1.a.). If so, describe it beforehand (B.1.b. **data**) and decide if an artificial burrow is needed (B.1.c.). Map (B.2. **data**) and number (B.3. **data**) excavated and artificial burrows.

Before excavating a burrow, check for eggs (B.4.a.) and, if found, follow USFWS protocol for handling them (Attachment 3). Then, excavate the burrow (B.4.b.) and be absolutely sure that it is empty or that you have removed all tortoises (B.4.c.).

When you find a tortoise in a burrow, take the temperature (B.5.a. **data**) and decide if the tortoise should be processed (B.5.b. and B.5.c.).

Before you handle a tortoise, determine if it will be processed and how it will be disposed during hot temperatures [B.5.c.ii.(a).], during cold temperatures [B.5.c.ii.(b).], at or near sunset [B.5.c.ii.(c).], if the tortoise is seriously ill [B.5.c.ii.(d).], or during other situations [5.c.ii.(e).]. If the tortoise must be transported in a vehicle, use a new cardboard box (B.5.d.i.) and take precautions (B.5.d.ii.).

If an artificial burrow needs to be constructed (B.5.e.), use either the traditional method (B.5.f.i.) or another acceptable method (B.5.f.ii.). Take every precaution to ensure that the tortoise, if blocked in its burrow, is unblocked after several days (B.5.f.iii.).

When removing a tortoise from its burrow, avoid hyperthermia (B.6.a.i.), and take precautions to prevent the transmission of URTD (B.6.a.ii.) with proper treatment of clothing [B.6.a.ii.(a).], vehicles [B.6.a.ii.(b).], and processing implements [B.6.a.ii.(c).], using appropriate sterilizing materials [B.6.a.ii.(d).].

If the tortoise is to be processed, put on disposable gloves and maintain sterile conditions (B.7.a.), weigh the tortoise (B.7.b.i. **data**), immobilize it using a can (B.7.c.i.) or a towel (B.7.c.ii.), observe it for ectoparasites (B.7.d.i. **data**), shell lesions (B.7.d.ii. **data**), osteoporosis and osteomalacia (B.7.d.iii. **data**), and URTD (B.7.d.iv. **data**). Record distinctive features (B.7.e. **data**), sex the tortoise (B.7.f. **data**), mark it (B.7.g. **data**), measure it (B.7.f. **data**), and photograph it (B.7.i. **data**).

After the tortoise has been processed, release it into the adjacent area or place it in the artificial burrow (B.8.a.). Be careful of temperature extremes (B.8.b.i.), discourage tortoise urination (B.8.b.ii.), and monitor the tortoise (B.8.b.iii.).

After you leave the field, maintain your field materials in good working order (C.1.), and share your experiences with the USFWS (C.2.).

ATTACHMENT 1: PERSONS CONTACTED

Edward L. LaRue, Jr. assembled the information and drafted the Guidelines in 1994, and, with input from USFWS field offices in California, Arizona, Nevada, and Utah, revised them in April 1996 and again in July 1999. The following individuals were contacted to develop and/or review preliminary drafts. Not all of them responded to the initial or subsequent requests for information. For those who did, thank you very much for your invaluable assistance. When known, contributors' July 1999 affiliations are given rather than their 1994 affiliations. Tierra Madre Consultants, Inc. is given special thanks for its commitment to this project, and for much of the funding to complete it.

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ATTACHMENT 2: HANDLING SUPPLIES

Burrow excavation and construction

Thermometer (to measure air and ground temperatures)
Watch or clock (to record start and finish processing times)
Measuring tape (for burrow dimensions)
Compass (for burrow orientation)
Hand held mirror (for viewing inside burrow)
Leather or cloth gloves (to avoid animal stings and/or bites)
Blunt-nosed shovel(s) (for excavating burrow)
Garden trowel (for excavating burrow)
1" x 2" plank (to insert in small burrows)
2" x 4" plank (to insert in larger burrows)
4' x 8' x 1/4" thick plywood (for artificial burrow construction)
Hand saw (to cut plywood into appropriate size and shape)
Surveyor's tape (for marking a burrow or making a weighing harness/sling)

Tortoise handling and marking

Disposable latex gloves (for handling tortoise)
Different sizes of coffee cans/sterilized towel (for immobilizing tortoise)
Toothbrush, sterilized (for cleaning dirt from scute to be numbered)
Acrylic paint or typewriter correction fluid (for making dot to number tortoise)
Waterproof, capillary pen (for numbering the tortoise and keeping notes)
1/2" masking tape (to cover growth areas prior to applying epoxy)
Epoxy, toothpicks, wooden coffee stirrer, tongue depressors (to cover the number on the scute and to apply the epoxy)
Plastic, ziplock bags (for holding used latex gloves and weighing juvenile tortoises)
Hand lens (for observing parasites)
95% ethyl or isopropyl alcohol, or 25% chlorine solution (for sterilizing equipment)
Rubber/plastic container and lid (for soaking instruments)
New, disposable cardboard boxes (for holding and/or transporting tortoises)
Garbage bags (for disposing of used gloves, t-shirt bags, etc.)

Tortoise measurements and photography

Grocery, t-shirt bags, surveyor's tape, cotton string (to weigh the tortoise)
Calipers (for measuring carapace length, width, and height)
Metal or plastic rule (to measure plastron length)
100 g, 1.0 kg, and 5.0 kg tubular spring scale (to weigh small and large tortoises)
3" x 5" file cards (for mixing epoxy and identifying photographic slides)
Avery labels or other stickers (to attach to tortoise to identify photograph)
35 mm camera (for taking photographs)
Slide film (for taking photographs)

Egg handling

Felt-tipped pen (for marking eggs)
Bucket (for transporting eggs)

Miscellaneous

Agency document(s) regulating the specific project (e.g., USFWS Biological Opinion, State Memorandum of Understanding, BLM Stipulations, etc.)
Handling Guidelines and checklist
Agency approved, sequential numbering scheme for marking tortoises
Project maps for mapping tortoise burrows
Clipboard
Data sheets
Pads or blanket for truck bed to cushion transported tortoise and reduce heat
Phone number and contact person of local USFWS field office, State fish and game departments, BLM field office, etc.
Phone number of nearest qualified veterinarian to treat injured tortoise
Extra change of clothing, including extra shoes

(Much of this list is taken from McCullough et al. 1993)

ATTACHMENT 3: EGG HANDLING PROTOCOL

This Egg Handling Protocol is taken verbatim from U.S. Fish and Wildlife Service File No. 1-5-93-TA-390. Wording concerning placing eggs on private lands was added to be consistent with USFWS recommendations for the Tortoise Handling Guidelines.

Tortoise eggs shall be moved to artificial nests either in the wild or at an approved facility. Biologists must receive special training in the procedures outlined below, but such training can be obtained after a nest is actually found. If this is done, the nest shall be carefully covered with soil so as not to move the eggs and protected until on-site training is provided. The responsible federal agency shall ensure that this training is made available.

Any nest that is found shall be carefully excavated by hand at a time of day when the air temperature six inches above the ground is approximately equal to the soil temperature at egg level. Immediately upon finding a nest, large tool use shall be discontinued and the nest excavated by the biologist using his or her hands. [DTC recommends that the monitor put on disposable latex gloves before marking and handling eggs]. Before disturbance of nest contents, each egg shall be gently marked with a small dot on the top using a felt-tipped pen to establish the egg's orientation in the nest. In handling nest contents, eggs must be maintained in this orientation at all times. Because egg shells become extremely fragile in the last few weeks before hatching, special care shall be taken with eggs found from August to mid-October. Because these eggs are very fragile, some may break during handling. This will be lethal to egg contents. Such an accident can be expected to occur until techniques are developed to avoid this type of incident. Broken eggs shall be buried nearby and left in the field, or the contents preserved and provided to qualified researchers.

The biologist shall measure and record the depth of the nest below the soil surface, the location of the nest in relation to any adjacent shrub (i.e. whether on the north, south, east, or west side of the shrub), the species of shrub and its approximate foliage volume, and the soil type. Place approximately 1 inch of soil from the nest area in a bucket and carefully transfer the eggs to the bucket, maintaining egg orientation. Cover the eggs with soil that is free of cobbles and pebbles, to a depth equivalent to that of the original nest.

If good tortoise habitat is available in the general area, the eggs shall be relocated between 150 to 1,000 feet from outer boundary of the project site, unless directed differently by USFWS. [Eggs should only be placed on lands administered by a federal agency, or on private lands when a written authorization to bury the eggs there has been obtained]. Prepare a nest with the same depth, orientation, location in relation to a specific shrub species, and in the same soil type as the original nest. Carefully transfer the eggs, maintaining their original orientation, to the new nest. The eggs shall be replaced so that they touch one another. Gently cover with soil from which cobbles and pebbles have been removed so that all the air spaces around the eggs are filled. Relocated nests in the wild shall be monitored by a qualified biologist. The monitoring program shall be developed in consultation with the Fish and Wildlife Service.

If a suitable site for a nest is not available in the wild, the eggs shall be prepared for incubation in a suitable holding facility. Place a small amount of soil in a bucket and transfer the eggs to the bucket using the technique specified above, making sure that the eggs are touching one another. Carefully fill the bucket to the depth of the original nest, but leave the top of the soil layer three inches below the rim of the bucket so that future hatchlings cannot escape. Bury the bucket in soil in a safe location at an approved holding facility.

The biologist shall record in detail all the procedures used in moving eggs. Personnel caring for incubating eggs at a facility shall maintain a record of where the eggs were found, method of incubation, length of time and conditions under which the eggs were incubated, observations of eggs during the incubation period, information about hatchling health and behavior, and disposition of the hatchlings.

Attachment 4

DEPARTMENT OF FISH AND GAME
HABITAT MANAGEMENT LAND ACQUISITION PACKAGE CHECKLIST
FOR PROJECT APPLICANTS

The following checklist is provided to inform you of what documents are necessary to expedite Department processing of your Habitat Management Land acquisition proposal. Any land acquisition processing requests which are incomplete when received, will be returned. The Region contact will review and approve the document package and forward it to the Lands and Facilities Branch (LFB) Realty Services Coordinator with a request to process the land acquisition for formal acceptance.

To: _____
Regional Manager, Region Name

From: _____
Project Applicant

Phone: _____

Tracking #: _____
CDFG assigned permit or agreement #

Project Name: _____

Enclosed is the complete package for the Conservation Easement OR Grant Deed

Documents in this package include:

Fully executed, approved as to form Conservation Easement Deed or Grant Deed.

Date executed: _____

Proposed Lands for Acquisition Form (PLFAF)

Phase I Environmental Site Assessment Report Date on report: _____
(An existing report may be used, but it must be less than two years old.)

Preliminary Title Report(s) for subject property is enclosed and has been reviewed for encumbrances and other easements. The title report must be less than six months old when final processing is conducted.

Included are additional documents:

document(s) to support title exceptions

document(s) to explain title encumbrances

a plot or map of easements/encumbrances on the property

Policy of Title Insurance (an existing title policy is not acceptable)

County Assessor Parcel Map(s) for subject property

Site Location Map (Site location with property boundaries outline on a USGS 1:24,000 scale topo)

Final Permit or Agreement (or other appropriate instrument)

Type of agreement: Bank Agreement Mitigation Agreement

Permit _____ Other: _____

(Write in type of permit)

Biological Resources Survey (may be an attachment to Permit or Agreement or a separate document)

Final Management Plan (if required prior to finalizing permit or agreement or if this package is for a Grant Deed)

Draft Summary of Transactions hard copy electronic copy (both are required)

Attachment 5

PROPOSED LANDS FOR ACQUISITION FORM ("PLFAF")

Date: _____

TO: Regional Representative

Facsimile:

FROM: _____

Applicant proposes that the following parcel of land be considered for approval by the Department as suitable for purposes of habitat management lands to replace the adverse environmental impacts of the Project:

<u>Section(s)</u>	<u>Township</u>	<u>Range</u>	<u>County</u>	<u>Acres</u>

Current Legal Owner(s) including Assessor Parcel Number(s) (APN):

General Description of the location of the parcel(s):

Land Value: \$ _____

For Regional Use Only:

APPROVED ____ By: _____ DATE: _____

REJECTED ____ _____
Region

Explanation: _____

Attachment 6

California Department of Fish and Game
Mitigation Payment Transmittal Form

Project Applicant Instructions: Please fill out and attach this form to payment. For conservation banks, also attach the Bill(s) of Sale for credits sold. One form may be used for multiple transactions, **BUT YOU MUST USE A SEPARATE FORM FOR EACH CHECK YOU TRANSMIT.** Make sure to include Project Name, Project Tracking Number, and FASB Mitigation Tracking Number (if available) on the attached payment type.

(1) **DATE:** _____

TO: _____
[CDFG Regional Manager]

[CDFG Region Office Address]

(2) **FROM:** _____
Name

Mailing Address

City, State, Zip

Telephone Number/FAX Number

(3) **RE:** _____
[Project Name as appears on permit/agreement]

(4) **AGREEMENT/ACCOUNT INFORMATION:**
(Check the applicable type)

2081 Permit Conservation Bank 1802 Agreement

2835 NCCP Other _____

[Project Tracking Number]

[FASB Mitigation Tracking Number (if available)]

Index _____ PCA _____

(5) **PAYMENT TYPE** (One check per form only): The following funds are being remitted in connection with the above referenced project:

Check information:

Total \$ _____ Check No. _____

Account No. _____ Bank Routing No. _____

a. Endowment: for Long-Term Management Subtotal \$ _____

b. Habitat Enhancement Subtotal \$ _____

c. Security:

1. Cash Refundable Security Deposit Subtotal \$ _____

2. Letter of Credit Subtotal \$ _____

1. Financial Institution: _____

2. Letter of Credit Number: _____

3. Date of Expiration: _____

DESERT TORTOISE PROTECTION



Prepared by Caltrans
Environmental Division

Tortoise Protection Rules

- Do not move, harass, or handle tortoises
- Look under vehicles before moving
- Do not exceed 20 mph speed limit on job site
- Put all trash in covered containers
- Stay inside designated fenced areas
- No pets, firearms, or hunting



What are the particulars?

SPECIES:

Desert tortoise (*Gopherus agassizii*)

STATUS:

Federally Threatened, State Threatened

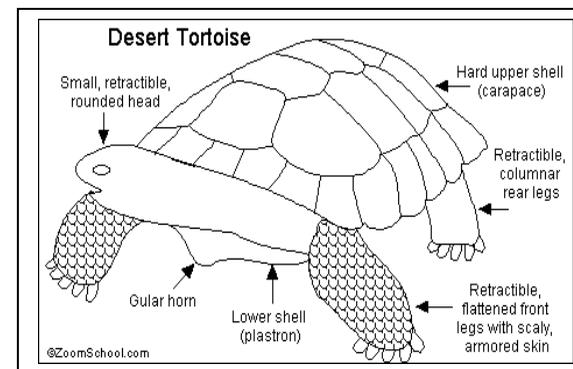
DESCRIPTION:

Length: 9-15"

Height: 4-6"

Weight: 8-15lbs.

Color: Dark brown/gray, rusty to



Where do they live?

- Primarily throughout most of the southwest desert
- Below 5,000 feet elevation
- In creosote bush scrub, desert saltbush scrub, and Joshua tree woodland
- Along State Routes 58, 14, 395, and 178
- Use burrows for shelter in extreme weather (burrow entrances are half-moon shaped, like the profile of a tortoise's shell)



Why so much concern for these tortoises?

Population is declining rapidly because:

1. Habitat loss and degradation
2. Predation
3. Collecting
4. Off-road-vehicles
5. Grazing
6. Crushing of tortoises and their burrows by livestock, and
7. Highly infectious respiratory illness (known as Desert Tortoise Upper Respiratory Tract Disease)

When are desert tortoises active?

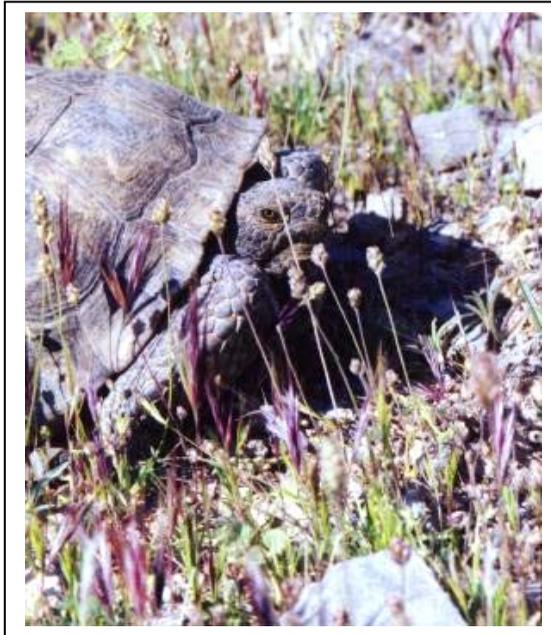
Tortoises are **most likely** to be out of their burrows and **active from mid-March to the end of May**. However, **they can be encountered at any time of year, if weather conditions are favorable**.

Tortoises prefer:

1. Cool, overcast days
2. Periods following storms
3. To avoid activity during the heat of the day (typically seek shade under plants and under parked vehicles)

Additionally:

1. Check under vehicles **before** moving them
2. Watch for tortoises while driving on roads



What would happen to a tortoise, if I picked it up?

Harm — Injury — Distress

When a tortoise is lifted more than a foot off the ground, it is apt to void the contents of its bladder (urinate). It may take a tortoise over a year to replace the body fluids lost in a single urination, and this significantly jeopardizes its ability to survive in the desert.

REMEMBER: Picking up a desert tortoise is illegal and can be fatal to the tortoise.



Keep in mind:

U.S. Fish & Wildlife Service designated the desert tortoise as threatened under state and federal Endangered Species Act (ESA). This makes it **“illegal” to “take”** (that is to, harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) a desert tortoise or attempt to engage in any such conduct.

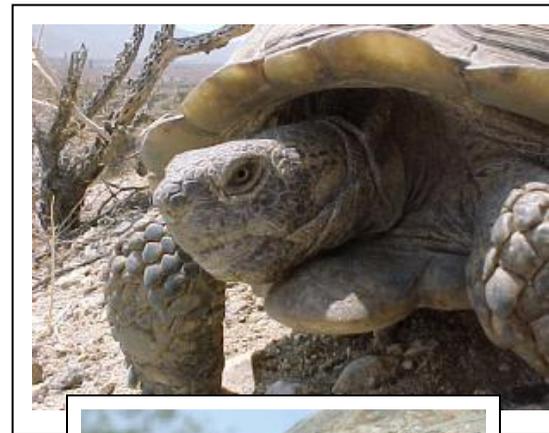
What would happen to me, if I picked up a tortoise?

(Penalties)

1. You would be subject to civil and criminal penalties under state and federal ESAs
2. Any “take” of a tortoise (see above) is punishable by fines of up to \$100,000 and imprisonment for one year
3. Penalties can be applied to any confirmed act to tortoise habitat damage resulting from unauthorized activity, such as road blading outside a fenced construction area or driving off designated roads

What should I do if I find a tortoise?

1. Do not touch it
2. If it needs to be moved, call your supervisor, RE, Construction Liaison, or Caltrans Biologist



What compliance conditions are in place on this project?

Permit conditions relating to tortoises require that everyone working on site observe the following:

- Complete this desert tortoise environmental awareness training
- Restrict all vehicle and equipment movement, as well as loading and unloading activities, to designated fenced areas
Tortoise fence will delineate construction areas
- Look under your vehicle or equipment before moving it
- Restrict all vehicle/equipment movement to 20 mph in sensitive areas
- Do not bring pets or firearms to the job site
- Pick up all trash, have covered garbage containers on site, and empty containers daily
- **Never touch or otherwise disturb a tortoise**
- Report all live or dead tortoises found to your supervisor, the RE, the Construction Liaison, or Biologist
- Minimize disturbance, including vegetation removal and crushing

INSPECTIONS BY REGULATORY AGENCIES

INSPECTORS FROM STATE AND FEDERAL REGULATORY AGENCIES (SUCH AS THE TEXAS

COMMISSION ON ENVIRONMENTAL QUALITY OR USACE) OFTEN INSPECT CONSTRUCTION SITES. TYPICALLY, THESE INSPECTORS ARE THERE TO ENSURE COMPLIANCE WITH SW3P REGULATIONS AND USACE PERMITS.

WHEN AN INSPECTOR SHOWS UP:

1. REQUEST TO EXAMINE THE INSPECTOR'S CREDENTIALS. DOCUMENT THE NAME(S), TITLE AND AGENCY OF THE INSPECTOR. COLLECT BUSINESS CARDS FROM THE INSPECTORS WHEN AVAILABLE.
2. IMMEDIATELY CONTACT THE AREA ENGINEER AND, IF APPLICABLE, THE PERSON LISTED ON THE PERMIT BEING INSPECTED.
3. DETERMINE THE PURPOSE OR REASON FOR THE INSPECTION. DETERMINE WHAT PARTS OF THE PROJECT THE INSPECTOR SEEKS TO ACCESS. ASK IF THE INSPECTION WILL INCLUDE A DOCUMENT AND RECORDS REVIEW.
4. DEVELOP AN AGENDA FOR THE INSPECTION. ADDRESS ONLY WHAT THE INSPECTOR IDENTIFIES AS HIS OR HER CONCERN(S). RETRIEVE NECESSARY AND REQUESTED DOCUMENTS. CHECK ON THE AVAILABILITY OF KEY PERSONNEL. CONTEMPLATE THE BEST ROUTE ON THE SITE TO SEE THE SPECIFIC ISSUES THAT ARE THE SUBJECT OF THE INSPECTOR'S CONCERN.
5. REDUCE CHAOS AND MINIMIZE DISRUPTIONS. ARRANGE TO USE A PRIVATE OFFICE. STRIVE TO ELIMINATE THE COMMUNICATION OF MISINFORMATION, INCORRECT INFORMATION AND INFORMATION THAT IS OUT OF CONTEXT.
6. WHEN ANSWERING QUESTIONS, LIMIT ANSWERS TO THE SPECIFIC ISSUES. BE COOPERATIVE, BUT DO NOT VOLUNTEER INFORMATION OR OPINIONS. DO NOT MAKE GENERALIZATIONS. ANSWER ONLY

- QUESTIONS THAT ARE IN YOUR AREA OF RESPONSIBILITY OR EXPERTISE. MAKE KEY PERSONNEL AVAILABLE TO ANSWER QUESTIONS OUTSIDE YOUR AREA OF RESPONSIBILITY OR EXPERTISE. DO NOT BE AFRAID TO SAY "I DON'T KNOW," "I'M NOT SURE" OR "I'LL NEED TO RESEARCH THAT AND GET BACK WITH YOU" WHEN YOU ARE NOT CERTAIN OF THE ANSWER.
7. CONTROL ACCESS TO DOCUMENTS. DO NOT VOLUNTEER DOCUMENTS NOT SPECIFICALLY REQUESTED. MAKE A LIST OF ALL DOCUMENTS PROVIDED TO THE INSPECTOR AND SEND THE LIST TO DISTRICT MANAGEMENT AND ENV.
8. COLLECT SAMPLES (SOIL, WATER, WASTE, ETC.) AT THE SAME TIME THE INSPECTOR COLLECTS THEM.
9. ACT ON THE INSPECTION RESULTS WITH PROPER ADVICE AND SUPERVISION.

IF AN ALLEGED VIOLATION IS FOUND: DOCUMENT WHAT THE INSPECTOR FINDS BY SPLITTING SAMPLES, TAKING PHOTOGRAPHS, AND REQUESTING A COPY OF THE REPORT. TRY TO NEGOTIATE A FOLLOW-UP INSPECTION TO SHOW THAT THE VIOLATION HAS BEEN RESOLVED.

CRIMINAL INVESTIGATIONS

PURSuing CRIMINAL SANCTIONS IS BECOMING COMMONPLACE. MOST ENVIRONMENTAL STATUTES HAVE CRIMINAL PENALTY PROVISIONS. THE STANDARD OF PROOF FOR PROSECUTION OF THESE VIOLATIONS, "KNEW OR REASONABLY SHOULD HAVE KNOWN," IS FAIRLY LOW AND BROAD. THIS STANDARD ALLOWS FOR THE PROSECUTION OF THE PERSON WHO KNOWINGLY COMMITS THE ACT, AND ALSO FOR THE MANAGER OR SUPERVISOR WHO

"REASONABLY SHOULD HAVE KNOWN" WHAT HIS OR HER EMPLOYEES WERE DOING.

SIGNS TO WATCH FOR:

- WHEN MULTIPLE INSPECTORS ARRIVE FOR AN UNANNOUNCED INSPECTION—BEWARE! ONE OF THE INSPECTORS CAN BE A CRIMINAL INVESTIGATOR, WHO IS NOT REQUIRED TO DECLARE THAT HE OR SHE IS CONDUCTING A CRIMINAL INVESTIGATION.
- INTRODUCTIONS ARE CRITICAL!
- DO NOT EXPECT THE CRIMINAL INVESTIGATOR TO READ YOU YOUR RIGHTS BEFORE QUESTIONING—ANY ANSWERS YOU PROVIDE ARE VOLUNTARY.

COMMON ACTIONS CREATING CRIMINAL LIABILITY:

- CHRONIC PERMIT VIOLATIONS
- REPORTING AND RECORD KEEPING
- FALSIFYING OR ALTERING AFTER THE FACT
- INACCURATE, INCOMPLETE, OR NON-EXISTENT REPORTING
- UNTIMELY REPORTING OF SPILLS, RELEASES OR DISCHARGES
- FAILURE TO OPERATE AND MAINTAIN EQUIPMENT IN A MANNER THAT WILL PREVENT SPILLS OR RELEASES
- INTENTIONAL OR ACCIDENTAL MISHANDLING OF WASTE

WHAT TO ASK AND WHO TO NOTIFY:

IT IS TxDOT POLICY TO COOPERATE WITH ALL LAW ENFORCEMENT AUTHORITIES. EMPLOYEES SHOULD BE FRANK AND HELPFUL WITH INVESTIGATORS. TxDOT EMPLOYEES SHOULD FOLLOW THE SAME PROCEDURES AS FOR OTHER INSPECTIONS. IN ADDITION:

- NOTIFY THE DISTRICT ENGINEER AND THE OFFICE OF GENERAL COUNSEL AS SOON AS CONTACT IS MADE WITH A CRIMINAL INVESTIGATOR. IF IT IS NOT POSSIBLE TO MAKE THESE NOTIFICATIONS BEFORE THE INTERVIEW, MAKE THESE CONTACTS IMMEDIATELY AFTERWARD.
- INDIVIDUAL EMPLOYEES ARE NOT AUTHORIZED TO RELEASE TxDOT DOCUMENTS IN RESPONSE TO AN ORAL REQUEST FROM CRIMINAL INVESTIGATORS. A PUBLIC INFORMATION ACT REQUEST SHOULD BE SUBMITTED IF ACCESS TO TxDOT DOCUMENTS IS SOUGHT.
- YOU ALWAYS HAVE THE RIGHT TO CONSULT A PERSONAL LAWYER IN CONNECTION WITH ANY CRIMINAL INVESTIGATION.

September 2003

PROTOCOL - JUNE 2001

Revised June 2003

SALVAGING INJURED, RECENTLY DEAD, ILL, AND DYING WILD, FREE-ROAMING DESERT TORTOISES (GOPHERUS AGASSIZII)

prepared by Kristin H. Berry for

Federal Fish and Wildlife Permit TE006556-11

expires 7/18/2004

Salvage of injured, recently dead, ill, and dying desert tortoises is a very important part of recovery programs for threatened and endangered species. Salvaged desert tortoises can provide a wealth of information about such subjects as health, disease, presence of heavy metals and other toxicants, and causes of mortality in populations. When tortoises are salvaged because they are injured (e.g., by a vehicle, fire, or domestic dogs), they may be appropriate for use as control or healthy individuals in comparisons with ill and diseased tortoises. Such tortoises, if sufficient in number, may reduce the need to take healthy animals from the wild for research purposes.

By far the most valuable specimens are tortoises taken while still alive or within a few hours of death and necropsied within 24-72 hours by a licensed clinical veterinary research pathologist with expertise in desert tortoises. The reason is that much more can be learned from a tortoise with very fresh tissues that can be processed for histological and other types of laboratory work. Once a tortoise is frozen, then level of detail that can be obtained from frozen tissues is considerably reduced. One desert tortoise research program involves necropsy

of tortoises and the U.S. Geological Survey has a contract with a pathologist, an expert in desert tortoises.

The following protocol deals only with wild desert tortoises, not captives. It is divided into four parts: (1) determination of the status of the tortoise; (2) collection of critical data in the field; (3) instructions on handling the tortoises; and (4) disposition of the tortoise after it has been removed from the field. Several parts of the protocol require contact with Dr. Berry, the Project Leader and Principle Investigator, and whose address and phone numbers are listed at the end.

ACTION 1. DETERMINE THE STATUS OF THE TORTOISE.

The tortoise must have tissues that are sufficiently fresh for laboratory analysis. If the tortoise has died and the organ systems are putrefying (decaying), then the remains are not appropriate for salvage, except for analysis of scute and bone. Decaying remains are not part of this protocol.

1. Tortoise is recently dead (e.g., death is occurring, has just occurred, or death occurred within a few hours). Critical questions to ask include: how fresh are the remains? Are the soft tissues decaying (smelling of putrefaction)? If the remains are fresh (don't smell, are soft, death has recently occurred), then the tortoise should be salvaged and immediately put on ice, then frozen. GO TO ACTION 2.
2. Tortoise is injured. Most of the injured tortoises observed in the last 10 years are from vehicle encounters, have been in fires, or attacked by domestic dogs. Some are fatally injured and in the process of dying. The shell is fractured in more than one place and/or soft tissues are exposed in the pleural or abdominal cavities. If the tortoise has been injured and the wound infested with maggots, it should be salvaged. Salvage is the appropriate action for all tortoises in these categories. GO TO ACTION 2.

In other cases, the injury does not appear to be severe and the ACTION is unclear. Tortoises have survived attacks by coyotes and loss of one or more limbs and still functioned well in the wild. Tortoises have received cracked shells from vehicles and depression fractures, probably from being stepped on by a cow or run over by an off-road vehicle while in a burrow. Some of these tortoises heal and survive. The key issue is severity and whether flies and thence maggots get into the

wounds. ACTION: If in doubt, call Dr. Berry to discuss what action to take. If the tortoise is removed from the wild and taken to a veterinarian, it should not be returned to the wild. Once such action is taken, the tortoise is essentially dead in terms of wild tortoise populations. The key questions to ask are: will it be better to put this animal into captivity and hope that it can be effectively treated? or would it be better to include this animal in a research program?

3. Tortoise is ill and/or debilitated and/or dying. This category is related to disease, starvation, dehydration, debilitation, etc. The following are some criteria for salvage:
 - o tortoise is lethargic, cannot pull tightly within shell or only can do so briefly or periodically;
 - o tortoise is severely debilitated and non-responsive, lies with legs outstretched and does not raise head, rests it on gular or plastron;
 - o tortoise is light in weight for size, exhibits loss of muscle mass, shows no interest in food or water;
 - o tortoise has signs of severe upper respiratory disease (purulent discharge from nares and/or eyes; signs of recent purulent discharge from nares);
 - o tortoise has lesions in the mouth, potentially from herpes virus;
 - o tortoise has moderate to severe shell disease on plastron, carapace, or both and/or limbs; bone may be exposed in small or large areas;
 - o tortoise is covered with mold or fungi and exhibits other signs listed above
 - o tortoise has a combination of some of the above; and/or
 - o tortoise is paralyzed, partially paralyzed, has prolapsed organs protruding from the cloaca.

If in doubt, the observer can keep track of such tortoises or hold them in a clean box until reaching Dr. Berry on the telephone to discuss action.

ACTION 2. COLLECTION OF CRITICAL DATA IN THE FIELD.

For all salvaged tortoises, whether live or dead, the following information is critical.

- Collector: Name, agency, full address, email address, telephone numbers, and fax number.
- Time of collection: time of day, state whether in daylight or Pacific Standard Time
- General Location: The exact location is essential for follow up studies. The following types of locality information are very helpful: township, range, and quarter section; GPS data in latitude and longitude or UTM's; elevation; general location with place name, e.g., Cima Dome, Ivanpah Valley; highway or road name and number; miles to nearest road junction or town; highway marker number. Must include county and state.
- Specific Location: examples include in east-bound lane of I-40 at mile marker ___; in mouth of burrow in creosote bush scrub habitat, middle of dirt road leading to Rainbow Basin

- Possible/probable cause of injury, illness, or death

Not essential but desirable:

- Vegetation Type
- Photographs of tortoise in place
- Collector=s list of actions taken, e.g., time salvaged, time put on ice or frozen, location of frozen animal with data attached (e.g., in freezer at NPS office in Barstow).
- Approximate size of tortoise: measure or estimate length in millimeters or inches straight line distance from the edge of the shell where the head emerges to the posterior shell where the tail is.
- Sex of tortoise

Make 5 copies of the data and place (1) with the desert tortoise (in a ziplock bag); (2) provide an additional copy for Dr. Berry at time of transfer of the tortoise; (3) fax one set to USFWS, 222 E. Main Street, Suite 102, Barstow, CA 92311, 760-255-8852; (4) mail one set to Ms. Rebecca Jones, CDFG, 36431 41st Street East, Palmdale, CA 93552; and (5) retain one set for the collector=s records.

ACTION 3. INSTRUCTIONS ON HANDLING THE TORTOISE.

1. Tortoise is recently dead. Place in sturdy plastic bag, preferably a ziplock bag and immediately place on crushed or other ice. Freeze; making certain to include a COPY of the DATA with the tortoise. Place the data in a smaller ziplock bag within the larger ziplock bag and avoid getting data sheets wet or damp. GO TO ACTION 4.
2. Tortoise is injured. If the tortoise is severely injured, place in a box and take to the nearest veterinarian to be euthanized. Call Dr. Berry as soon as possible after the decision is made to salvage. Dr. Berry will try to ensure that once the tortoise is dead, it can be shipped on wet ice (NOT DRY ICE) via FEDEX for immediate necropsy. If such arrangements cannot be made rapidly, then the tortoise will have to be frozen. Dr. Berry may make arrangements for the Collector to directly ship the tortoise to the pathologist via FEDEX or may take the tortoise herself for shipment. Once the tortoise is dead, it should be placed in a ziplock or other heavy plastic bag and sealed with the data sheet enclosed. GO TO ACTION 4.

If the tortoise is injured and is unlikely to recover sufficiently on its own to survive in the wild and if discussions with Dr. Berry result in salvage, then the tortoise may need to either be euthanized or shipped immediately for necropsy. Since Dr. Berry must personally ship each live tortoise herself via air freight, she must be contacted, and arrangements made for her to take the tortoise. Place tortoise in clean cardboard box on newspapers and keep cool and out of the sun. GO TO ACTION 4.

3. Tortoise is ill and/or debilitated and/or dying. Dr. Berry and the Collector will discuss arrangements for transferring the tortoise to her for air freight shipment for necropsy. For some of these tortoises, there is flexibility in terms of days, possibly weeks; for others time is of the essence. Place tortoise in clean cardboard box on newspapers and keep cool and out of the sun. GO TO ACTION 4.

ACTION 4. DISPOSITION OF THE TORTOISE OR TORTOISE REMAINS AFTER REMOVAL FROM THE FIELD.

1. Tortoise is dead or has been euthanized, is frozen. These remains can be held for weeks or months, until they can be transferred to Dr. Berry. She may either pick them up or make arrangements to have them delivered to her.
2. Tortoise is dead, has been placed on wet ice (not dry ice) and must be shipped. TIME IS VERY CRITICAL FOR THIS GROUP OF TORTOISES. If, for example, the tortoise is on ice and it is Friday afternoon, shipment via FEDEX to the pathologist may be impossible before the tissues decay. Management of such animals is on a case-by-case basis and depends on: availability of a appropriate pathologist to immediately conduct a necropsy, shipping constraints, weekends and holidays. Contact Dr. Berry for discussion and decision. If all else fails, the tortoise can be frozen.
3. Tortoise is live, must be transferred immediately to Dr. Berry for air freight shipment. Contact Dr. Berry to set up the transfer.

OTHER IMPORTANT ACTIONS:

1. Tortoise is collected by employee or contractor for a county, state, or federal agency. A letter on agency letterhead, transferring the tortoise to Dr. Berry, is highly desirable.
2. Contact with USFWS, is highly desirable and should be undertaken. The individual handling desert tortoises (by county) needs to be kept informed of all decisions.
3. Contact with the California department of Fish and Game representative is highly desirable and should be undertaken. Rebecca Jones is the contact person (661-285-5867).

PHONE NUMBERS AND ADDRESSES FOR:

Dr. Kristin H. Berry

U.S. Geological Survey, Western Ecological Research Center

Box Springs Field Station

22835 Calle San Juan de Los Lagos

Moreno Valley, CA 92553

909-697-5361;

email: kristin_berry@usgs.gov

Dr. Berry is in the field for days at a time in spring. She retrieves all phone messages from the 909-697-5361 number on a daily basis and that is the most reliable number.

Material Site 252

Translocation Plan

**Translocation Plan for Desert Tortoise (*Gopherus agassizii*)
For Reclamation of Material Site 252**

State Incidental Take Permit No. 2081-2009-025-04

Township 11 N., Range 10 W., Section 20
Mojave East Material Site (MS) 252
In Kern County, east of the City of Mojave,
north of State Route 58 at Post Mile 125.2
District 9-Kern County-58-PM 125.2
EA 328501

June 2010

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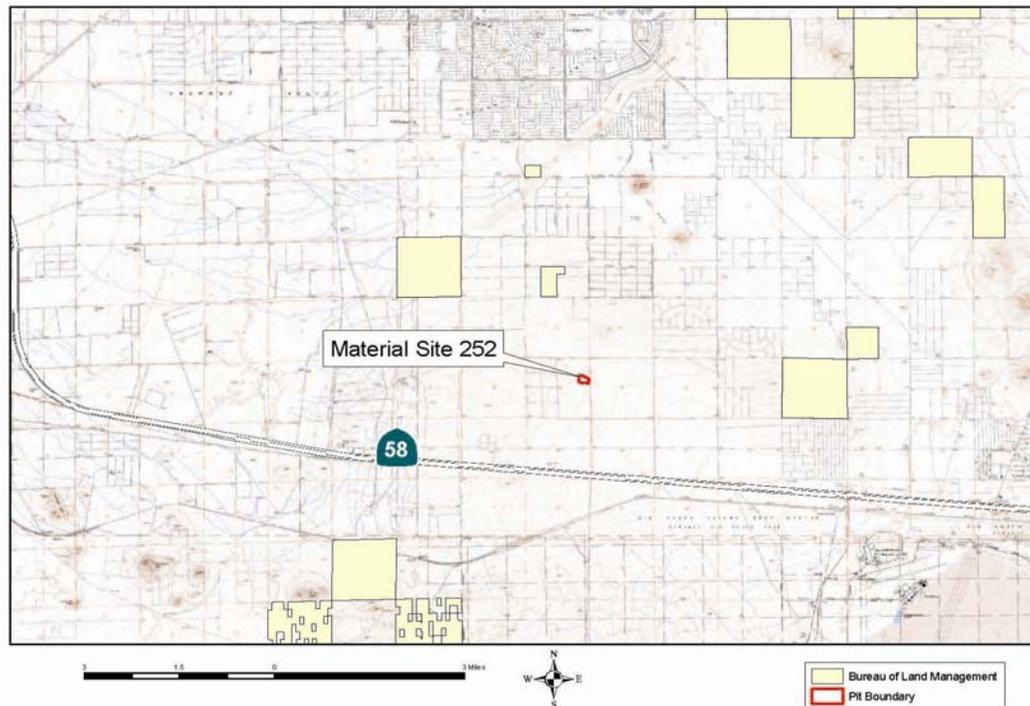
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Chapter 1. Background

Surface Mining and Reclamation Act (SMARA) requires that every operator of a site that has been an active mine site since 1975 prepare and implement an approved Reclamation Plan before that site can be operated or closed. Material Site (MS) 252 has been closed for over 15 years and no further mining by Caltrans is anticipated at this site; this project is to implement the final closing and reclamation proceedings. The purpose of this project is to restore wildlife habitat and return the site to its original state. Caltrans received final approval of the Negative Declaration for the reclamation of MS #252 on May 30, 2000; on January 11, 2001 Kern County issued their approval of the SMARA plan through their “Findings and Determination.”

The California Department of Transportation (Caltrans) will reclaim existing sand and gravel material site north of State Route 58 at Post-mile 125.2 and 12.5 miles east of the City of Mojave in Kern County (Figure 1). This plan is for reclamation only. The permitted mine area was a 60 acre (ac.) parcel; within that parcel was an active mine area of 12 ac; this reclamation project will consist of physically reclaiming 5 ac. with temporary disturbance; whereas the remaining 7 ac are successfully naturally reclaiming and further disturbance to this area will be more harmful than beneficial.

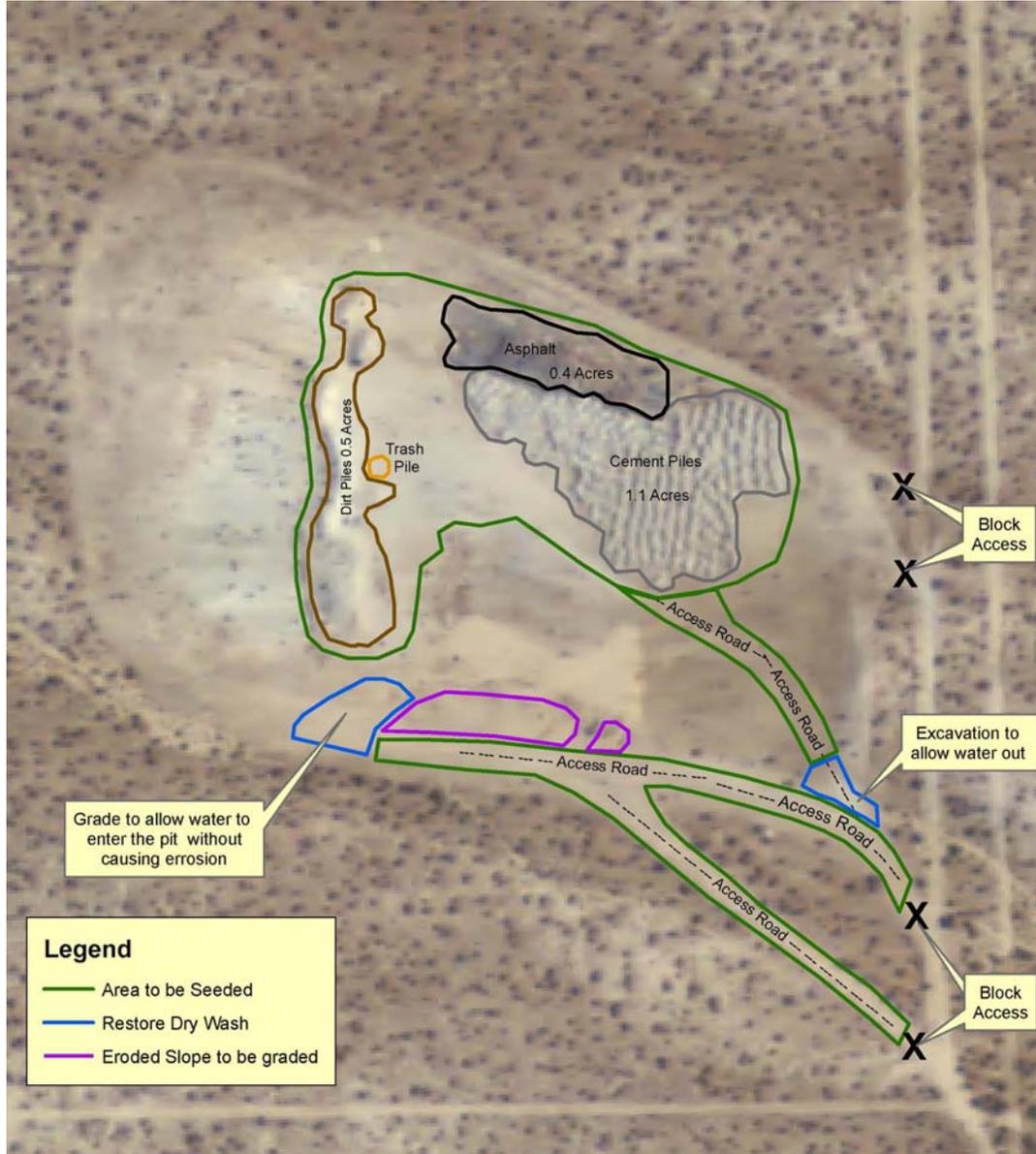
Figure 1. Project Vicinity Map



The work will be the implementation of the Reclamation Plan as approved by both Kern County and Caltrans' Reclamation Plan. Reclamation activities will consist of the following and only within the previously mined and disturbed areas of the site:

1. On-site concrete, asphaltic waste and other refuse material will be removed and disposed at a waste facility site with the appropriate permits for receiving such materials (waste is located within approximately 2 acres of the total 5 acres being physically reclaimed).
2. Slopes steeper than 3 horizontal to 1 vertical (3H:1V) and aggregate piles will be re-graded to 3H:1V or less.
3. All roads and other compacted areas will be de-compacted (ripped or disked) to facilitate looser soil for root growth.
4. De-compacted and re-graded areas will be seeded with certified weed-free seed obtained from a local source at a rate of 10 pounds per acre (see Table 2 in the ITP). Noxious weeds will be handled in accordance with both Caltrans Highway Design Manual topic 110.5 "Control of Noxious Weeds- Exotic and Invasive Species" and Executive Order 13112 and by means approved by Permittee's Licensed Landscape architect and Permittee's Vegetation Control Specialist.
5. The dry wash that enters the Project Site from the west will be restored so that water is able to exit the Project Site at the southeast corner and resume its natural flow in its channel from that point on. This will require grading the high spot at the edge of the pit and equalizing the elevation from within the pit to the exiting channel. The point where the water enters the Project Site also needs to be addressed to prevent future erosion. Current erosion, caused in the last two years, along the southern edge of the pit will be graded as required by Kern County to meet SMARA requirements.
6. Two dirt roads providing access to the Project Site from the southeast and two access points at the northeast corner of the Project Site will be blocked with berms to prevent future vehicle entry via the road that runs north-south just east of the Project Site.
7. The entire Project Site will be monitored by Permittee until reclamation is deemed complete according to the guidelines set forth within the Reclamation Plan, as stated above in Table 1. If additional seeding is needed to meet the standards in the areas of the Project Site not being physically reclaimed, the seed will be applied and raked in by hand. No heavy equipment will be used outside the area that Permittee is proposing to physically reclaim.
8. Western burrowing owl, a species designated by DFG to be of Special Concern, is also known to utilize the cement piles on the Project Site. To avoid impacts to Western burrowing owl, Permittee will not start the reclamation until after the nesting season which ends on September 1.

Figure 2. Project Description



1.1. Permits

Caltrans was issued an Incidental Take Permit (ITP) (2081-2009-025-04) from the California Department of Fish and Game on May 11, 2010.

1.2. Responsible Parties

At the time of this writing (June 2010), Caltrans has not identified the Designated Representative or Designated Biologist. If only one of the two Designated Biologists has a State Scientific Collecting Permit, then that individual must be present to supervise all handling of covered species describe in this document.

Chapter 2. Take Minimization Measures

2.1. Desert Tortoise

1. Using the methods described in the Handling Desert Tortoises During Construction Project Guidelines (Attachment 3 of the ITP), Designated Biologist (DB) shall capture, collect measurement and identification data, permanently mark, and relocate any desert tortoises found within the Project Site to suitable, undisturbed off-site habitat approved in advance by DFG. If a desert tortoise is found by a DB above ground, the DB shall release it above ground in the shade. DB shall relocate all desert tortoises removed from burrows to unoccupied burrows of similar size. If no such burrows are available for relocating, the DB shall construct artificial burrows that are approximately the same size, depth, and orientation as the original burrow. The DB shall follow all protocols for the construction of artificial burrows found in the Desert Tortoise Handling Guidelines. DB shall record the position of all tortoise burrows, tortoises, and relocation sites using GPS technology. In order to prevent re-occupancy, DB shall collapse all potential or actual desert tortoise burrows present within the work site after establishing that they are not currently occupied by desert tortoise.
2. DB shall maintain a record of all desert tortoises handled. This information shall include the following for each tortoise: (1) the locations (narrative and maps) and dates of observation; (2) the general condition and health, including injuries, state of healing, and whether the desert tortoise voided its bladder; (3) the location moved from and location moved to (using GPS technology); (4) diagnostic markings (i.e., identification numbers or marked lateral scutes); (5) ambient temperature when handled and released; and (6) digital photographs of each handled desert tortoise as described below. DB shall mark each desert tortoise moved from within the Project Site for future identification. DB shall place an identification number using the acrylic paint/epoxy covering technique on the fourth left costal scute as described in the Guidelines For Handling Desert Tortoises. DB shall take digital photographs of the carapace, plastron, and fourth costal scute of each desert tortoise handled. No notching of scutes shall be allowed. The DB shall record the information detailed above in the daily written observation and inspection records and provide it to the Resident Engineer who will in turn provide the records to the Designated Representative.
3. If an active desert tortoise nest is detected during burrow excavation or during reclamation activities, the DB shall follow the procedures outlined in the Guidelines For Handling Desert Tortoises. DB shall notify the Resident Engineer immediately upon discovery of an active desert tortoise nest, and shall not relocate the nest until the site of egg relocation has been approved by DFG.

2.2. Mohave Ground Squirrel

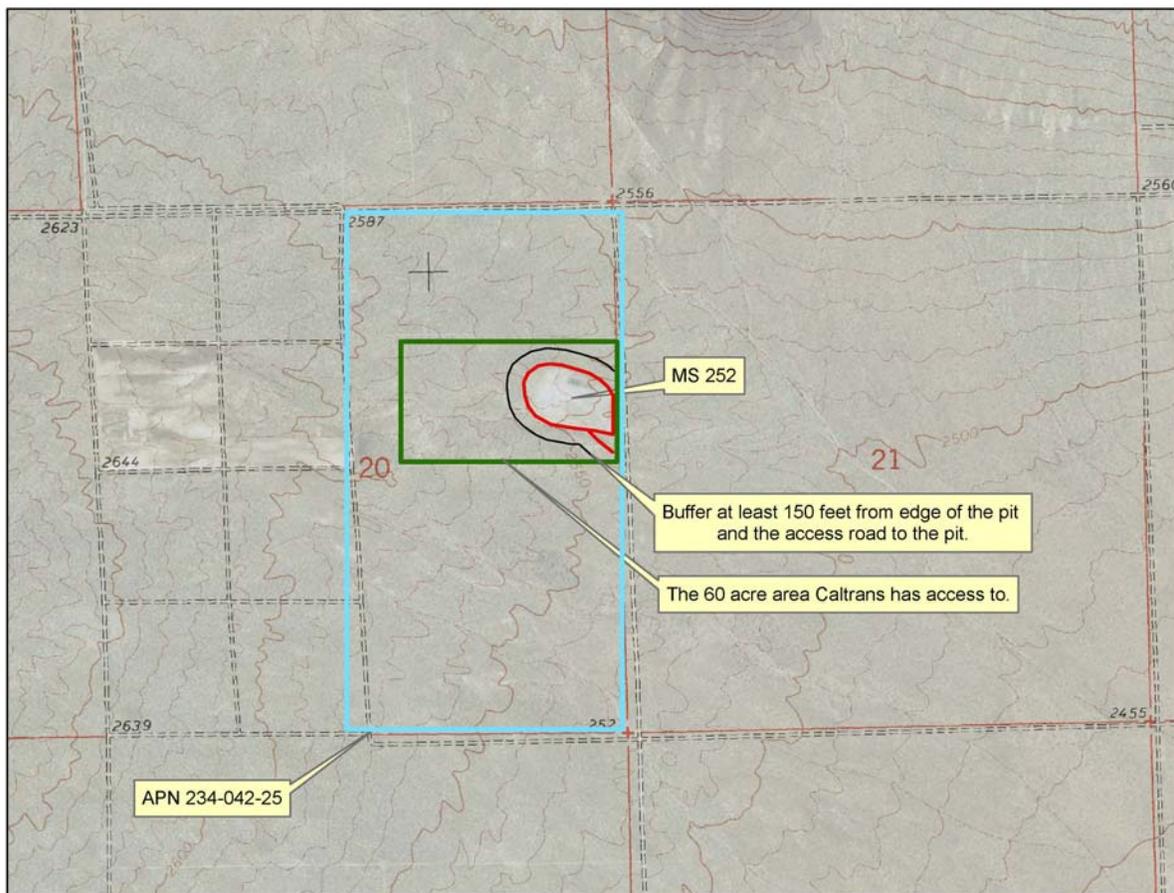
1. The DB shall fully excavate by hand all burrows present within the 5-acre area to be physically reclaimed that could potentially be occupied by Mohave ground squirrels.
2. DB shall allow any Mohave ground squirrels encountered in the excavated burrows during their active period to escape out of harm's way.
3. DB shall collect and immediately move all Mohave ground squirrels encountered during their dormant period to an artificial burrow at a protected off-site location approved in advance by DFG's regional Representative. (see Chapter 3 below)
4. Mohave ground squirrel may only be relocated by DB.
5. DB shall prepare relocation burrows in the following manner:
 - A hole of at least two feet deep shall be dug, a nine inch diameter non-collapsible plastic container shall be placed in the hole, cotton bedding material shall be placed in the container, the container shall be connected to a flexible three inch diameter non-collapsible plastic pipe that runs to the ground surface at a 45 degree angle, and the artificial burrow shall be covered with dirt with the surface end of the three inch pipe remaining open. DB shall place the Mohave ground squirrel in the artificial burrow and lightly plug the burrow mouth with soil in a manner that is similar to a natural Mohave ground squirrel burrow.
6. DB shall immediately notify the Resident Engineer who will inform the Designated Representative who will in turn notify DFG of any Mohave ground squirrels encountered, or no later than noon on the next business day if the incident occurs outside of normal business hours. Notification to DFG by Engineer shall be via telephone or e-mail, followed by a written incident report prepared by DB. DB will prepare a written incident report which will include the date, time, location and circumstances of the incident, the name of the DB that actually relocated the individual, and the location (including GPS coordinates) where the animal was moved.

Chapter 3. Established Relocation Area

Caltrans is proposing that all desert tortoises or Mohave ground squirrel found within the project area and within harm's way (this includes the access road) be relocated to the 60 acre area within APN 234-042-25 that Caltrans has access to. The reclamation project, in turn, lies within the 60 acre area (Figure 3).

If any artificial burrows for desert tortoise or Mohave ground squirrel are required as stated in ITP 2081-2009-025-04 then they will be constructed inside the perimeter of the 60 acre parcel and outside a buffer of at least 150 feet from the edge of the Pit Boundary and the access road leading to the Pit. The black line shown in Figure 3 is approximately 160-170 feet from the red outline marking the Pit Boundary and the access road. The corners of the 60 acre parcel will be staked for identification in the field. The outer edge of the buffer zone will be delineated with silt fencing to keep DT from coming back into the project area.

Figure 3. Location of 60 Acre Parcel



Chapter 4. References

California Department of Fish and Game. 2010. Incidental Take Permit No. 2081-2009-025-04.

Desert Tortoise Council. 1994 (Revised 1999). Guidelines for Handling Desert Tortoises During Construction Projects. Edward L. LaRue, Jr., editor. Wrightwood, California.

Both of these documents should be kept with the Translocation Plan at all times.