DRAFT COMMISSION ORDER

AMENDING

SEGS VIII

Biology Condition 4(f)

Docket No. 88-AFC-1C

NOVEMBER 1994

COMMISSIONERS

Sally Rakow, Vice Chair
Warren D. Noteware, P.E.

HEARING OFFICER

Garret Shean

CALIFORNIA ENERGY COMMISSION

STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:	)	Docket Nos.: 88-AFC-1C 89-AFC-1C
Amendment to the Application for Certification for the Luz Engineering Corporations's LUZ SEGS VIII and IX Projects	)	NOTICE OF THE AVAILABILITY OF THE DRAFT COMMISSION ORDER AMENDING SEGS VIII BIOLOGY CONDITION 4(f); NOTICE OF COMMITTEE HEARING -and- NOTICE OF FULL COMMISSION HEARING

I. NOTICE OF AVAILABILITY

On November 1, 1994, the Committee designated to conduct proceedings in the above-captioned matter published its DRAFT COMMISSION ORDER AMENDING SEGS VIII BIOLOGY CONDITION 4(f) recommending modification of the Condition for a tortoise-proof fence along Harper Lake Road. Copies of the DRAFT COMMISSION ORDER may be obtained by sending a self-addressed mailing label to the Commission Hearing Office, 1516 Ninth Street, MS-9, Sacramento, California 95814.

Members of the public and interested agencies may comment upon any aspect of the DRAFT COMMISSION ORDER. Oral comments may be presented at either event scheduled below.

II. COMMITTEE HEARING

The Committee has scheduled a public Committee Hearing to receive comments as follows:

MONDAY, November 14, 1994
beginning at 2:00 p.m.
California Energy Commission
Third Floor Conference Room
1516 Ninth Street
Sacramento, California 95814

The Harper Lake Companies and the Commission staff shall file and serve their comments to be considered at the Committee Hearing no later than 5:00 p.m. on Thursday, November 10, 1994.

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Summary

In March 1989, the California Energy Commission (Commission or CEC) granted certification of a solar electric generating facility near Harper Lake in the western Mojave Desert to Luz Finance and Development Corporation (Luz). In order to prevent vehicular mortalities to the legally protected Desert Tortoise along Harper Lake Road, the only access to the facility, the Commission Decision, in Biology Condition 4(f), required the construction of a tortoise-proof fence along Harper Lake Road. The federal Bureau of Land Management (BLM) granted a permit to Luz for the transmission line route from the facility over federal lands which also included the same requirement for the tortoise-proof fence along Harper Lake Road.

In July 1993, Harper Lake Companies (HLC), the successor-in-bankruptcy to Luz for the operation of the facility, filed with the Commission a Request to Amend Biology Condition 4(f) by substituting roadway monitoring for the as-yet unbuilt tortoise-proof fence. The Request alleged that previously unknown private property ownership along Harper Lake Road prevented acquisition of sufficient easements to construct the tortoise-proof fence. The Commission's standing Siting and Regulatory Procedures Committee (Committee) conducted hearings in February 1994 to receive testimony from HLC in support of monitoring and from advocates for the retention of the tortoise-proof fence condition. After hearing the evidence, the Committee enumerated the deficiencies in each side's case and directed the interested State and federal agencies to recommence negotiations with HLC on mutually acceptable mitigation which addressed the deficiencies. The Committee retained the prerogative to make its own recommendation if negotiations were unsuccessful or the results inappropriate.

In August 1994, the negotiators produced draft Agreements retaining the original concept of a tortoise-proof fence. The proposed Agreements differed from Biology Condition 4(f) only in that HLC would deposit $489,300 into an account to

In recognition of the BLM's retention of its tortoise-proof fence permit condition, the Committee recommends that changes be made to the original tortoise-proof fence concept in order to enhance flexibility in achieving the condition's intent. Thus, this ORDER modifies Biology Condition 4(f) to reflect the following. In exchange for providing nearly a half-million dollars to the DTPC for desert tortoise mitigation, HLC will be released from constructing the fence, future unknown mitigation, and any subsequent vehicular tortoise mortalities on Harper Lake Road attributable to the project. DTPC shall be given up to 18 months and approximately 10 percent of the HLC mitigation funds to acquire the needed easements, but the majority of the funds are not to be released for actual fence construction until a minimum trigger level of private owner easement participation is reached.

The Committee further recommends that if the trigger level is reached, construction proceed on the tortoise-proof fence in whatever modified form is necessary to gain the easements. If trigger levels are not reached and BLM does not use its condemnation powers to gain the easements, the tortoise-proof fence would be deemed to be infeasible. Then, DTPC shall prepare recommendations of alternate mitigation measures to a Steering Committee, established to exercise oversight on the actions of the DTPC and the disbursement of HLC's mitigation funds. The Steering Committee will be composed of affected State and federal agencies which expressly adopt this package of recommendations. If the Steering Committee cannot agree on alternate mitigation, the remaining HLC mitigation funds will be divided equally among participating Steering Committee agencies to pursue their own desert tortoise mitigation.

The initial evidentiary event[3] on February 2, 1994, consisted of a field trip[4] to Harper Lake Road from Highway 58 to Old Hoffman Road to observe the setting for the tortoise-proof fence and culverts, as well as the nature of the properties on which it was to be placed. Since HLC proposed to substitute roadway monitoring for the tortoise-proof fence, the Commission staff, with a BLM representative present and providing the tortoise shells, set up a demonstration of shells ranging from small juvenile to mature adult on or near the roadway for the Committee to attempt to spot while driving along the Road at 15 mph. On a third drive-by the shell locations were flagged. Finally, the field trip included a drive along an improved stretch of Highway 58 west of Harper Lake Road which has tortoise-proof fence along both sides with a few access gates, one of which was open. The field trip ended with an observation of a culvert crossing, which included an approximately 40" diameter culvert with a "wing" fence guiding the tortoise along the fence into the culvert.

Evidentiary hearings began on February 3, 1994, with testimony provided by witnesses sponsored by HLC and the Commission staff. The CDF&G withdrew from participation in the hearings, citing its potential future consideration of this matter; the agency did, however, have an observer at the hearings. The BLM did not participate in the hearings, but did participate in the field trip and provided the tortoise shell samples. The F&WS did not participate in the field trip or hearings.

The Committee's Hearing Order defined the ultimate issues in the proceeding and the moving party's burden of proof as establishing whether:

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[3] In December 1993, during the period prior to the commencement of hearings, the BLM issued a Termination Decision directed to HLC and the LUZ Solar Partners. This event marked the beginning of the process to terminate the transmission line right-of-way if specific steps in the commencement of construction of the tortoise-proof fence were not undertaken on an expressed timetable.

[4] The field trip was videotaped.

objectives and goals with respect to the conservation of the tortoise and its eventual recovery. (RT 2/4/94, 32:10 - 35:20).

Three months later on May 5, 1994, the Commission staff reported that negotiations had not seriously considered alternative or broader mitigation. For some, the original tortoise-proof fence along Harper Lake Road was the only acceptable project related mitigation. Commission staff, on behalf of the negotiators, asked for an additional 60 days extension (to 7/5/94) to conclude an agreement. Prior to July 5, 1994, the Commission staff again asked for another 60 day extension representing that agreement was nearly at hand, and that time was needed.

By mid-August, all parties apparently had reached Agreements[5] in principle. These Agreements provided:

- Instead of HLC, the DTPC would conduct interim monitoring, acquire necessary easements, construct and maintain a tortoise-proof fence along Harper Lake Road;

- HLC would make a one-time payment of $489,300 to the DTPC to cover all expenses for desert tortoise mitigation;

- HLC would be released from responsibility to construct a tortoise-proof fence and from providing any more Harper Lake Road-related mitigation in the future;

- HLC would be released from any liability for desert tortoise mortalities on Harper Lake Road;

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[5] AGREEMENT FOR MITIGATION ON IMPACTS ON DESERT TORTOISES ALONG HARPER LAKE ROAD BY LUZ SOLAR PARTNERS LTD. VIII AND LUZ SOLAR PARTNERS LTD. IX and HARPER LAKE ROAD TORTOISE MONITORING AND FENCING AGREEMENT

II. THE EVIDENTIARY RECORD

In addition to the field trip, the evidentiary hearings consisted of two days of testimony. Testifying on behalf of HLC were Philip Di Virgilio, of Harper Lake Companies; Robert Sanz, biologist with ENSR Consulting and Engineering; and William Horn, former Assistant Secretary and Deputy Undersecretary of U.S. Department of Interior. Mr. Sanz and Mr. Horn were qualified to testify as experts. Testifying on behalf of the Commission staff were Dale Edwards, Compliance Project Manager; Marc Sazaki, Staff biologist; and Kristin Berry, of the U.S. Department of Interior, National Biological Survey. Mr. Sazaki and Dr. Berry were qualified to testify as experts.

The Committee has grouped the discussion of testimony of the witnesses by topic area.

a. Establishment of Biology Condition 4(f)

Luz Construction and Development Corporation[6] filed the Application For Certification in 1988. The Commission staff undertook an independent review of potential environmental impacts of the proposed project, including biological impacts. By practice, the Commission staff consulted with the California Department of Fish and Game (CDF&G) to determine whether the project would comply with applicable laws. Functionally, a "no jeopardy" determination by CDF&G in a Biological Opinion was a determination of compliance by that agency.

The Commission staff's analysis, through the data gathering phase, Preliminary Staff Assessment (PSA), public workshops to revise the PSA, the Final Staff Assessment (FSA), and evidentiary hearings to receive the FSA as Staff's testimony

[6] Luz Development and Finance Corporation was a managing general partnership; the Luz Solar Partners are the limited partners.

> In consultation with the CDFG and San Bernardino County, Luz shall, to the extent practicable, construct tortoise-proof fencing on both sides of Harper Lake Road between Highway 58 and the project site. Additionally, culverts shall be installed along the road at all desert wash crossings to provide safe tortoise passage. Culvert design shall be finalized in consultation with CDFG and San Bernardino County.

At all times during the licensing proceeding the parties, participating agencies, the siting Committee, and the Commission contemplated that the Luz SEGS solar development at the north end of Harper Lake Road would comprise five solar units, of which SEGS VIII was the first.

b. Post-Decision Fence Efforts

Based upon the copy of a letter in the record from Robert L. Cimburg, Manager, Environmental Affairs, Luz Development and Finance Corporation, summarizing an April 28, 1989, meeting with San Bernardino County, Luz discovered on that date that the County did not own rights-of-way sufficient to permit construction of a tortoise-proof fence along Harper Lake Road. Instead, the areas on both sides of the road were a combination of several large publicly owned parcels and many smaller privately owned parcels.

By letter dated September 20, 1989, Luz supplied the Commission with procedures to monitor for desert tortoise along Harper Lake Road "until a Tortoise Fence can be installed along the road." Construction of SEGS VIII was completed and commercial operation began on December 28, 1989.[8]

[8] Luz SEGS IX was approved on Feb. 14, 1990 and began operation on Oct. 15, 1990. Harper Lake Road was used as access for its construction and operations.

The replies to this is solicitation showed 6 owners indicating a willingness to convey an easement; one owner was willing to have the fence on his property but was unwilling to grant any permanent form of property interest. Eleven owners indicated an unwillingness in writing to grant the requested easement. One owner registered his unwillingness by telephone. Four owners indicated they were undecided. Six letters were returned unopened for lack of forwarding address or due to improper address.

These solicitation results are shown on Exhibit 1, a map of all parcels on Harper Lake Road. One owner who was unwilling is Mr. Most, owner of the largest privately held parcels at the north end of Harper Lake Road. These parcels, identified as the Most Ranch, are cultivated for agricultural operations. In addition, there are three concentrations of unwilling owners almost evenly distributed along the east side of Harper Lake Road.

c. Desert Tortoise Characteristics and Behavior

The desert tortoise is listed as a threatened species pursuant to the federal Endangered Species Act and the California Endangered Species Act.

The desert tortoise is one of the four species of tortoise belonging to the genus *Gopherus*. The desert tortoise inhabits the Southwest, with a current range extending from southwest Utah, west to the Sierra Nevada Range in California, and south into Mexico. It occupies arid habitats below approximately 4,000 feet in elevation. In the Mojave, the desert tortoise lives in the desert scrub habitat typified by soft, sandy loams into which the desert tortoise burrows.

Desert tortoise mature at approximately 15 to 18 years and live for 50 to 100 years. Hatchlings are less than 35 mm in size. Juveniles retain a soft shell for approximately 7 years. The female does not reach reproductive maturity until

Experiences by those handling the desert tortoise for study purposes are probably reflective of the variety and range of responses by this wild animal. Dr. Berry estimates handling 3,000 desert tortoise in the last few years, about 2,200 locally. For study purposes, handling usually includes picking up the animal, cutting an identification notch in the shell, painting identification numbers on it, determining its sex and age, examining for upper respiratory tract disease, measuring and weighing. This handling is called non-intrusive and takes 12 to 15 minutes to perform. In her experience, Dr. Berry attributed two or three deaths among those handled to such handling. In surveying desert tortoise population, animals notched in the 1970's have been repeatedly recaptured. Intrusive handling is done on a much more limited number of desert tortoise and includes drawing blood and performing nasal washes. These animals suffer higher mortality. There is a sliding scale which correlates the intrusiveness of the handling to higher mortality rates.

i. Desert Tortoise Losses - Natural and Human Causes

According to the Draft Recovery Plan for the Desert Tortoise (April 1993), extensive harm to desert tortoise populations is caused by collection, vandalism, road kills, disease, raven predation, and off-road vehicles. The juveniles are most susceptible to loss by predation. The adults are susceptible to loss, in order, by vehicle deaths, collection and vandalism. Annually in the Fremont-Kramer Desert Wildlife Management Area[10] (DWMA), *hundreds* of desert tortoise are lost to collection, vandalism, predation and disease. Similarly, *hundreds* of desert tortoise are lost to road kills annually in the Fremont-Kramer DWMA.

Nests and eggs are subject to heavy predation. Some reptiles eat desert tortoise eggs. Kit foxes and coyotes destroy desert tortoise eggs. Hatchling and

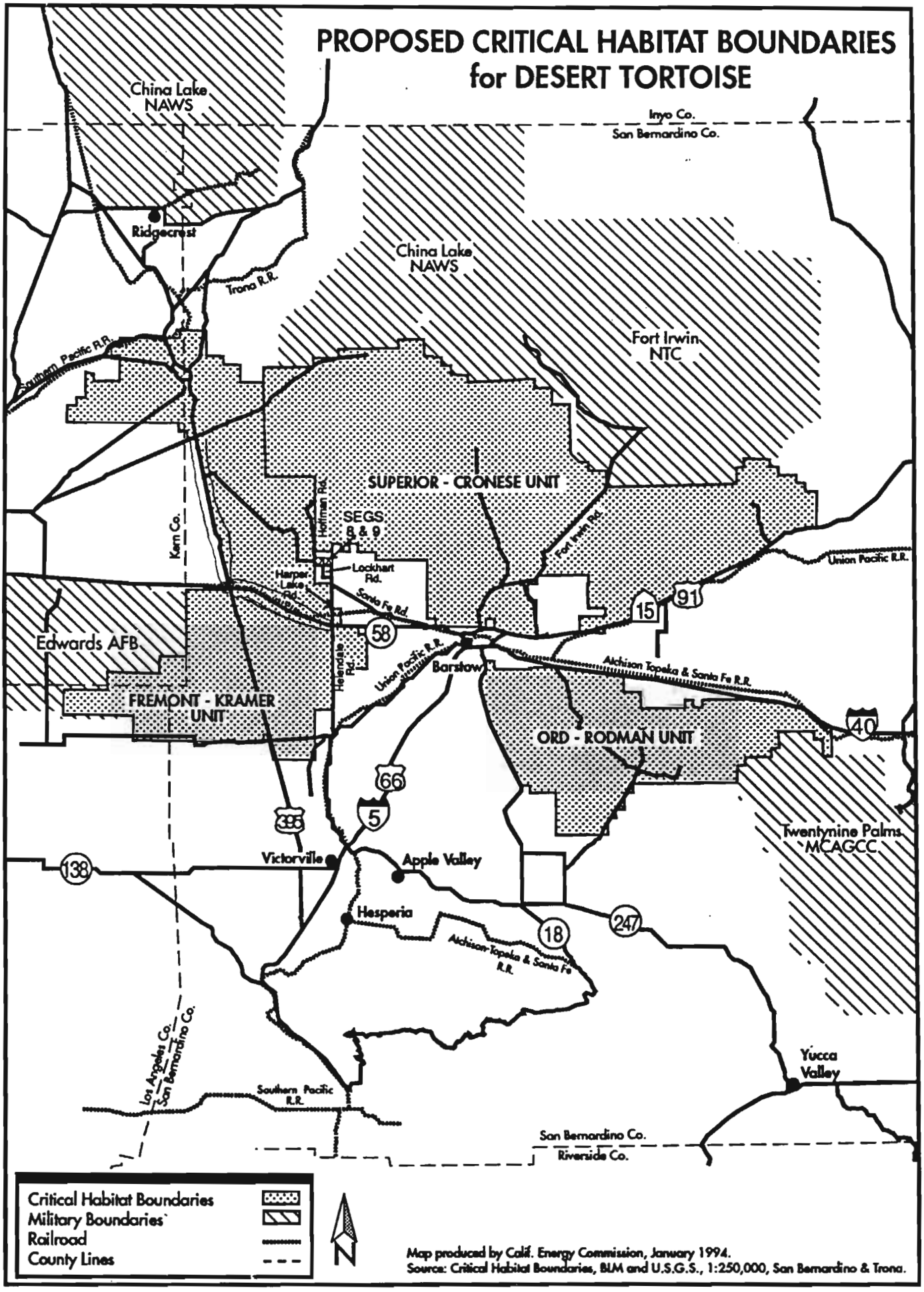
[10] The Fremont-Kramer DWMA encompasses the western Mojave Desert.

juvenile tortoises also have high mortality rates due to predators. Between 95 to 99 percent of hatchlings *never* reach reproductive maturity. One predator of the soft-shelled juveniles is the common raven, once relatively rare in the California desert. However, raven populations in the desert have soared due to food, water and perch provided by human activity (agricultural fields, roads, sewage ponds, landfills, urbanized areas, etc.).

Collection is cited as a major factor in the decline of the desert tortoise. People illegally collect desert tortoise for pets, food, and commercial trade. Some recent immigrants to the U. S. collect desert tortoise for medicinal or other cultural purposes. Between 1987 and 1991, as many as seven of sixteen tortoises with radio transmitters affixed to their backs were poached from the Fremont-Kramer DWMA. The threat from collection is expected to remain high since certain segments of the population are unaware that the desert tortoise is protected, law enforcement in the desert is inadequate, and commercial poaching is lucrative.

Vandalism and off-road activity also account for significant desert tortoise losses. For example, 40 percent of the tortoises found dead on a study plot in the Fremont-Kramer DWMA between 1981 and 1987 were killed by gunshot or off-road vehicles. Nearly 15 percent of carcasses retrieved from several study sites in California showed signs of gunshot injuries.

The Fremont-Kramer DWMA is crisscrossed by two major highways and numerous paved and unpaved roads, causing significant road kill mortalities to the desert tortoise. Studies found that desert tortoise populations decreased significantly within 1/4 mile of a paved road and were reduced up to a mile from such a road. The studies concluded that this depletion zone was due to road kills or collection. To address high vehicular mortalities, it is most important to mitigate along highways, followed by subsidiary paved roads. Projects in the desert which require vehicular



Source: Exhibit 8.

tortoise are stressful[11], and (c) an accurate count of actual mortalities cannot be obtained since scavengers remove remains.

In anticipation of the high volume of short term construction traffic and the low volume, long term operations traffic for the five unit Luz solar development, the agencies sought to implement one of the first local, full-scale applications of the tortoise-proof fence concept. Studies of the desert tortoise and various fence concepts had sufficiently demonstrated the effectiveness of some designs of fence to suggest its success in restraining tortoise passage into the roadway as well as presenting a barrier to human intrusion into the desert tortoise habitat. Plans were on the drawing board for the CalTrans to install a tortoise-proof fence on both sides of a major upgraded portion of Highway 58 from Kramer Junction to east of Harper Lake Road. Basically, the idea was to transplant the same fence concept planned for Highway 58 onto Harper Lake Road.

Such transplantation would have resulted in almost seven miles of continuous fence on both sides of Harper Lake Road with breaks for only a few intersecting roadways.

Once the absence of a County right-of-way and the actual ownership patterns of multiple privately and publicly owned parcels were discovered, the fence concept was modified to include approximately 60 gates[12] to provide access to private property. In light of owners reluctant or unwilling to grant a fence easement, the expert witnesses supporting the fence testified that a partial fence initially is better than no fence or the alternate proposed monitoring. They were confident that in time

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[11] The fence proponents acknowledge that the fence is stressful to the tortoise as well.

[12] Placing rubber "sweepers" on the bottom of the gates and material between the gates and posts would prevent juvenile tortoise from moving under or through the gates.

on Highway 58 appears to be effective mitigation against road kills, but point out CalTrans either had or could acquire by condemnation all the necessary rights-of-way. Additionally, the Highway 58 tortoise-proof fence has only a handful of gates and is a limited access road. In contrast, HLC has no condemnation powers, and as many as 60 gates are necessary to assure each affected property owner vehicular access to Harper Lake Road.

Moreover, HLC argued that circumstances have changed. The peak of vehicular traffic estimated for construction of SEGS VIII had passed years ago, with the same being true for SEGS IX. No additional units are planned. Since roadway monitoring had apparently prevented road kills to the level of two reported during the traffic peak, there currently exists insufficient justification for insisting on the tortoise-proof fence for a danger to the tortoise which has largely passed. If monitoring was sufficiently successful at the peak danger, it ought to be sufficient during the current and future low traffic volume periods.

In addition, HLC suggested that there are practical problems in constructing the fence. Their solicitation of property owners has demonstrated an element of unwillingness to grant easements for a fence.[13] Thus, at best the fence would start with gaps due to non-participation. Without the subsequent reversal of unwillingness by the property owners, these gaps would essentially become permanent. HLC's expert testified, and proponent experts agree, that the desert tortoise will "learn" and use the gaps in the fence to attempt to cross the Road. If no corresponding gaps are available to exit the roadway environment, the fence essentially acts as a trap confining the tortoise to the roadway environment exposing it to death by vehicle or predation by ravens patrolling the roadway.

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[13] The solicitation letter does not mention gates specifically, nor the necessity that they be closed to be effective. It only states that access through the fence will be provided.

obtainable in the wild environment. There is a program to enhance natural environments to provide more foraging and water. These efforts are relatively expensive for the apparent gain. There are programs for raven control; however, the raven is legally protected as well. There are efforts to close dirt roads and trails which intrude into valuable habitat and are used by off-road vehicles. The testimony, however, was insufficient to support detailed inquiry along any of these avenues. Therefore, the Committee turned its attention to specific options raised by the totality of the evidence.

Based upon Exhibit 1, which shows the location of parcels *as they adjoin Harper Lake Road* and quadrangle maps showing section lines and BLM holdings, the Committee pursued a new line of inquiry into fencing the "back-lot-lines"[15] of properties instead of the frontage facing Harper Lake Road.

Back-lot-line fencing potentially could eliminate concerns about a permanent easement on the access end of the property, the necessity for gates, and the potentiality for gaps due to non-participation by unwilling property owners. By being a continuous fence, with perhaps only a limited number of gates to access BLM property, such a back-lot-line fence would prevent tortoise passage and restrict human intrusion. Like the Highway 58 tortoise-proof fence which creates a southern boundary to the Critical Habitat, such a fence west of Harper Lake Road would create an eastern boundary to the Critical Habitat. If desired, the tortoise-proof fence could be brought up to Harper Lake Road on the BLM parcels by using side-line and frontage fences. Both proponent and opponent experts agreed that back-lot-line fencing would potentially achieve the goals of the Draft Recovery Plan and avoid the asserted problems with the current fence proposal, although there would be some loss of

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[15] "Back-lot-line" generally means the rear property boundary for the parcels with frontage on Harper Lake Road. In specific instances where such rear property boundaries are staggered and do not form a straight line, "back-lot-line" would refer to the nearest section line, which is itself a property boundary, and parallel to Harper Lake Road.

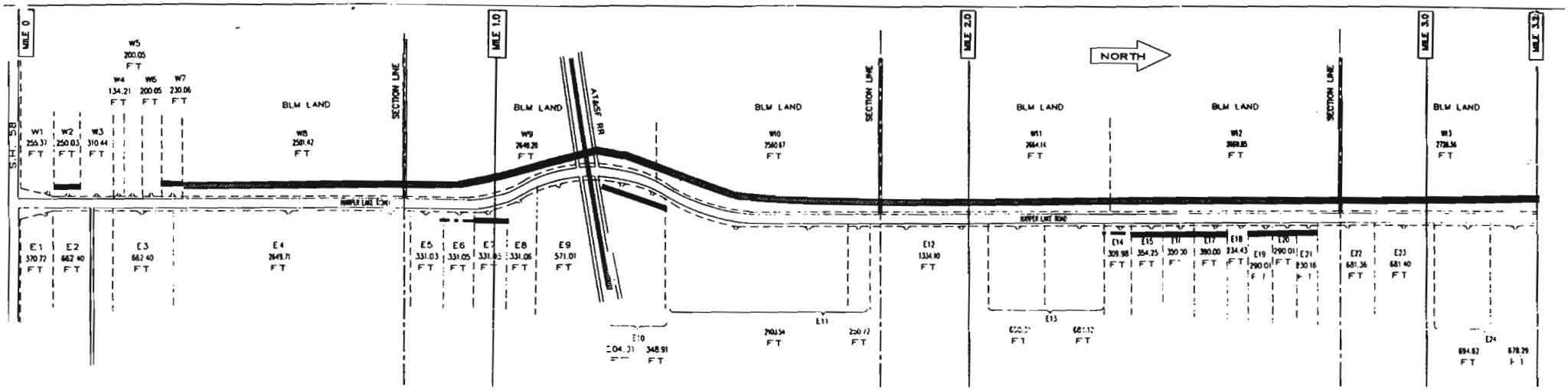
useable habitat between the fence and Harper Lake Road. BLM's ownership of 3.5 miles of property on the west side of Harper Lake Road makes back-lot-line fencing feasible. Due to the pattern of private ownership on the east side of Harper Lake Road, back-lot-line fencing is probably not as feasible.

The Committee also had concerns about the installation of culverts under Harper Lake Road. Based upon the testimony of HLC's witness and observations during the field trip, the Committee believes that the topography along Harper Lake Road is not conducive to the placement of culverts without substantial regrading of the elevation of the road surface. As it pertains to the Harper Lake Road tortoise-proof fence project, the Committee also learned from Dr. Berry that the implementation of a culvert system is of lower priority. To the extent that the culverts are intended to provide some individual tortoises with access to their home range on the other side of Harper Lake Road or are intended to prevent genetic isolation, these are of lesser priority than conservation of existing populations and so could be postponed. By providing temporary cover for the desert tortoise, the culverts could also become areas of opportunistic predation for tortoises in or emerging from the culverts.

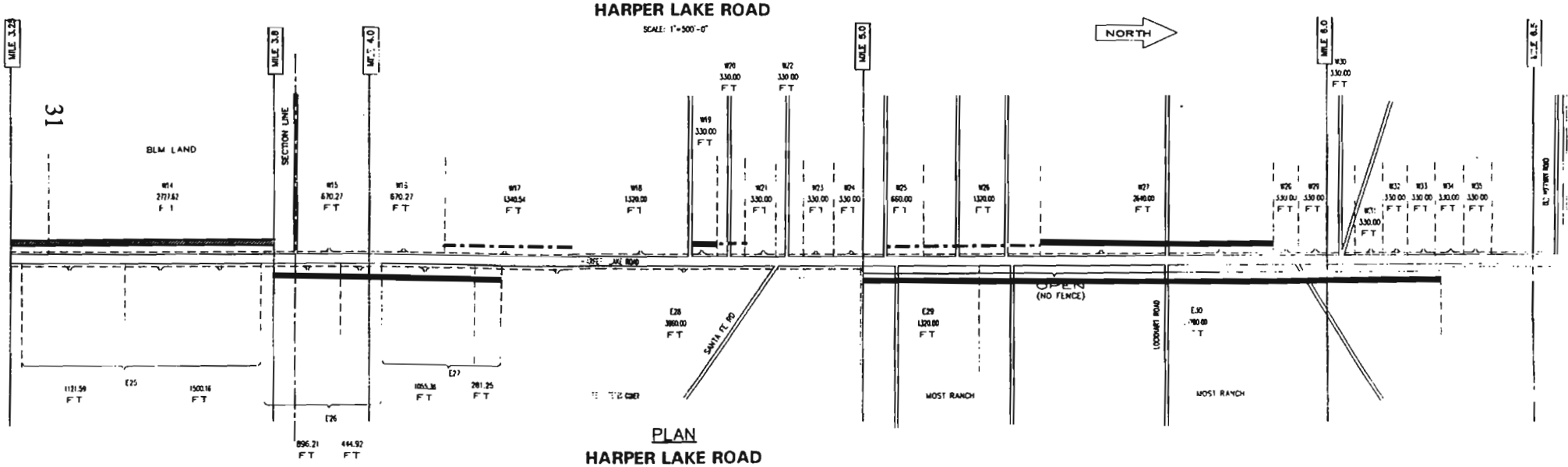
Additionally, the proposed tortoise-proof fence design included burying half of the 36" wire mesh fence in order to prevent burrowing, therefore adding substantially to the cost of construction. The Committee was interested in whether the potentiality for burrowing warranted the added expense. A study cited in testimony indicated that the incidence of burrowing at the fence in a captive environment was not noteworthy and probably not a problem. While not advocating ineffective fencing, there was acknowledgement that, for the same amount of money, an unburied fence permits more linear distance to be constructed than a buried fence.

Other barriers can be used to deter access to the roadway. Among those discussed since Condition 4(f) was adopted are telephone poles laid end-to-end and possibly chained together. The tortoise in general, and the juveniles in particular,

fence was not essential to its effectiveness, then would not the addition of mesh fencing above ground on the existing posts significantly reduce many ongoing mortalities to the desert tortoise. The answer was "yes, but...". The Harper Lake Road fence supporters essentially testified that the fencing of Harper Lake Road is relatively more important because CalTrans has already committed to constructing a fence along U.S. 395, albeit at an unknown time.



PLAN
HARPER LAKE ROAD
SCALE: 1"=500'-0"



PLAN
HARPER LAKE ROAD
SCALE: 1"=500'-0"

NOTE:
ALL LOTS ARE PRIVATELY OWNED UNLESS THEY ARE CALLED OUT AS BLM LAND OR NOTED OTHERWISE.
"MOST RANCH" OWNERSHIP IS NOTED.

LEGEND

W29 - ASSESSOR PARCEL NUMBER, W-WEST SIDE, E-EAST SIDE, SEE OWNERSHIP LIST- PP. 1-6
330.00 FT- WIDTH OF PARCEL
- - - - - - - - - PROPOSED TORTOISE FENCE
═══ - EXISTING ROAD
O- 7/15/92 - TORTOISE SIGHTING W/SIGHTING DATE
^ - PROPOSED TORTOISE FENCE OPENING
MILE MARKER (FROM HWY 58)
- EXISTING RAILROAD
- - - - - - - - - SECTION LINE
- - - - - - - - - PROPERTY BOUNDARY LINE

WILLING TO GRANT EASEMENT
BLM PROPERTY
UNWILLING TO GRANT EASEMENT

500' 0 HORIZ 500' 1000'
GRAPHIC SCALE

FIELD BOOK REF.		ROAD DEPARTMENT	STREET IMPROVEMENT PLANS	W.O. NO. 92-118
			PROPERTY LINES, ROADS, PROPERTY OPENINGS ALONG HARPER LAKE ROAD	ROAD NO. HARPER LAKE II
A	ISSUED FOR APPROVAL			FILE NO. T-011
MARK	REVISIONS	APPR DATE		SHEET 1 of 1

EXHIBIT 1 - Parcel Map

The proponents of the fence suggest that any amount of fence is better than none, for any portion of fence can obstruct tortoise passage into the roadway for that given length of fence. In all cases, the proponents of the fence have faith that over time any gaps in the fence will be filled in.

The critics of the Harper Lake Road fence suggest that gaps in the fence create potential traps for desert tortoise which pass through a gap on one side of the fence and cannot find an available gap on the other side of the Road.

Based upon its understanding of the behavior patterns of the desert tortoise as disclosed by the record the Committee finds that the gaps in the tortoise-proof fence, rather than merely resulting in an incomplete fence, actually constitute a potential adverse impact to the desert tortoise, which itself must be avoided or mitigated. The record clearly discloses that the desert tortoise population traverses Harper Lake Road. For some animals, the roadway may bisect their home range since the same animals have been located more than once on opposite sides of the Road. So long as gaps exist in the fence on both sides of the Road, the best situation is that the gaps are opposite each other, giving the tortoise virtually a straight line across the Road.

As any gaps become more misaligned, the peril to the desert tortoise increases. It is easy to recognize that a common occurrence would be for the tortoise to enter the roadway environment through a gap in the fence on one side only to be blocked by fence on the other side. The tortoise (having learned that movement along the fence results in finding a passage) then searches along the fence and finds no gap within a reasonable distance. The tortoise then re-crosses the Road to search for the original gap and instead encounters a partial fence on the its starting side.

This is not just a hypothetical circumstance. For example, if any of the block of owners on the east side of the Road (Ex. 1, parcels E 15 - 21) does not grant a fence easement, the resulting gap would be facing 3.5 miles of continuous fence on

a "tortoise-proof" barrier, particularly for juvenile or "teenage" tortoises who are small enough to pass under the gate.

Another potential problem with the gates is that they may not remain closed. Absentee property owners might be willing to have their gates padlocked. However, for residents and others regularly using their access to Harper Lake Road, the constant closure of the gates may become too burdensome or annoying and, hence, gates will be left open.

Initially, the Committee was concerned that the open gates would create a separate "gap" problem. However, a brief reading at the Committee's September 20, 1994, hearing of what the federal government would include as illegal "takes" of the desert tortoise disclosed what may become a substantial impediment to acquiring a fence/gate easement from an informed property owner.

If the Committee heard accurately, a federally-defined illegal "take" includes not only "willful and malicious" conduct toward a protected species, but also "other acts." "[O]ther acts" which violate the Endangered Species Act suggests that a property owner who granted a fence/gate easement and either left a gate open negligently or purposefully for his/her convenience which leads to a tortoise death or injury would have exposure to federal criminal or civil charges. (9/20/94, RT 32:12 - 33:7).

Unless and until it is clear that open gates, for whatever reason, will not create exposure to such prosecution to easement grantors (and it is not clear that such immunity could be granted in advance), the Committee cannot ignore a potentially insurmountable disincentive to obtaining sufficient easements from private property owners to construct anything approaching an effective tortoise-proof fence.[18]

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[18] The Committee does not condone deliberate non-disclosure of the potential for such legal exposure from easement grantors.

significant regrading of the Road. Therefore, large trucks and even cars crossing over the culverts will create noise and vibration which will stress the desert tortoise with resulting behaviors which could include loss of necessary body fluids and/or flight from the culvert into predator territory.

To the extent that the culvert system is aimed at perpetuating the opportunities of genetic mixing, Dr. Berry suggested that the greater priority should be on conserving existing desert tortoise populations, so that in the immediate scheme of things the culvert system is a lower priority.

e. Conclusion

The foregoing deficiencies of the original concept of the tortoise-proof fence along Harper Lake Road shows the impracticability of the concept as currently proposed. The underlying objectives of the fence are to keep the tortoise off the Road and keep people away from the tortoise habitat. If private property owners will not provide easements for a complete fence, then either the government must use its powers of eminent domain to acquire the property, or an alternative which does not require permanent easements from unwilling owners should be pursued. The BLM is the governmental agency with power of eminent domain, but has been reluctant to use the power for this purpose. This reluctance contributes to the impracticability.

Combining the use of BLM property and back-lot-lines of private parcels upon which tortoise-proof fences can be built meets the underlying objectives of the mitigation since boundary fencing in no way interferes with either the use of the property or access to the property from Harper Lake Road. There are virtually no gates involved, so there is no reason the fence cannot be continuous. This manner of fencing would also remove any risk of federal prosecution of owners for tortoise deaths caused by an open gate. This solution appears to be easily implementable on

IV. STATE/FEDERAL JURISDICTIONAL DILEMMA

There are two separate permits, issued by different jurisdictions, both requiring the construction of a tortoise-proof fence. The Energy Commission certification, on behalf of the State of California, was issued after consultation with the CDF&G and contains Biology Condition 4(f) which is the subject of these proceedings raised by the Request to Amend. The federal permit, issued subsequently by the BLM in consultation with the USF&WS, acknowledges Biology Condition 4(f) and basically duplicates its terms.

At the time of the issuance of these permits, the State and federal governments were working cooperatively and collaboratively to expedite the permitting process and promote regulatory unity and certainty, all to the apparent benefit of the desert tortoise.

However, at this juncture, with HLC seeking to amend its State permit through an adjudicatory process which takes evidence and comments from all participants and attempts to reach the best decision based upon that record, there is potentially a kind of regulatory *double jeopardy* for HLC by virtue of the separate state and federal permits. Even if the Commission amends the current Biology Condition 4(f) after deliberating upon a fully developed record, the BLM nevertheless retains both the jurisdiction and power to enforce its own version of condition 4(f) or require the removal of the existing transmission line, thereby shutting down the powerplant.

The BLM started an enforcement process to do just that with its Decision to Terminate in December 1993, well after this State proceeding had begun and hearings were contemplated. The federal government was not required to participate in our proceeding to consider HLC's Request to Amend Condition 4(f). The Committee asked for federal participation to develop the best possible factual information concerning the tortoise-proof fence as mitigation and to avoid a multiplicity of proceedings which

The Committee is concerned that with the deficiencies in the original tortoise-proof fence concept, the money from HLC could be spent on a fence system which, because some agencies believe that pieces of fence are better than none at all, will have numerous and substantial gaps continuing well into the future. A property owner who, within the first year or two of negotiations, has not granted an easement is not a likely candidate to do so in the foreseeable future. To believe otherwise is wishful thinking, and to base regulatory decision-making on the hope that such reluctant owners will change their minds appears imprudent. Numerous and substantial gaps in the tortoise-proof fence are a threat to the well-being of the desert tortoise. If there is sufficient reason to seal 6" gaps around the gates, there is logically a more compelling reason to avoid gaps measured in the hundreds or thousands of feet. If the high level of participation by private property owners which is necessary for an effective tortoise-proof fence cannot be obtained in a reasonable amount of time, the original idea of a fence along Harper Lake Road becomes infeasible. Under these circumstances, the permitting agencies should reevaluate how to best protect the tortoise.

To do otherwise would be merely acquiescing in a measure in which, under these circumstances, the Committee has little confidence will provide any significant aid to preserving the desert tortoise. While a tortoise-proof fence may be effective mitigation against vehicle mortalities, as on Highway 58, the fence must appear in the right circumstances. The situation on Harper Lake Road is not the right circumstance.

Moreover, the threat of a traffic impact from this project peaked long ago with the height of powerplant construction. Building a tortoise-proof fence now is not going to protect the desert tortoise against construction traffic. Condition 4(f) was conceived in light of planned development not only of SEGS VIII but also units IX, X, XI and XII. SEGS IX has been built, but the remainder of the plants has been abandoned. These units were built on abandoned alfalfa fields. The traffic counts now appear to be no greater than in the heyday of the alfalfa businesses sometime

to make precise calculations, the $489,300 put up by HLC for 6.5 miles of fencing on Harper Lake Road would fence dozens and dozens of miles on U.S. 395 or Highway 58 with an effective, though less fancy fence.

Moreover, it is apparent from the transcript of the Committee's September 20, 1994, hearing that the BLM and others seek easements for a fence in perpetuity. (RT 49:4-12) Perpetuity is far beyond "project related" impacts during the remaining 20 to 30 year life of the project. If only impacts from the project are to be mitigated, the easement need be no longer than 30 years. Easements in perpetuity only make sense as part of very long range plans to set aside valuable habitat for the planned recovery of the desert tortoise. However, the fence, particularly along the west side of Harper Lake Road, will anchor the eastern boundary of federally designated Critical Habitat. The Committee believes that short term prevention of more desert tortoise losses and long term plans for recovery of the species are common goals. When limited financial resources are available to advance those goals then the most cost-beneficial measures should be taken first.

The dilemma for the Committee is whether it should pursue other measures which, based on the record, appear to have a greater potential to save more tortoise than the Harper Lake Road fence. Furthermore, HLC faces the potentiality that the federal government will reject any mitigation other than its own and demand that HLC construct the Harper Lake Road fence or face closure of its operations. The Committee seeks to avoid this unwarranted consequence.

a. <u>The "Solution"</u>

To address this dilemma, the Committee has chosen to:

- provide an opportunity for the fence proponents' optimism about the obtaining of necessary easements to be realized by giving the Desert

i. Threshold of Easement Participation

Having found that a high level of participation in obtaining easements was necessary to avoid a tortoise-proof fence which would not itself be detrimental to the tortoise, the Committee reviewed the record for information which would be helpful in determining the minimum threshold of participation which is sufficient for fence construction to proceed.

The Committee decided that the threshold should be determined on the basis of the percentage of linear footage which could be initially unfenced since minimizing gaps, including through and around access gates, is a significant goal of the fence proponents. This approach is preferred over basing the threshold on the percentage of property owners granting easements since there is such variation in lot sizes that this method creates uncertainty as to how large the initial gaps might be.

Next, the Committee was cognizant that there is a logical basis to treat the east and west sides of the Harper Lake Road differently. The west side is characterized by large publicly owned parcels and part of the federally designated Critical Habitat. At its north end, the west side of Harper Lake Road also adjoins the existing tortoise-proof fence which runs around the perimeter of the SEGS projects. Clearly, there would be a benefit, in terms of sealing tortoise passages, from joining the Harper Lake Road fence to the project's perimeter fence. Thus, on the west side, the tortoise-proof fence should extend from Highway 58 to the project boundary, a distance of approximately 6.5 miles.

The east side of Harper Lake Road is characterized by many smaller privately owned parcels, with the larger Most Ranch at the north end of the Road. The project's perimeter fence does not extend east of Harper Lake Road. It appears to the Committee from Exhibit 1 that the southern boundary of the Most Ranch, which is approximately 5 miles north of Highway 58, is the appropriate termination of a

else, this indicates to the Committee the level of gap avoidance the fence proponents seek to achieve in designing what they believe is appropriate mitigation. However, all 720 feet of gate openings (for both sides) represent 2 percent of the linear distance of only the west side. It is not clear whether or how the Committee should factor in this information. If 720 linear feet were used as a guide, the threshold level could be defeated by as few as three unwilling owners per side. Substantially more than that level of unwillingness has already been recorded in response to the HLC solicitation letter.

Lastly, the Committee thoroughly reviewed Exhibit 1 for patterns of ownership and parcel sizes and then considered the testimony concerning back-lot-line fencing and concluded that 5 percent linear non-participation on each side of the Road represented an appropriate threshold. Five percent is 1,716 feet on the west side, and is 1,320 feet on the east side. While such linear distances are less restrictive than the goals established by the fence proponents, they nevertheless represent an overwhelming percentage of the distance which appears fenceable *as a practical* matter.

Thus, the Committee establishes 95 percent linear distance participation on each side of Harper Lake Road as the minimum threshold to permit the release of HLC's mitigation funds for procurement of fencing materials and actual construction of the fence. Since the Committee also endorses the use of side-lot-line fencing, the linear distance used to calculate achieving the threshold shall be only that footage paralleling Harper Lake Road on a north/south axis. Since the expert testimony did not endorse a fence only on the west side of Harper Lake Road, the attainment of the threshold levels must occur on both the west side and east side of Harper Lake Road.

V. FINDINGS AND CONCLUSIONS

Findings

1. Generically, tortoise-proof fencing can be effective mitigation against vehicle mortalities to the desert tortoise.

2. To have a greater potential for participation by private property owners in granting easements for a tortoise-proof fence, the mitigation concept must be broadened to include: (1) fencing along the back-lot and side-lot-lines of properties adjoining Harper Lake Road and (2) temporary measures on properties whose owners will not grant permanent or long term easements.

3. A tortoise-proof fence along Harper Lake Road would be effective mitigation against vehicle mortalities only if there is 95 percent participation by private property owners on each side of Harper Lake Road in granting easements for the construction of fence; without such a level of participation, an incomplete fence is itself a threat to the well being of desert tortoise populations along Harper Lake Road.

4. There are mitigation measures, other than the tortoise-proof fence along Harper Lake Road, which will better prevent desert tortoise mortalities from vehicle impact and other causes, and more significantly aid in desert tortoise recovery.

Conclusions

1. While not the Committee's first choice among all available measures to protect the desert tortoise, the Committee believes that to avoid a potential conflict with the conditions of the federal permit relating to SEGS VIII, the DTPC should be given a sufficient opportunity, in time and the use of a portion of funds contributed by HLC, to acquire easements from private property owners for the expanded concept tortoise-proof fence/barrier.

2. It is an imprudent expenditure of the funds contributed by HLC to spend money for the construction of only discontinuous portions of a fence;

APPENDIX A - CONDITIONS

The following conditions are integrated with the discussion of the ORDER, are not severable with the requirements of the ORDER, and shall be interpreted consistently with the discussion in the ORDER.

1. HLC Responsibilities

Within 30 days of adoption of this ORDER, Harper Lake Company (representing LSP VIII and LSP IX) shall tender to the Desert Tortoise Preserve Committee for deposit in the Naval Weapons Center Federal Credit Union in Ridgecrest, California, a lump sum payment of $489,300. No additional acts, tender or other forms of consideration or payment from HLC, LSP VIII and LSP IX shall be required for the purpose of satisfying off-site traffic impact mitigation.

Upon tender of such payment, HLC, LSP VIII and LSP IX, including their officers and employees, shall have no duty to construct a tortoise-proof fence along Harper Lake Road or to conduct roadway monitoring along Harper Lake Road and shall be released from any liability for incidental "takes" of desert tortoise allegedly related to Harper Lake Road traffic impacts, except willful and deliberate violations of the applicable Endangered Species Acts.

2. DTPC Responsibilities

If the Desert Tortoise Preserve Committee accepts payment of $489,300 from HLC representing LSP VIII and LSP IX, it shall initially pursue the acquisition of necessary easements for a tortoise-proof fence and the construction and maintenance of a tortoise-proof fence in the Harper Lake Road area, subject to the conditions enumerated below.

3. Steering Committee

A Steering Committee shall oversee the activities of the DTPC in executing this ORDER and using the mitigation funds tendered by HLC. The Commission's Compliance Project Manager shall constitute the Steering Committee. Other

poles laid end-to-end. Telephone poles should be chained or cabled together to prevent their removal.

For privately owned property, the lowest priority shall be given to a road frontage tortoise-proof fence with as many as 60 access gates.

At all times, the number of gates shall be kept to a minimum.

The wire mesh (hardware cloth) component of the tortoise-proof fence should be buried, except if the added cost of burying prevents the completion of the barrier using only funds available from LSP VIII and LSP IX.

The installation of culverts is optional, based upon the availability of suitable roadside properties, the topography of adjoining areas, and the cost of installation.

To provide flexibility, the Steering Committee may change the priority in the fence design as circumstances warrant.

6. The DTPC shall provide the Steering Committee a budget for its expenditures within 30 days of the tender of payment by HLC, followed thereafter by a revised budget whenever proposed expenditures are changed.

7. Initially, DTPC may use $50,000 of HLC's $489,300 payment for the purpose of acquiring necessary easements. The DTPC may petition the Steering Committee for additional funds from the HLC payment if needed. No funds shall be transferred or paid to easement grantors unless and until 95 percent participation is achieved (see Condition 10).

8. Upon initial contact, inform potential easement grantors in writing as follows: "Under the terms of the Federal Endangered Species Act, as interpreted and enforced by the Bureau of Land Management, the grantor of an easement for a tortoise fence with gate may be subject to federal prosecution in the event a desert tortoise is killed or injured on Harper Lake Road after passing through the grantor's unsecured gate."

This requirement shall be waived only if the Bureau informs the Preserve Committee in writing that grantors will not be subject to prosecution for vehicular tortoise moralities due to an open gate.

or to conduct roadway monitoring along Harper Lake Road and shall be released from any liability for incidental "takes" of desert tortoise allegedly related to Harper Lake Road traffic impacts, except willful and deliberate violations of the applicable Endangered Species Acts.