FINAL

Environmental Impact Statement / Environmental Impact Report

Mountain View IV Wind Energy Project

OCTOBER 2008

RESPONSIBLE AGENCY:
US Dept. Of Interior
Bureau of Land Management
PO Box 581260
Palm Springs CA 92258-1260

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City of Palm Springs
3200 East Tahquitz Canyon Way
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FINAL
ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

SCH. No. 2006041171
FEIS #CA-660-07-17
FES #08-57

for the

MOUNTAIN VIEW IV WIND ENERGY PROJECT

Prepared for:
City of Palm Springs
3200 East Tahquitz Canyon Way
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October 2008

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Section 1.0
Final EIR/EIS Requirements

1.0 FINAL EIR/EIS REQUIREMENTS

The Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for The Mountain View IV Wind Energy Project, State Clearinghouse No. 2006041171, has been prepared in accordance with the California Environmental Quality Act (CEQA) and the Guidelines for Implementation of CEQA as prescribed by the Secretary of Resources. It has also been prepared following the Guidelines of NEPA for preparation of an EIS. The following is a summary of requirements for the FEIR/EIS.

1.1 FINAL EIR REQUIREMENTS

Section 15132 of CEQA Guidelines requires that a FEIR consist of the following contents:

1. The Draft Environmental Impact Report (EIR) or the revision of the draft.
2. Comments and recommendations received on the Draft EIR either verbatim or in summary.
3. A list of persons, organizations and public agencies commenting on the Draft EIR.
4. The responses of the Lead Agency to significant environmental points raised in the review and consultation period.
5. Any other information added by the Lead Agency.

1.2 FINAL EIS REQUIREMENTS

Chapter 4 of the NEPA Handbook (H-1790-1) states that an abbreviated FEIS shall contain the following:

1. Copies of substantive comments received on the Draft EIS.
2. Responses to comments received on the Draft EIS.
3. A section with specific modifications and corrections to the Draft EIS in response to comments.
4. No rewriting or reprinting of the Draft EIS is necessary.

1.0 FINAL EIR/EIS REQUIREMENTS

1.3 FINAL EIR/EIS OVERVIEW

This Final EIR/EIS incorporates by reference, the September 2006 Draft EIR/EIS (SCH #2006041171), prepared for the City of Palm Springs and the Bureau of Land Management (BLM) by Dudek, which is available by request from the City of Palm Springs Planning Department and the BLM Palm Springs-South Coast Field Office. It is also available on the BLM-Palm Springs web site. A list of all individuals, organizations and agencies that commented on the Draft EIR/EIS is contained in *Section 2.0* of this document; comment letters and responses are contained in *Section 3.0* of this document. Finally, *Section 4.0* contains text changes or revisions to the Draft EIR/EIS. A list of all individuals, organizations and agencies that were sent a copy of the Draft EIR/EIS are shown in Appendix A of this document.

In order to further inform the public of the potential issues of the Draft EIR/EIS, a public informational meeting was held by the BLM at their Palm Springs Office on April 17, 2007. Notice of the meeting was published in the *Desert Sun* two weeks prior. In addition, two public scoping meetings were held before distribution of the Draft EIR/EIS. One was held on May 25, 2006 at the City of Palm Springs Council Chambers and the other was held on June 27, 2006 at the Desert Highland Community Center within the closest residential neighborhood to the project site.

Section 2.0

List of Persons, Organizations, and Public Agencies who Commented on the Draft Environmental Impact Report / Environmental Impact Statement

2.0 LIST OF PERSONS, ORGANIZATIONS, AND PUBLIC AGENCIES WHO COMMENTED ON THE DRAFT EIR/EIS

This section of the FEIR/EIS contains a complete list of persons, organizations and public agencies who commented in writing on the Draft EIR/EIS.

Letter	Person/Organization/Date
A.	Cecilia Lara, ALUC Planner, Riverside County Airport Land Use Commission, February 27, 2007
B.	Garry George, Executive Director, Los Angeles Audubon Society, March 9, 2007.
C.	Dave Singleton, Program Analyst, Native American Heritage Commission, March 14, 2007.
D.	Steve Smith, PhD., Program Supervisor, Planning, Rule Development and Area Sources, South Coast Air Quality Management District, April 5, 2007.
E.	Terry Roberts, Director, State Clearinghouse, April 6, 2007.
F.	David Goodward, Conservation Chair, San Bernardino Valley Audubon Society, April 7, 2007.
G.	Carol Roberts, Assistant Field Supervisor, Carlsbad Fish and Wildlife Office, US Fish and Wildlife Service, April 9, 2007.
H.	Nova Blazej, Manager, Environmental Review Office, US Environmental Protection Agency, April 5, 2007.

Section 3.0
Comments and Responses

3.0 COMMENTS AND RESPONSES

Section 3.0 of the FEIR/EIS contains all the letters received from persons, organizations and public agencies who commented on the Draft EIR/EIS, accompanied by responses to those comments. All letters have received an alphabetical designation in the order received by the City. Apart from courtesy statements, introductions, and closings, the text of each letter has been divided into topical comments. Brackets in the margin delineate the comments with each bracket assigned a comment number (e.g., A-1, A-2, etc.). Responses to each bracketed comment are attached following each letter. Responses correspond to each bracketed comment with the same number. For example, Comment #1 (A-1) of "Letter A" will be responded to by Response #1 (A-1) of "Letter A"; Comment #1 (B-1) of "Letter B" will be responded to by Response #1 (B-1) of "Letter B", etc.

Letter A

AIRPORT LAND USE COMMISSION
RIVERSIDE COUNTY

County Administrative Center
4080 Lemon St., 9th Floor
Riverside, CA 92501
(951) 955-6132

www.rcaluc.org

February 27, 2007

Mr. Craig A. Ewing, AICP, Director
City of Palm Springs Planning Services
3200 East Tahquitz Canyon Way
Palm Springs, CA 92262

Re: Comments to the Mountain View IV Wind Energy Project
Draft Environmental Impact Statement/Environmental Impact Report

The Riverside County Airport Land Use Commission (ALUC) would like to thank you for the opportunity to comment on the aforementioned document. Please be advised that because the proposed wind turbines are greater than 200 feet in height the project will require ALUC review.

A-1

You may wish to visit our website at www.rcaluc.org to view a map of the Palm Springs International Airport and the Compatibility Plan. It should be noted that ALUC review would still be required for development within the portion of the site within the Airport Influence Area of the Palm Springs International Airport.

Please feel free to contact me at (951) 955-0549 or by e-mail at clara@rctlma.org. should you have any questions.

Sincerely,

Cecilia Lara

Cecilia Lara
ALUC Planner

3.0 COMMENTS AND RESPONSES

Response to Letter A

Response to comments from Cecilia Lara, RCALUCP, February 27, 2007.

A-1 Comment noted. The applicant, AES SeaWest, has submitted the project for ALUC review. The project was conditionally approved by the RCALUCP Commission on May 10, 2007. The approval letter is included in Appendix D of this document.

Letter B

LOS ANGELES AUDUBON SOCIETY
7377 Santa Monica Boulevard, West Hollywood, California 90046-6694
Tel: (323) 876-0202, (888) 522-7423 Fax: (323) 876-7609
Website: www.LAAudubon.org E-mail: LAAS@LAAudubon.org

March 9, 2007

Bureau of Land Management
Palm Springs-South Coast Field Office
Attention: Greg Hill,
P.O. Box 581260
North Palm Springs, Calif. 92258

Dear Mr. Hill:

Thank you for the opportunity to comment on the draft environmental impact statement (EIS) analyzing a proposed wind energy project in Palm Springs, California to be developed by Mountain View Power Partners IV, LLC.

Los Angeles Audubon is a California 501(c)(3) non-profit corporation. The mission of the Los Angeles Audubon Society is to promote the enjoyment and protection of birds and other wildlife through recreation, education, conservation and restoration.

Comments on sensitive species will come from San Bernardino Audubon Society, and we support their findings.

Our comments are as follows:

1. The impacts of the project on migratory birds protected by the Migratory Bird Treaty Act of 1918, and the potential for the project to disrupt migratory or movement patterns of migratory birds, are not disclosed.

a. The surveys are inadequate.

The EIS reports that "Field surveys for the project were conducted on April 26 through 28, 2005, by NRA, Inc. The field surveys were focused on the desert tortoise, but included observations of occupied or potential habitat for other sensitive biological resources."[1] B-1

Comment: This level of effort fails to meet minimum California Energy Commission and California Department of Fish and Game draft guidelines for pre-permitting assessment. In those draft guidelines (to be finalized in August, 2007), the "Pre-Permitting Assessment" chapter "recommends field surveys for at least one full year to encompass variation in bird and bat species composition and abundance during all four seasons. Recommended methods include diurnal avian survey techniques such as bird use counts, small bird

[1] EIS, August 17, 2005 Section 27 Report SEA05-101 Revised November 11, 2006, p.8

counts, and raptor nest searches and nocturnal survey methods to assess the presence of migrating songbirds and other nocturnal migrants.[2]

"Most songbirds, waterfowl, shorebirds, herons, and egrets migrate at night (Kerlinger and Moore, 1989). Nocturnal migrants generally take off after sunset, ascend to their cruising altitude between 300 and 2,000 feet (90–610 meters), and return to land before sunrise (Kerlinger, 1995). For most of their flight, songbirds and other nocturnal migrants are above the reach of wind turbines, but **they pass through the altitudinal range of wind turbines during ascents and descents** and may also fly closer to the ground during inclement weather or when negotiating mountain passes (Able, 1970; Richardson, 2000)."[3]

"If preliminary information indicates potential risks to nocturnal migrants at a proposed wind energy project site, radar and other nocturnal study methods may be employed to determine species composition, abundance, and flight altitude of birds passing through the site."[4]

Two studies of the Coachella Valley and the San Gorgonio Pass have indicated potential risks to nocturnal migrants, and conclude that "approximately 256,000 birds/km could come in contact with wind turbine generators in the fall,"[5] and "approximately 182,000 birds/km could potentially come into contact with wind turbine generators each spring in the WRSA."[6]

This clearly suggests the need for nocturnal study methods.

B-1

b. Proponents replace on-site surveys with a literature search in the EIS, the conclusions imposed on the literature cited in the EIS are arbitrary, confuse the public on the origin of the conclusions, are not scientifically proven with on-site data, are not represented in the literature cited, are not attributed to an expert, and cannot replace actual data on the impacts of the project on migratory birds.

Examples:

(1). The EIS states "The project's biological technical reports cite a number of studies which have looked at incidences of bird collisions with wind turbines, particularly in the San Gorgonio Pass Wind Resource Area where the project is located. These data show very low levels of bird mortality (associated with wind turbines in the San Gorgonio Pass)." [7]

Comment: The technical report only cites two studies: The Sept 2004 study attributed inaccurately to the California Energy Commission (see below) and the Fall. 1982 study published by Southern California

B-2

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[2] California Energy Commission and California Department of Fish and Game. 2007. *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*. California Energy Commission, Energy Facilities Siting Division and California Department of Fish and Game, Resources Management and Policy Division. CEC-700-2006-013-SD, p. E-3

[3] Ibid, p 17

[4] Ibid, p.17

[5] Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area, Fall 1982 (McCrary, et al (1982), p. 73

[6] Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area, Spring 1982 (McCrary, et al (1982), p. 105

[7] EIS, 3.2-14

Edison. Neither study concludes that there are "very low levels of bird mortality (associated in the San Gorgonio Pass)" as the EIS states. The Sept 2004 study states "This study was not specifically designed to provide standardized estimates of avian fatalities and the wide interval between searches (90 days) leads to a high level of uncertainty in the fatality estimates.[8] The 1982 study predicted a high level of bird mortality and outlined methodology and standards for determining that level. Additionally, the conclusions imposed on the cited literature are not attributed to an expert or in fact to any author.

B-2

(2).. The EIS cites the report "*Avian Monitoring and Risk Assessment at Tehachapi Pass and San GorgonioPass Wind Resource Areas, California: Phase 1 Preliminary Results* (September 2004)" in stating that "project impacts to migratory birds are not significant,"[9] and cites the source as California Energy Commission.

Comment: The document cited is a presentation given at a wind industry conference by a research scientist who works independently with the California Energy Commission. Twelve additional authors are listed that include researchers from paid environmental consultants to the wind industry and a government bureau (USDA Forestry Service) as well as California Energy Commission. The co-authors are omitted in the EIS, suggesting that the California Energy Commission authored or authorized the study, or that the Commission made a conclusion based on any data, which they did not, or that the Commission has endorsed the findings of the study as conclusive, which they have not. In fact, the researcher included a disclaimer in his presentation that "This study was not specifically designed to provide standardized estimates of avian fatalities and the wide interval between searches (90 days) leads to a high level of uncertainty in the fatality estimates".[10]

B-3

Comment: The presenter, a researcher from the California Energy Commission himself reports that "it would be desirable to (1) continue the projects for a longer period – at least 2 years; (2) continue the part of the San Gorgonio research associated with the water-covered area, which attracts larger numbers of birds than other subareas within the San Gorgonio WRA; and (3) **use radar, acoustic or other suitable methods to conduct studies of nocturnal bird activity.**" Without studies of nocturnal bird activity, conclusions regarding the impact on migratory songbirds cannot be drawn.

B-4

(3). The EIS attributes the conclusion "that the very large number of migrating birds (approximately 37 million) which have been estimated as passing through the Coachella Valley in the fall, result in very few mortalities (approximately 4 mortalities over 180 wind turbine sites)."[11] to the study *Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area, Fall 1982* (McCrary, et al (1982).

Comment: In fact, that study drew no such conclusion. In fact, the study reported that approximately 37 million birds passed through the Coachella Valley in the fall and an additional "approximately 32 million birds flew through the Coachella Valley during spring 1982,"[12] making the total in 1982 approximately **70 million birds**. The study actually concludes "we estimate that approximately **256,000 birds/km** could potentially come into contact with wind turbine generators each fall in the WRSA" and "approximately **182,000 birds/km** potentially come into contact with wind turbine generators each spring." That total is **438,000 birds/km** that could potentially come into contact with wind turbines each year." The study did not

B-5

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[8] *Avian Monitoring and Risk Assessment at Tehachapi Pass and San Gorgonio Pass Wind Resource Areas, California: Phase 1 Preliminary Results* (September 2004), p.26

[9] EIS, p.

[10] *Avian Monitoring and Risk Assessment at Tehachapi Pass and San Gorgonio Pass Wind Resource Areas, California: Phase 1 Preliminary Results* (September 2004), p.26

[11] Ibid, p.3.2-15

[12] Nocturnal Avian Migration Assessment ofthe San Gorgonio Wind Resource Study Area, Spring 1982 (McCrary, et al (1982).

conclude that "very few mortalities" would result as the EIS claims. And again, this conclusion is not attributed to an expert, the author is not identified.

B-5

(4). The results of the carcass searches cited in the EIS are admitted as inconclusive even by the study itself!

Comment: "This study was not specifically designed to provide standardized estimates of avian fatalities and the wide interval between searches (90 days) leads to a high level of uncertainty in the fatality estimates.[13]

B-6

c. The EIS fails to include a monitoring program.

The 1982 studies recommend monitoring programs that "should include extensive ground counts of dead or injured birds around a variety of wind turbine configurations combined with simultaneous vertical radar – image intensifier observations on the magnitude and altitude of nocturnal migration. This methodology will provide precise information on the number of individuals and species killed or crippled, percent killed of total birds flying over the turbines, altitudinal distribution of birds as related to the number killed, and the effects of weather and lighting on the number of birds killed. In this manner the biological significance of the number and species killed can be more accurately determined than with simple ground counts."[14]

The EIS dismisses any need to measure the impacts of the project on migratory birds, or in fact any other species of birds, animal or plant, or any other environmental impact, relieving proponent of any responsibility to measure the accuracy of proponent's claims and statements regarding migratory songbirds on the project site contained in the EIS.

B-7

Recommendations:

1. Proponent be required to conduct one full year of surveys, including nocturnal assessments, as suggested in the California Energy Commision and California Department of Fish & Game draft guidelines on the siting of wind energy facilities, National Wind Coordinating Committee guidelines on studying Avian Interactions with Wind Turbines, and US Fish & Wildlife Service Migratory Bird Division standards for studies on migratory birds (which actually require three years);

B-8

2. Proponent be required to conduct post-construction surveys to measure the impacts of the operation of turbines in comparison to the pre-construction claims made by proponent;

B-9

3 Proponent and future applicants for wind energy projects, and applicants for repowering of existing wind energy projects, be required by permitting agencies in the San Gorgonio Wind Resource Area (BLM, Riverside County Planning Commission, tribes, others) to pay into a fund for one time seasonal studies that include nocturnal assessments with radar and other methodology to determine the impacts, if any, on migratory songbirds protected by the Migratory Bird Treaty Act of 1918 and other national, state and international laws and agreements in the San Gorgonio Pass Wind Resource Area. These studies and their findings could relieve all applicants for new wind projects, as well as applicants for repowering of existing projects, of costly on-site studies for individual projects, would address the alarming predictions raised in the 1982 studies by Southern California Edison, and determine areas of the San Gorgonio Wind Resource Area which might be of unacceptable risk for migratory songbirds. These funds would accumulate quickly, and would surely be matched by various agencies including U.S. Department of Fish & Wildlife, California Fish & Game, California Energy

B-10

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[13] *Avian Monitoring and Risk Assessment at Tehachapi Pass and San Gorgonio Pass Wind Resource Areas, California: Phase 1 Preliminary Results* (September 2004), p.26

[14] Ibid, p.108

Commission PIER program and other agencies and non-profits that would benefit from the data accumulated in these conclusive studies.

B-10

We thank you for the opportunity to comment on this project, and hope that these and other comments will cause a more extensive environmental review than the one offered in the EIS.

Respectfully submitted
Garry George
Executive Director

Response to Letter B

Response to comments from Garry George, Los Angeles Audubon Society, March 9, 2007.

B-1 On September 26, 2007, the California Energy Commission approved the voluntary *Statewide Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*). The document states in an abstract at the beginning of the report "These voluntary guidelines provide information to help reduce impacts to birds from new development or repowering of wind energy projects in California." As voluntary guidelines, they have no official standing or regulatory authority. Since project biological surveys were completed even before these protocols were in draft form, it was not utilized for this project. Therefore, the guidelines will not be incorporated into this project but will be included as appropriate for future actions.

Since these guidelines are voluntary and were not in place during the biological surveys for the project, the use of literature review and 100 percent coverage surveys was and is considered adequate to address CEQA and NEPA requirements, and the question of significant impacts.

The literature review for this project, including "Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area", Fall 1982 and Spring 1982, Michael D. McCrary, Robert L. McKernan, Ross E. Landry, William D. Wagner, et al, 1983 and 1984, and the Natural Renewable Energy Study (NREL, 2005) study, indicated that collisions occur but that these collisions are not substantial in overall population terms. To quote from the 2005 NREL study:

"The San Gorgonio wind plant consists of approximately 3,000 turbines of various types and sizes. Previous studies conducted at the San Gorgonio wind plant documented relatively low raptor fatality, with relatively higher fatality of passerines and waterbirds. Researchers estimated 6,800 birds were killed annually at the San Gorgonio wind facility based on 38 dead birds found while monitoring nocturnal migrants (McCrary *et al.* 1986). The 38 avian fatalities included 15 passerine species. McCrary *et al.* (1983, 1984) estimated that 69 million birds pass through the Coachella Valley annually during migration; 32 million in the spring and 37 million in the fall. Considering the high number of passerines migrating through the area relative to the number of passerine fatalities, the authors concluded that this level of fatality was biologically insignificant (McCrary *et al.* 1986)."

With respect to the comment that songbirds and other nocturnal migrants fly at heights above the reach of wind turbines, but they pass through the altitudinal range of wind turbines during their ascents and descents and may also pass closer to the ground during inclement weather, pertinent information about this is contained in the two McCrary et al, (1983, 1984) Spring and Fall reports. These reports contain nocturnal migratory bird data gathered at 7 sites that included the vicinity of the Mountain View IV site. In these two studies, they conducted nocturnal migration

surveys approximately 0.5 km east of the Mountain View IV proposed wind turbines, identified as Site 4 in the report. At Site 4 the topography, vegetation and surrounding lands are very similar to the Mountain View IV site, based on personal inspection of the two areas (Karen Kirtland, NRA, Inc.). In the fall study, Table 6 shows that at Site 4 the mean altitude of passerines was 449.4 $\pm$ 5.8 meters above the ground, which is well above the tip of the Mountain View IV blades, which are 91 meters above the ground. Figure 16 shows that for Site 4 only 4% of nocturnal passerines were observed below 93 meters altitude above the ground. Table 10 indicates less than 2.2% of fall nocturnal passerine migrants were observed in the rotor height zone of the proposed wind turbines. In the spring study, Table 10 shows that at Site 4 the mean altitude was 775 $\pm$ 77 meters, which is even higher than the fall data. Table 13 shows that for Site 4 only 5.8% of the nocturnal passerines were observed between 36 meters and 92 meters above the ground, corresponding to the rotor height zone of the Mountain View turbines. These data collected at Site 4 show noticeably smaller percentages than the average for the 7 sites surveyed in the two McCrary studies, being 4% for Site 4 versus an average of 15% for the Fall, and 5.8% for Site 4 versus an average of 12.9% for the spring. These data indicate the potential risks to migratory birds at the Mountain View IV site are very likely to be lower than at other wind energy sites studied in the San Gorgonio Pass because the observed percentages of birds and the observed numbers of birds flying at heights that could expose them to risk were lower than the averages.

Because the NREL study shows that the estimated bird fatalities at San Gorgonio are low in comparison to other wind energy projects, plus the migratory bird flight height data in the Mountain View IV site area indicate a reduced migratory bird risk compared to the averages for the San Gorgonio Pass, we conclude that the concern raised in Comment B1 about the need for further studies of migratory bird risk is not supported by the studies.

B-2 The comment states that the EIR/EIS conclusions based on literature searches are arbitrary, confusing, inadequately cited, are not scientifically proven because they are not based on on-site data, and cannot replace actual data of impacts of the project on migratory birds. Since there are no operational wind turbines on the project site, on-site surveys analyzing bird collisions with wind turbines on the site were not possible. One study cited in Section 3.2 of the EIR/EIS is the preliminary findings for Phase I of the study: *Avian Monitoring and Risk. Assessment at the San Gorgonio Wind Resource Area, Phase I Field Work: March 3, 1997 – .May 29, 1998 Phase II Field Work: August 18, 1999 - August 11, 2000*, August 2005 by R. Anderson, J. Tom, and N. Neumann of *State Energy Resources Conservation and Development Commission, Sacramento, California*; and W.P. Erickson, M.D. Strickland, M. Bourassa, K.J. Bay, and K.J. Sernka of *Western EcoSystems Technology, Inc. Cheyenne, Wyoming*. The report titled *Avian Monitoring and Risk Assessment at Tehachapi Pass and San Gorgonio Pass Wind Resource Areas, California: Phase 1 Preliminary Results* was presented as part of the National Avian-Wind Power Planning Meeting III in May 1998. The August 2005 study is much more extensive and

specific to the San Gorgonio Pass wind resource area. The conclusions in the 2005 study are similar to the 1998 preliminary report, including Section 10, Discussion/Conclusions (pg. 33) which states "Observed fatality rates during the Phase I and Phase II components of this study were very low. Due to the low fatality rates, strong patterns in comparison results of fatality and the risk index among levels of factors such as geographic location and type of turbine were not very apparent." The report also concludes that "Rock doves were the most common fatality observed during the study and contributed to the 'other bird' category being most at risk. Raptor fatality was very low, but our risk index suggested they still were more at risk than other groups, such as corvids and waterbirds." In the case of raptor fatalities, this report estimated approximately 0.03 raptor fatalities per MW per year unadjusted for searcher efficiency and scavenging bias. That is, some bird carcasses could have been under counted due to removal by scavengers, predators, and other removal sources and failure of searchers to find all carcasses. However, some avian fatalities may not have been caused by wind turbines, but were still counted as such in the study.

Regarding conclusions in Section 3.2 of the EIR/EIS, it is stated at the beginning of the section that the discussion was based primarily upon three General Biological Resources Assessments prepared for the project by biologist Karen Kirtland of Natural Resources Assessment, Inc. (NRA). Therefore, conclusions were based on the opinions of NRA, Inc. and from sources referenced in their reports. Each of those reports was included in Appendix B of the EIR/EIS, available by request or on the BLM-Palm Springs web site.

B-3 As stated in the preceding response, the referenced report was presented at a wind energy conference, as one of numerous other studies. The main author of the report is the California Energy Commission (CEC) as nine of the thirteen authors were associated with CEC, while three were with Western EcoSystems Technology, Inc. and one with Pacific Southwest Research Station. In Comment B-3 it is implied that the report is somehow invalid because four of the thirteen authors are paid consultants. The use of consultants by government or other responsible agencies to prepare environmental studies is quite common and should in no way invalidate the results. Nonetheless, it is clear that CEC was the lead agency for that report and therefore, should not be considered biased.

B-4 The general discussion at the end of the paper which recommends that the project be continued for at least 2 years refers to the completed 2005 study referenced in Response B-2, which did in fact complete one more year for Phase II for a total of two years of data. The lack of further nocturnal bird activity data does not change the result of the two-year study which documents total avian fatalities. However, the McCrary 1983, 1984 reports provide useful nocturnal migratory data that supports the conclusions that migratory bird fatalities at the Mountain View IV site, based on data collected at Site 4 nearby, are not likely to be high in comparison to the other 6 sites studied in the San Gorgonio Pass. The quoted comment regarding nocturnal studies

in the 2005 report was not found. The only reference to future studies is the following: "In any future studies at San Gorgonio, we recommend additional scavenging trials be conducted, using bird species that are more representative of the species/groups targeted for monitoring. We also recommend that searches be conducted more frequently and include rows of turbines. Initial scavenging studies should be used to direct how often a plot is to be searched."

B-5 The reference to the 1982 study refers only to the number of migratory birds that were estimated to pass through the study area. The number of 4 fatalities over 180 turbine sites should have been attributed to the *Avian Monitoring and Risk Assessment at Tehachapi Pass and San Gorgonio Pass Wind Resource Areas, California: Phase 1 Preliminary Results,* presented as part of the National Avian-Wind Power Planning Meeting III in May 1998. It is acknowledged that the 1982 study did not conclude "very few mortalities" would occur, and it does make a statement about the number of birds that "could come into contact with wind turbines". This statement was based solely on the estimated number of birds flying through the pass, and their flying height and in no way concludes that all such birds would be killed. As stated in Response B-2, the 2005 study based on actual counts of avian carcasses does conclude that observed fatality rates were very low.

B-6 It is recognized that the August 2005 report referenced in Response B-2 states that the study was not specifically designed to provide standardized estimates of avian fatalities. However, given that the report represents two years of data including 830 carcass searches during Phase I and 600 carcass searches during Phase II, some relevant conclusions as to potential avian mortality rates for the proposed project can be made. While no precise prediction of future avian fatalities can be made for the proposed project, this extensive data supports the conclusion that mortality rates are expected to be quite low. Additional avian mortality surveys would not predict an exact number of future fatalities from a proposed project as there would likely be some variation due to location, type of wind turbines and environmental conditions that can change from year to year.

B-7 With regard to the comment that the EIR/EIS fails to include a monitoring program, the project proponent will add a mitigation measure that twelve (12) months of post-construction fatality monitoring, with scavenging and observer efficiency corrections, will be conducted. Vertical radar or image intensifier observations data would not be useful for assessing bird collision mortalities.

Mitigation Measure 3.2-20:

The Right of Way (ROW) Holder shall conduct a post-construction avian and bat fatality survey over a 12 month post-construction period beginning with commencement of commercial operation of the turbines. The survey shall be conducted in spring, summer, fall and winter seasons, using standardized survey protocols, as appropriate for the site and any species of particular concern. The study shall establish statistical adjustments for observer bias and

scavenging bias. All surveys and studies shall include a disclosure of assumptions, survey protocols and statistical methodologies in the monitoring reports. The final report shall be provided to the Bureau of Land Management (added to Section 4.0 of this Final EIR/EIS).

B-8 As stated in Response B-7, a 12-month post-construction avian and bat fatality survey will be conducted per Mitigation Measure 3.2-20.

The National Wind Coordinating Committee document "Studying Wind Energy and Bird Interactions: A Guidance Document", 1999 is advisory and does not have regulatory effect or authority. In the Purpose and Scope statement of these guidelines, it states: *"The intent of this document is not to advise regulators on what the objectives of a study of avian impact should be, but rather to give guidance on how to conduct a scientifically defensible study that achieves specified objectives, using methods and metrics that can be meaningfully compared against an agreed-upon benchmark."* This is a different purpose than what has been established for the EIR/EIS for the Mountain View IV project.

The US Fish & Wildlife Service Migratory Bird Division Standards for studies on migratory birds could be applicable if the Service determined that such studies were warranted on this project during NEPA scoping. No such determination was made on this project.

B-9 Please refer Response B-7.

B-10 Comment is noted. However, such a funding mechanism is beyond the scope of the environmental analysis for the proposed project and would involve extensive coordination among numerous agencies. It is unreasonable to impose such a fee on the current project without some regional consensus among the various responsible agencies in the San Gorgonio wind resource area that would establish uniform requirements.

Letter C

STATE OF CALIFORNIA — Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

March 14, 2007

Mr. Craig A. Ewing, AICP, Planning Director
CITY OF PALM SPRINGS
3200 E. Tahquitz Canyon Way
Palm Springs, CA 92262

Re: SCH#2006041171; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) and NEPA Environmental Impact Statement (DEIS) (federal Bureau of Land Management EIS Lead Agency) for **Mountain View IV Wind Energy Project**; City of Palm Springs; Riverside County, California

Dear Mr. Ewing:

Thank you for the opportunity to comment on the above-referenced document. The Native American Heritage Commission is the state's Trustee Agency for Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per CEQA guidelines § 15064.5(b)(c). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

√ Contact the appropriate California Historic Resources Information Center (CHRIS). Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/653-7278)/ http://www.ohp.parks.ca.gov/1068/files/IC%20Roster.pdf The record search will determine:

- If a part or the entire APE has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded in or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present.

√ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

√ Contact the Native American Heritage Commission (NAHC) for:

- A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section: .

- The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE).

√ Lack of surface evidence of archeological resources does not preclude their subsurface existence.

- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

C-1

C-2

- CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the CEQA Guidelines mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

√ Lead agencies should consider avoidance, as defined in § 15370 of the CEQA Guidelines, when significant cultural resources are discovered during the course of project planning.

C-2

C-3

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton, Program Analyst

Cc: State Clearinghouse

Attachment: List of Native American Contacts

Native American Contacts
Riverside County
March 14, 2007

Cabazon Band of Mission Indians
John A. James, Chairperson
84-245 Indio Springs Parkway Cahuilla
Indio , CA 92203-3499
(760) 342-2593
(760) 347-7880 Fax

Twenty-Nine Palms Band of Mission Indians
Mike Darrell, Chairperson
46-200 Harrison Place Luiseno
Coachella , CA 92236 Chemehuevi
tribal-epa@worldnet.att.net
(760) 775-5566
(760) 775-4639 Fax

Cahuilla Band of Indians
Anthony Madrigal, Jr., Interim-Chairperson
P.O. Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
(951) 763-2631

(951) 763-2632 Fax

Colorado River Reservation
Micheal Tsosie, Cultural Contact
Route 1, Box 23-B Mojave
Parker , AZ 85344 Chemehuevi
symi@rraz.net
(928) 669-9211
(928) 669-5675 Fax

Ramona Band of Mission Indians
Joseph Hamilton, vice chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Augustine Band of Cahuilla Mission Indians
Mary Ann Green, Chairperson
P.O. Box 846 Cahuilla
Coachella , CA 92236
(760) 369-7171
760-369-7161

Torres-Martinez Desert Cahuilla Indians
Raymond Torres, Chairperson
PO Box 1160 Cahuilla
Thermal , CA 92274
rtorress@torresmartinez.com
(760) 397-0300
(760) 397-8146 Fax

Morongo Band of Mission Indians
Britt W. Wilson, Cultural Resource Coordinator
11581 Potrero Road Cahuilla
Banning , CA 92220 Serrano
britt_wilson@morongo.org
(951) 849-8807
(951) 755-5200/323-0822-cell
(951) 922-8146 Fax

[redacted]

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#2008041171; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for Mountain View Wind Energy Project; also a NEPA draft Environmental Impact Statement document for submission to the federal Bureau of Land Management (BLM); State Lead Agency: City of Palm Springs; Riverside County, California.

Native American Contacts
Riverside County
March 14, 2007

Torres-Martinez Desert Cahuilla Indians
William J. Contreras, Cultural Resources Coordinator
P.O. Box 1160 Cahuilla
Thermal , CA 92274
760) 397-0300
(760) 275-2686-CELL
(760) 397-8146 Fax

[redacted]

Agua Caliente Band of Cahuilla Indians
Richard Milanovich, Chairperson
650 Tahquitz Canyon Way Cahuilla
Palm Springs , CA 92262
lfreogoz@aguacaliente.net
(760) 325-3400
(760) 325-0593 Fax

Agua Caliente Band of Cahuilla Indians THPO
Richard Begay, Tribal Historic Perservation Officer
650 Tahquitz Canyon Way Cahuilla
Palm Springs , CA 92262
rbegay@aguacaliente.net
(760) 883-1368
(760) 883-1940- Fax

Cahuilla Band of Indians
Maurice Chacon, Cultural Resources
P.O. Box 391760 Cahuilla
Anza , CA 92539
cbandodian@aol.com
(951) 763-2631

(951) 763-2632 Fax

[redacted]

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#2006041171; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for Mountain View Wind Energy Project; also a NEPA draft Environmental Impact Statement document for submission to the federal Bureau of Land Management (BLM); State Lead Agency: City of Palm Springs; Riverside County, California.

Response to Letter C

Response to comments from Dave Singleton, Native American Heritage Commission, March 14, 2007.

C-1 Comment noted. An Identification and Evaluation of Historic Properties was prepared by CRM Tech in February 2007. This report complies with the requirements outlined in your letter. The Bureau of Land Management Palm Springs-South Coast Field Office has conducted government to government Native American consultation.

C-2 The Draft EIS/EIR has provided for the discovery of human remains, including Native American remains. Mitigation Measure 3.3-1 states:

> "If human remains are exposed during construction on non-federal land, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code 5097.98. Construction must halt in the area of the discovery of human remains, the area must be protected, and consultation and treatment shall occur as prescribed by law. If human remains are encountered on federal land, pursuant to the Native American Graves Protection and Repatriation Act and associated regulations, the responsible federal agency official must be notified by telephone immediately, and with written confirmation (43 CFR 10.4[c]). In addition, all ongoing activities must cease, the remains should be secured and protected, and Native American representatives should be consulted (43 CFR 10.4[d])."

C-3 Comment noted.

Letter D

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

FAXED: APRIL 5, 2007

April 5, 2007

Mr. Craig A. Ewing
City of Palm Springs
Planning Department
3200 East Tahquitz Canyon Way
Palm Springs, CA 92262

Dear Mr. Ewing:

Draft Environmental Impact Statement/Report (DEIS/R)
For the Mountain View IV Wind Energy Project
(February 2007)

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated in the Final Environmental Impact Statement/Report.

Pursuant to Public Resources Code Section 21092.5, please provide the SCAQMD with written responses to all comments contained herein prior to the certification of the Final Environmental Impact Statement/Report. The SCAQMD would be available to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Charles Blankson, Ph.D., Air Quality Specialist – CEQA Section, at (909) 396-3304 if you have any questions regarding these comments.

Sincerely

Steve Smith, Ph.D.,
Program Supervisor
Planning, Rule Development & Area Sources

Attachment

SS: CB

RVC070220-05
Control Number

Draft Environmental Impact Statement/Report for the Mountain View IV Wind Energy Project (February 2007)

1. **Project Construction Emissions**

The lead agency states on page 4.0-2 of the DEIS/R that "The proposed project is not expected to significantly affect air quality as defined by the Air Quality Element of the City's General Plan, and is not expected to exceed threshold criteria of the South Coast Air Quality Management District Air Quality Handbook, 1993." The lead agency, however, does not provide any quantitative data from which such conclusions are derived. D-1

The proposed project involves the transportation and assembling of components of approximately 58 wind turbine generators. It also involves the hoisting of the turbines into place by cranes, the construction of an electrical substation and of new gravel roads and gravel pads around the turbines, and the movement of over 2,000 cubic yards of soil on project site. These project components are detailed on pages 2.0-18 and 2.0-19 of the DEIS/R. Although all these activities involve the use of heavy construction equipment and heavy-duty diesel trucks which emit pollutants, the lead agency provides no data regarding emissions from these construction activities. There is also no data on emissions from worker vehicle trips that would be involved in the construction of the proposed facility. D-2

Without quantifying air quality impacts from the proposed project, the lead agency has not demonstrated that the proposed project's air quality impacts are not significant. To calculate potential adverse air quality impacts from the proposed project, the SCAQMD recommends that the lead agency use the emission calculation methodologies from the SCAQMD 1993 Handbook or other publicly available air quality calculation methodologies. Appropriate emission factors for on-road mobile sources can be obtained from CARB's EMFAC 2007 model. For off-road mobile sources CARB's OFFROAD 2007 model should be used. Alternatively, on-road and off-road mobile source emission factors from the SCAQMD website can be used. These factors can be found at the following web site: www.aqmd.gov/ceqa/handbook. D-3

2. **Dust Control Plan**

The lead agency also states on page 4.0-2 of the DEIS/R that "Construction and operation of the project would not result in a significant dust or blowsand source due to applied mitigation, including implementation of the project's Dust Control Plan." The lead agency lists two measures, namely, the application of 4" to 6" of gravel cover compacted native material on internal access roads and 20 mph speed limits within the project boundaries, to reduce dust emissions. The lead agency does not provide a comprehensive list of the proposed dust mitigation measures in the Dust Control Plan nor their control efficiencies that, at a D-4

minimum will be necessary to comply with SCAQMD Rules 403-Fugitive Dust. In the absence of this information and the lack of data on project emissions noted above, SCAQMD staff is unable to confirm the lead agency's conclusion that the project emissions would be reduced to less than significance.

D-4

Response to Letter D

Response to comments from Steve Smith, PhD., South Coast Air Quality Management District, April 5, 2007.

D-1 An air quality analysis has been prepared using the California Air Resources Board (CARB) URBEMIS2002 computer model to calculate off-road equipment exhaust emissions based upon the equipment list and phasing plan provided by the applicant. The EMFAC2007 computer model was used to calculate on-road exhaust emissions from delivery of turbine parts and ready-mixed concrete for turbine foundations. The complete report is included in Appendix B of this Final EIR/EIS. As shown therein, without supplemental mitigation, NOx emissions from diesel exhaust (Phase 1) and PM-10 from soil disturbance dust (all phases) will exceed the SCAQMD thresholds. With mitigation, thresholds will not be exceeded. The following measures shall be incorporated into the Final Mitigation Monitoring Plan for the project:

Equipment NOx

AQ-1. To reduce NOx emissions, the applicant shall require (1) the maximum use of CARB-certified Tier 3 diesel engines for heavy on-site equipment, and (2) engines which utilize aqueous diesel fuel.

Fugitive Dust

AQ-2. To reduce PM_{10} or fugitive dust emissions, the applicant shall prepare an enhanced dust control program ("DCP") that exceeds the minimum dust control requirements contained in SCAQMD Rule 403. Measures that may be integrated into the DCP include but are not limited to the following:

- Use of diesel particulate filters where possible
- Stabilize inactive disturbed areas
- Covering stockpiles with tarps
- Water all haul roads at least three times daily
- Enforcing reduced travel speeds (15 mph) on unpaved surfaces

D-2 Comment is noted. Please refer to Response D-1, above and to Appendix B in this FEIR/FEIS.

D-3 Comment is noted. Please refer to Response D-1.

D-4 Comment is noted. Please refer to Response D-1 regarding incorporation of a Dust Control Plan.

Letter E

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

April 6, 2007

Craig A. Ewing
City of Palm Springs
3200 E. Tahquitz Canyon Way
Palm Springs, CA 92262

Subject: Mountain View IV Wind Energy Project
SCH#: 2006041171

Dear Craig A. Ewing:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on April 5, 2007, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

E-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2006041171
Project Title Mountain View IV Wind Energy Project
Lead Agency Palm Springs, City of

Type EIR Draft EIR

Description The project would consists of up to 58 wind turbine generators located on both public and private lands. Section 28 is under the jurisdiction of the U.S. Department of the Interior, Bureau of Land Management (BLM) and Section 27 is privately owned by Coachella Valley Water District. The portion of the project within Section 28 requires a right-of-way grant from BLM to remove old wind generation facilities and foundations, and construct and operate a new wind energy generation facility. The CVWD portion of the project is subject to a Conditional Use Permit (CUP) through the City of Palm Springs.

Lead Agency Contact

Name Craig A. Ewing
Agency City of Palm Springs
Phone (760) 323-8245 **Fax**
email
Address 3200 E. Tahquitz Canyon Way
City Palm Springs **State** CA **Zip** 92262

Project Location

County Riverside
City Palm Springs
Region
Cross Streets Indian Canyon Drive, south of Interstate 10
Parcel No. 669-220-004, 669-240-003
Township 3S **Range** 4E **Section** 27, 28 **Base** SB

Proximity to:

Highways 111
Airports
Railways Union Pacific
Waterways Whitewater River
Schools
Land Use Watercourse

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Landuse; Minerals; Noise; Public Services; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wildlife

Reviewing Agencies Resources Agency; Regional Water Quality Control Board, Region 7; Department of Parks and Recreation; Native American Heritage Commission; Public Utilities Commission; Department of Health Services; Office of Historic Preservation; Department of Fish and Game, Region 6; California Energy Commission; Department of Water Resources; Department of Conservation; California Highway Patrol; Caltrans, District 8; Coachella Valley Mountains Conservancy

Date Received 02/20/2007 **Start of Review** 02/20/2007 **End of Review** 04/05/2007

[redacted]

Note: Blanks in data fields result from insufficient information provided by lead agency.

3.0 COMMENTS AND RESPONSES

Response to Letter E

Response to comments from Terry Roberts, State Clearinghouse, April 6, 2007.

E-1 Comments are noted.

Letter F

San Bernardino Valley Audubon Society
P.O. Box 10973
San Bernardino, CA 92423

April 7, 2007

Bureau of Land Management
Palm Springs-South Coast Field Office
Attention: Greg Hill,
P.O. Box 581260
North Palm Springs, Calif. 92258

Dear Mr. Hill:

We appreciate the opportunity to comment on the Mountain View 1V Wind Energy Project. The San Bernardino Valley Audubon Society (SBVAS), with a membership of approximately 2,000, is involved with conservation issues throughout Riverside and San Bernardino Counties.

Our organization has intermittently been involved with wind energy issues in the past, but the current Board has not until recently taken the opportunity to delve into this subject. We are, in principle, in support of alternative energy generation, including wind. The effects of global warming are real, and must be addressed by a reduction in greenhouse gases. That said, any project that affects the environment must realistically disclose all environmental impacts to fulfill the requirements of CEQA and other state and federal statutes. This disclosure must then be followed with meaningful mitigation measures to ensure the project is as environmentally friendly as possible. F-1

Upon analysis, we reluctantly conclude that the Mountain View Project Biological Resources analysis is inadequate, that potential and confirmed impacts are unfairly deemed minimal, and that mitigation measures do not offset environmental losses. For these reasons, we recommend that the DEIR/EIS be rejected and the project denied until these deficiencies are corrected. Mountain View will have significant environmental impacts predominantly in two areas: 1) avian mortality, and 2) special status species and their habitat. We believe these impacts are not sufficiently analyzed and mitigated for in the DEIR, and do not meet the requirements for approval under CEQA, the Federal Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the Endangered Species Act. F-2

Avian Mortality

The DEIR/EIS does not adequately represent the risk to avian migrants to collision with the proposed wind turbines. The analysis includes several misrepresentations of scientific work on this subject, and seriously underestimates the potential risk to birds. F-3

Pre-construction surveys of nocturnal migrants were insufficient, and there is a lack of commitment to definitive post-construction monitoring. We support and refer to the detailed findings and recommendations of the Los Angeles Audubon Society on the subject of avian mortality as communicated to the BLM in their Mountain View Project comment letter, sent by Garry George to Mr. Greg Hill.

F-4

Special Status Species
The biological fieldwork for this project was conducted during part of April 2005 and 3 days in September 2006 in conjunction with focused surveys for Desert Tortoise. For several special status species, this was clearly not adequate to determine presence/absence or population levels. We discuss each species below.

F-5

Coachella Valley milkvetch (CVM)
Some of the surveys were conducted when this plant would not be found. In addition, desert Astragalus populations fluctuate greatly year to year in response to variation in rainfall. For these reasons, the extent of Coachella Valley milkvetch on the project site is not known. What is known is that there is a significant population in Section 28 and suitable habitat in Section 22 along the powerline alignment. We also believe there is some limited habitat in Section 27, particularly along the southern edge where we observed sand hummocks during a site visit on April 7, 2007.* Inadequate mitigation measures are proposed for impacts to CVM. Education for workers and construction-related protections are beneficial to preclude wholesale destruction of individual plants, but even the construction-related measures are qualified with avoidance "to the maximum extent possible" meaning that unavoidable impacts will occur. It is admitted that CVM plants will be destroyed, and occupied and potential habitat will be permanently lost. For this, no mitigation is provided. This loss is significant under CEQA, in that these impacts "contribute to the endangerment or interfere with the recovery of an endangered species" (CEQA Appendix G). Cumulative loss for this rare and local species will be significant, given the extensive and rapid development of the Coachella Valley.

F-6

Arizona spurge
The DEIR/EIS states that no surveys were undertaken to find this CNPS List 2 species, and that potential habitat exists on site. Surveys during appropriate times of the year that have received sufficient rainfall should settle whether or not this species occurs on the project site.

F-7

* This observation is supported in the DEIR/EIS on page 3.2.6: "The sand sheets and sand hummocks preferred by this species [Arizona spurge] do not exist in large amounts within Section 27. This clearly admits that there is a small amount of this habitat in Section 27.
Silver Cholla, Engelmann's hedgehog cactus

Transplanting individuals is useless unless follow -up care until establishment is mandated in the EIR. If the plants do not survive transplanting, they need to be replaced with individuals propagated from the project area under the supervision of a qualified restoration biologist.

F-7

Coachella Valley Jerusalem cricket
In the DEIR/EIS, this species is assumed absent because of a lack of preferred habitat. I have personally found this fossorial species in the upper Coachella Valley in sand hummocks at the edge of Whitewater Wash in habitat very similar to Section 28. It only comes to the surface shortly after rains, and will not be detected at other times.

F-8

Burrowing Owl
We are pleased that additional preconstruction surveys are called for, as the general biota/Desert Tortoise surveys would clearly be insufficient to determine the population levels of this species on the project site. Mitigation measures for this sensitive species are clearly delineated in California, and the EIR demonstrates that the project proponents are prepared to implement them. We suggest another tier of mitigation would be to monitor post-construction populations. This would be a significant contribution to the difficult question of long-term viability of Burrowing Owls on wind farms. It is presumed by many that this species can coexist with wind farms in the Coachella Valley, but hard data to support this is lacking. If it were true, it would be a significant victory for the wind energy industry in its attempt to be environmentally friendly, and would prove there is no cumulative loss to this species beyond the direct habitat loss.

F-9

We are concerned that a potentially serious factor with regards to Burrowing Owls was not considered in the DEIR, i.e. the fostering by wind machines of a scavenger/predator population. As mentioned in the discussion of avian mortality, it is a well-documented phenomenon that coyotes, ravens and other facultative scavengers key in to wind machines to feed on the birds killed by the turbines. The ecological effect of this elevated scavenger/predator population on Burrowing Owls could be similar to that of increasing raven predation on Desert Tortoises and songbirds in the vicinity of highways where the abundance of roadkills elevates raven populations. While passive relocation involving artificial burrows that are predator-proof should give some protection to the owls, increased predation outside of the burrows could still be a significant impact. Coyotes and foxes are known predators of Burrowing Owls, and both increase activity around wind machine arrays.

F-10

LeConte's Thrasher
This sensitive species was not detected on site. This is a difficult species to find, and could easily have been missed by the few days of biological surveys. The DEIR is inaccurate in saying no suitable habitat exists due to shrub height. Leconte's Thrasher is found in a variety of desert scrub habitats of varying heights and densities. Soil loose enough to dig in is a more critical habitat requirement. (J.M. Sheppard. 1996. Le Conte's Thrasher, in Birds of North America (A. Poole and F. Gill, eds), no. 230. Academy of Natural Sciences, Philadelphia.) To establish absence, extensive focused surveys need to be conducted during the breeding season (late winter/spring) with the caution that this

F-11

species' populations fluctuate with rainfall and its effects on food availability. Surveys during a dry season would be inconclusive as to the breeding and foraging capacity of the site. If LeConte's Thrashers are found, the DEIR offers no data to show this species' level of adaptation and tolerance to wind farm construction and maintenance activity and to the level of habitat fragmentation inherent in wind arrays. The large percentage of preserved habitat certainly will be beneficial, but it cannot be assumed that the crisscrossing roads and the machines will have no detrimental effect on the habitat quality and the thrashers acceptance of it. (Sheppard 1996) indicates that this species is sensitive to any habitat degradation that affects shrubs, leaf litter or substrate.

F-11

Raptors: Golden eagle, Northern harrier, and Prairie falcon Field surveys were limited and therefore underestimated the potential occurrence of several species of concern, particularly raptors that migrate through or winter in southern California. Based on our members' collective experience and sources such as Kimball Garrett and Jon Dunn, 1981. Birds of Southern California: Status and Distribution, Northern Harrier, Prairie Falcon and Golden Eagle all have a high probability of occurring annually in low numbers on site. Sharp-shinned and Cooper's hawks have a lower chance of occurrence due to their preference for woodlands. Raptor foraging habitat loss, though relatively small, would still be cumulative in the rapidly developing Coachella Valley. More important would be the potential for direct mortality due to collision, discussed elsewhere.

F-12

Coachella Valley fringe-toed lizard (CVFL) This endangered species occupies section 28 and section 22. "The CVFLHCP has addressed impacts to this species for most potential development within the plan boundary" through payment of mitigation fees. (p.) We would like to know, How much is most? We expect all, not most of the impacts to CVFL to be disclosed and mitigated for. The DEIR does not explain why only "most" of the impacts to CVFL will be covered by the CVFLHCP. In addition to the mitigation fee, a commitment should be made to determine the post-construction long-term viability of this species on Section 28. This study would establish whether the ongoing operations of the project have any unforeseen impacts to this endangered species.

F-13

Flat-tailed horned lizard (FTHL)
Focused surveys are needed to adequately determine presence/absence of this scarce and difficult to detect species. Negative results from a few days of general surveys are simply not valid. Confusion among the biologists as to the identity of the horned lizards on site cannot be used as an excuse to assume FTHL is absent. Suitable habitat is described from Section 28. This species is not as heavily tied to dunes as CVFL, but rather utilizes dunes and hummocks interspersed with flatter areas that can have gravelly or sandy soils. The conclusion that this species is absent and impacts are therefore not significant is completely unsupported. Cumulative loss of habitat is significant, direct loss may be as well.

F-14

Palm Springs round-tailed ground squirrel, Palm Springs pocket mouse Impacts are considered not significant due to the small number of individuals and the small amount of habitat loss. Although the direct loss may be small in relation to the animals' total ranges,

F-15

it is a significant cumulative loss nonetheless. These species have a very limited range, and are experiencing serious loss of habitat in the rapidly developing Coachella Valley.

F-15

Cumulative Impacts
The impacts to desert plants and wildlife, including special status species and avian migrants that we have discussed clearly lead to the conclusion that there are significant cumulative impacts to this project. We consider cumulative impacts to be significant for Coachella Valley milkvetch, Burrowing owl, , , Coachella Valley fringe-toed lizard, Flat-tailed horned lizard, Palm Springs Pocket Mouse, Palm Springs round-tailed ground squirrel, Coachella Valley Jerusalem cricket and the wide spectrum of birds that migrate through the Project area that will be subject to turbine kills.
Cumulative impacts are potentially significant but currently unknown for Arizona Spurge, LeConte's thrasher, Golden eagle, Northern harrier and Prairie falcon. The DEIR/EIS states that impacts to all of these species and their habitat are reduced to a less than significant level by the adopted mitigation. We strongly disagree with this statement, and have provided sound reasons for our position. We call for additional field work to determine the true status of the various endangered, threatened and special status species on site, a re-analysis of biological impacts, and re-circulation of the Biological Resources and Cumulative Impacts sections of the DEIR/EIS.

F-16

We anticipate that the project proponents will try to avoid this additional but necessary work by simply disagreeing with our stance in the upcoming Response to Comments. There simply is not enough data on the site to allow such a short-circuiting of the requirements of CEQA, ESA, Migratory Bird Act and other environmental statutes. Avoiding a re-circulation of the DEIR/EIS does a disservice to the decision-makers in the City of Palm Springs and the Bureau of Land Management who are responsible for making informed and measured decisions concerning this project. We do not dispute that wind energy development is consistent with the General Plans of both Palm Springs and Riverside County. This however does not exempt the proposed project from full environmental disclosure and adequate mitigation.

F-17

David Goodward
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San Bernardino Valley Audubon Society
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(909) 783-2417

Response to Letter F

Response to comments from David Goodward, San Bernardino Valley Audubon Society, April 7, 2007.

F-1 Comment is noted. The project will serve to decrease California's dependence on fossil fuel generated power and provide cleaner air by decreasing "greenhouse" emissions.

F-2 Comment is noted. Please refer to following responses regarding impacts to specific species.

F-3 Comment is noted. Please refer to Responses to Letter B regarding avian mortality.

F-4 New preconstruction surveys of nocturnal migrants would very likely not change the conclusions made in McCrary, et al (1983, 1984) regarding the extensive numbers of migrants passing through the San Gorgonio Pass. Preconstruction nocturnal migrant surveys would not provide a useful projection of mortality for the proposed project, since the estimated 69 million birds (McCrary, et al 1983, 1984) annually flying through the San Gorgonio Pass has not translated to high bird mortality, compared to the observed bird fatalities documented and the estimates of potential fatalities from the more than 3,000 wind turbines in the San Gorgonio Pass. For example, it is estimated that 6,800 birds are killed annually (McCrary, et al 1986), compared to the 69 million annual birds that pass through. Further, only 61 bird fatalities were documented in the 830 carcass searches of wind turbines conducted in San Gorgonio between 1997 and 1998 (R. Anderson, J. Tom, et al, August 2005). These report findings support the conclusion that preconstruction nocturnal migratory surveys would not yield useful information about migratory bird risk from the proposed wind project.

In response to the concerns expressed by the L.A. Audubon Society and the San Bernardino Valley Audubon Society, and as noted in Response B-7, the project proponent has agreed to add a mitigation measure requiring twelve (12) months of post-construction fatality monitoring, with scavenging and observer efficiency corrections. Vertical radar or image intensifier observations data would not be useful for assessing bird collision mortalities.

F-5 The biological fieldwork for this project included an earlier site assessment in 2001 during April, May, and June. Although the surveys were focused on desert tortoise, the surveys included the assessment of habitat conditions as well as the identification of other species on the project sites.

Presence/absence studies are not formalized for all species, and generally are conducted as part of the overall general biological assessment. This assessment (as noted above) includes an evaluation of the habitats on site, including soils, plant communities, topography, geographic location, and other characteristics. Some species, such as the Coachella Valley fringe-toed lizard, are either known to be present or occupy unusual or unique habitat types. Others, such as the Palm Springs ground squirrel, have distinctive sign such as burrows or scat that indicate the presence of the species.

Population studies are not necessarily required for all species. Focused studies typically are conducted when an existing protocol has been established. For most of the species noted in comments F-6 through F-15, no such protocols exist.

F-6 Surveys conducted in 2001 identified over 1,000 Coachella Valley milkvetch (*Astragalus coachellae*) 1,000 plants on the project site, scattered throughout the sandy hummocks and sand dunes of Section 28. A clarification needs to be made regarding Section 27. The area of Section 27 which will be occupied by the project is in the northern 3/4 of the section. Therefore, where the Draft EIR/EIS document states that no sand dunes or sandy hummocks were found in Section 27, the reference is to the habitat in the northern portion of the site where the project is proposed. Any sandy hummocks occurring along the southern boundary of Section 27 were not evaluated since the project site does not include this area. Therefore the statement regarding the absence of suitable habitat in "Section 27" remains valid; however it shall be qualified to state "within the project area of Section 27."

Regarding impacts to Coachella Valley milkvetch, the EIR/EIS states that up to approximately 26.9 total acres (temporary plus permanent disturbance) of the entire 1,659 acre project site would be disturbed. No sand sheets, sand dunes or individual Coachella Valley milkvetch were found within project area of Section 27. Only 10.3 acres of temporary & permanent disturbance would occur in Section 28, where individual plants were observed within portions of this property. However, the proposed project design in Section 28 would utilize existing roads and previously disturbed wind turbine sites that were used for wind energy development at the site for many years, and hence most of the disturbance area does not contain suitable habitat for these species. Therefore, only a small portion of this 10.3 acre disturbance area includes suitable habitat for Coachella Valley milkvetch. The mitigation measures include the requirement that a qualified biological monitor and a field contact representative will be present on site during construction, and an endangered species education program will be implemented with construction personnel in order to minimize or avoid any impacts to these sensitive species. Mitigation Measures 3.2-1 through 3.2-11 in the EIR/EIS provide detailed direction for construction monitoring to avoid significant impacts to sensitive sand dwelling species.

The comment made regarding mitigating impacts to CV milkvetch species to the "extent feasible" is valid. Consequently, mitigation measure 3.2-7 shall be revised as follows:

3.2-7 Not more than thirty days prior to construction activity in the area to be disturbed, the biological monitor/FCR shall survey the construction area for CV milkvetch. Any CV milkvetch plants present shall be marked with a flagged stake and protected from damage, by avoiding any surface impacts within five (5) meters of the plant. ~~to the extent possible.~~

F-7 The Arizona spurge was not observed in 2001, a good spring year for this and other sand dwelling plant species. Even though this species was not observed, NRA, Inc. chose to include it as potentially occurring. There is no proposal to transplant individuals of this species.

F-8 As noted in the biological assessment, the sandy habitats preferred by Coachella Valley Jerusalem cricket are present, but no populations are known from this area. The Coachella Valley MSHCP states: "The known range also includes portions of what is now northern Palm Springs and Cathedral City. Known locations where this species has been observed occur on some of the lands owned by the BLM in the Windy Point area, and on lands recently purchased by the BLM or by the Friends of the Desert Mountains along Snow Creek Road. In a 1995 survey for this Plan, Dave Hawks (1995) reported finding these crickets only in the vicinity of Fingal's Finger. Scientific Advisory Committee member Cameron Barrows has also reported observing these crickets only in the Snow Creek area; this Jerusalem cricket has not been detected on the Coachella Valley Preserve despite trapping efforts in this area (C. Barrows, pers. comm.). They have not been found in the vicinity of the Whitewater River Floodplain Preserve and Hawks (1995) suggests that suitable habitat does not exist in this area. The easternmost known location is in the vicinity of Thousand Palms, near Bob Hope Drive and Interstate 10; this location may no longer be extant as the area is increasingly developed. The lack of observations of this species east of Windy Point are very limited and suggest that they may not occur in significant numbers in the central Coachella Valley." Nevertheless, the biological assessment acknowledges the potential presence of this species on site.

F-9 The suggestion to monitor population effects of the wind project on burrowing owls is of scientific interest; however there was only one observed burrowing owl on this site, and the site is surrounded to the northeast, north, northwest and west by other wind turbines of widely varying types and operating characteristics. Based on the features of this site, the dissimilarity of the project wind turbines with the adjacent wind turbines, and the low numbers of burrowing owls observed in the site vicinity, it is questionable how useful this study would be. Further, there is no requirement to perform this monitoring and no permit basis for doing so. The Burrowing Owl Consortium does not recommend post construction monitoring. The Consortium recommends monitoring only when animals are relocated, and relocation is not anticipated in this project.

F-10 The comment does not provide a reference for the assertion that scavenger species key in on wind turbine areas due to birds killed by turbines and the lead agencies are not aware of any such documentation. The only references found on scavenging on wind fields was that rates apparently differed depending upon site conditions, the type of habitat and the amount of cover.

F-11 The biological assessment acknowledges that suitable foraging habitat for the California thrasher

is present, but that nesting habitat appears to be lacking on site. The MSHCP and the EIR/EIS for the MSCHP acknowledges the presence of habitat for this species in the Whitewater Conservation Area, but also identifies wind turbines as a permitted use in this area, provided certain conditions are met.

F-12 Although seasonal surveys for raptors were not conducted, their potential presence on site, or passing through the site, was acknowledged in the biological assessment (Appendix B, DEIR). The issue of high raptor mortality is not supported by studies on sites in California other than at the Altamont Pass. The loss of raptor foraging habitat is a continuing concern throughout southern California. Foraging habitat, especially for larger birds, can extend over several properties; however, with the exception of specific MSHCP requirements, this issue remains unresolved by regional authorities.

F-13 The Project Site is located within the "occupiable habitat boundary" as delineated on Figure S-1 of the Coachella Valley Fringe-toed lizard Habitat Conservation Plan (CVFTL HCP). However, it is expected that the Final Coachella Valley MSHCP would effectively replace the provisions of the CVFTL HCP once the MSHCP is formally adopted. Payment of fees associated with the MSHCP will mitigate for habitat loss within the Whitewater Floodplain Conservation Area. Required payment of MSHCP fees is covered under new Mitigation Measure 3.2-18 (refer to Section 4.0 of this Final EIR/EIS). The MSHCP has been approved by all local permittees and is currently under review by state and federal wildlife agencies for final approval. It is expected that the MSHCP will be approved prior to project construction.

F-14 The conclusion of absence for the flat-tailed horned lizard is not based solely on the original misidentification of the species. The conclusion is supported by discussions with the Bureau of Land Management biologist, comments made by Cameron Barrows of the Coachella Valley Fringe-toed Lizard Reserve stating his surprise at a potentially positive finding of this species south of Interstate 10, and review of the MSHCP findings and other documents. The misidentification was confirmed in discussions with Dr. Glenn Stewart, Herpetologist at Cal Poly Pomona.

F-15 The finding of no significant impacts is based both on the limited loss of habitat for the species, and the preservation of most of the available habitat as part of a protected wind field. The cumulative loss is not considered to be significant because of the small contribution of habitat loss and the greater preservation of existing habitat.

F-16 Cumulative impacts for biological resources are generally analyzed based on the cumulative loss of habitats in a region. The term "region" is not defined by CEQA, but common sense suggests that for this project, the region includes most of the western upper Coachella Valley. Within that context, the cumulative impacts of the proposed project, with its habitat loss of less than one

percent (1%), minimum hardscape and limited structure construction, are not significant. None of the plants or animals potentially impacted by the project are confined to this particular property, and their habitats on site will remain mostly intact. We have addressed the issue of bird mortality based on the best available evidence, and have concluded that some mortality will occur, but at a level already identified as below a threshold of significance by previous studies.

In addition, the question of cumulative impacts will be addressed on a regional basis with the implementation of the MSCHP. The project is acknowledged by the MSCHP to be a covered activity, provided it meets the criteria stated in the MSHCP.

F-17 The biological assessment for the project included review of the California Natural Diversity Data Base, the Draft Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), available graphics and documents on the distribution of desert tortoise habitat and the classification of tortoise habitats in the area, and previous site assessment reports on nearby wind energy facility developments. In addition, extensive field studies of the entire project area of potential disturbance were conducted to assess potential impacts on sensitive biological species/habitat. Given the project's small disturbance area (26.9 total acres of the entire 1,659 acre project site) and the incorporated mitigation measures (including the addition of new Mitigation Measures 3.2-17 through 3.2-20, incorporated in this Final EIR/EIS), the biological assessment supports a finding of no significant impact to plant communities and wildlife and no further studies are warranted.

Letter G

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011

In Reply Refer To:
FWS-ERIV-5260.1

Memorandum

To: Field Manager, Palm Springs-South Coast Field Office, Bureau of Land Management, Palm Springs, California

From: Assistant Field Supervisor, Carlsbad Fish and Wildlife Office

Subject: Comments on Draft Environmental Impact Statement/Environmental Impact Report for the Mountain View IV Wind Energy Project, Riverside County, California

The U.S. Fish and Wildlife Service (Service) received the subject Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) on February 20, 2007. The comments provided herein are based on the information provided in the DEIS/DEIR, our knowledge of sensitive and declining species, and our participation in regional conservation planning efforts.

We are concerned that the proposed project will impact essential habitat for the threatened Coachella Valley fringe-toed lizard (*Uma inornata*) and the endangered Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*). According to the DEIS/DEIR, the proposed project would impact up to about 27 acres of fringe-toed lizard and milk-vetch habitat. Contrary to the conclusions in the DEIS/DEIR, the estimated 27 acres of permanent and temporary habitat loss should be considered a significant adverse effect of the proposed project, considering the (1) large number of milk-vetch plants found on-site, and (2) potential indirect effects of the proposed project that may preclude the opportunity for floodplain restoration and improved sand transport capacity over portions of the project site. Much or all of the estimated 15.7 acres of temporary disturbance could result in permanent habitat losses to the fringe-toed lizard and milk-vetch if suitable sandy substrates do not reestablish over time, and the milk-vetch seedbank is removed by grading or excavation activities. In addition, we question the accuracy of the 11.2-acre estimate for permanent habitat loss (Table 2.6-1), since equipment storage yards/buildings, common facilities on other wind farms, are not accounted for in the referenced table. Moreover, without knowledge of the location of the fringe-toed lizard and milk-vetch records found during biological surveys for the proposed project (note that the biological report supporting the DEIS/DEIR did not provide locational data for these species), the proposed location of the 4.75-acre construction staging area in the northeastern corner of Section 28 (Table 2.6-1) could inflict unnecessarily severe adverse effects on these species, if those two listed species were found in

G-1

this area and the location of the construction staging area is not reconfigured to avoid and minimize adverse effects. G-1

The proposed project site is within the Whitewater River floodplain and adjacent to the Whitewater Floodplain Reserve (Reserve), one of the three preserves established for the conservation of the fringe-toed lizard. In recent years, the fringe-toed lizard population on the Reserve has dropped to extremely low levels. At a long-term 2.25-hectare monitoring plot on the Reserve, only one fringe-toed lizard was found in 2005, compared to 162 lizards in 1985. This decline is a consequence of the decline in wind-blown sand, a necessary habitat component for the species, on the Reserve. Because of the high winds in the area, blow-sand is slowly eroded and transported off the Reserve.

Periodic influxes of new sand are necessary to maintain sandy habitat on the Reserve over time. Blow-sand that ultimately ends up in the Whitewater Floodplain Reserve is transported fluvially along the Whitewater River floodplain during periodic flood events. Historically, the flows in the Whitewater River spread out over the Whitewater River floodplain during flood events, transporting sand and gravel as stream bedload, and deposited sediment over a large area east of Windy Point, including the area of the proposed project. Following these flood events, surficial sands within the newly deposited sediment were entrained by the wind, sorted, and transported along the ground surface downwind to floodplain terraces on the Reserve.

Development in the 1980's narrowed the floodplain, trapped sediments upstream, and shunted flows in the Whitewater River to a limited area on the northern side of the floodplain, pushing sediments farther downstream than where they were formerly deposited (Griffiths et al. 2002), thereby reducing the amount of sand available for aeolian sand transport and conservation of sand-dependent species, such as the fringe-toed lizard and milk-vetch. As a result, most or all the areas south of the current low-flow channel have become uninhabitable for fringe-toed lizards since that time, and most or all remaining habitat areas for the fringe-toed lizard persist only in the limited area north of Whitewater River channel that retains active aeolian sand transport. The fluvial/aeolian process still occurs, but not in sufficient quantities or periodicity to provide for long-term survival of fringe-toed lizards within the Whitewater River floodplain in general or the Whitewater Floodplain Reserve specifically. Future, more effective management for the benefit of the fringe-toed lizard and milk-vetch on the Whitewater Floodplain Reserve and environs will likely require some hydrological modification of the Whitewater River, potentially including the redirecting of flood flows south of the current channel across portions of the proposed project area. G-2

To provide the ability to improve and restore sand transport processes in the future, any wind turbines and associated facilities for the proposed project should not be constructed in the north half of Section 27 and northeastern quarter of Section 28. Avoidance of further encumbering this area with infrastructure would provide future flexibility needed to design the hydrologic improvements needed to restore sand transport processes needed to reestablish suitable habitat for the lizard and other sand-dependent species on the Whitewater Floodplain Reserve and additional areas proposed to be conserved under the Recirculated Draft Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP, see below for more detail).

To further minimize the adverse effects of the proposed project on listed species, we recommend that all City of Palm Springs, Coachella Valley Water District (CVWD), and Bureau of Land Management (BLM) rights-of-way and/or leases for the proposed project stipulate that all facilities associated with the proposed project be designed and built to withstand future flood events, so that construction of the proposed project would not preclude the feasibility of future floodplain restoration for the fringe-toed lizard, milk-vetch, and other sand-dependent species. Existing wind turbines currently in the Whitewater River channel to the north of the proposed project area demonstrate the feasibility of designing facilities to withstand flood flows.

If the proposed project can not be designed and implemented in such a way that (1) all related wind farm facilities avoid the north half of Section 27 and northeastern quarter of Section 28, and (2) remaining portions of the project are designed to withstand redirected flood flows or other hydrologic improvements in the future, we recommend that authorization of the proposed project be withheld until these design measures can be accommodated. Failure to achieve this restoration objective would have negative impacts on the fringe-toed lizard, milk-vetch, and other sand-dependent species, and would represent a significant adverse effect of the proposed project, given the problems described above regarding the existing sand-transport process on the Whitewater River floodplain. We welcome the opportunity to work with City of Palm Springs, CVWD, project applicant, and BLM to discuss the modification of the hydrology of the Whitewater River floodplain to promote the deposition of more sediment south of current depositional areas. G-3

We also recommend the project proponent provide for the installation of a number of sand fences in the northeast portion of the project site or at an agreed on location in the Whitewater Floodplain Reserve to further minimize impacts of the proposed project. The purpose of these sand fences would be to test their efficacy to capture sand and artificially create sandy hummocks for the lizard and other sand-dependent species. We suggest that 20 30-meter sections of several types of fences and fence configurations be installed and sand depth around them monitored for several years, with the objective of creating about 27 acres of new habitat to offset the losses incurred by the proposed project. Such a measure would greatly increase our knowledge of habitat restoration methods for the fringe-toed lizard and other sand-dependent species, including the milk-vetch, in this high velocity wind field. In addition, a test to establish honey mesquite (*Prosopis glandulosa*) as another technique to capture sand should also should be conducted concurrently on the southern portion of the Whitewater Floodplain Reserve, or adjacent to the railroad or other locations where irrigation water may be more readily available. Mesquite would presumably require irrigation indefinitely, given the current depth to groundwater in this region. G-4

The proposed project is entirely within Whitewater Floodplain Conservation Area, as described in the MSHCP. The entire proposed project site is mapped fringe-toed lizard and milk-vetch habitat along with several other species proposed to be "covered" under the MSHCP. The proposed project, if not properly designed as described above, could foreclose the monitoring and adaptive management measures that may be needed to achieve the conservation goals and objectives proposed in the MSHCP, if and when that proposed MSHCP is approved. We anticipate authorization under sections 7 and 10 of the Endangered Species Act of 1973, as amended will be obtained by both BLM and the City of Palm Springs, respectively, on the G-5

proposed project prior to initiation of construction related activities. We look forward to working with BLM and the City of Palm Springs to ensure consistency with the Coachella Valley Fringe-toed Lizard Habitat Conservation Plan and MSHCP. G-5

We recommend the inclusion of the above avoidance and minimization measures into the proposed project description prior to final project approval and to incorporate the design measures discussed above to offset impacts to listed species. We look forward to working with you and the project proponent on developing these measures, ensuring the proposed project addresses listed species under the Act, and that the project is consistent with the proposed MSHCP. If you have any questions or concerns about this letter, please contact Tyler Grant of my staff at (760) 431-9440.

cc: Director of Community and Economic Development, City of Palm Springs

LITERATURE CITED

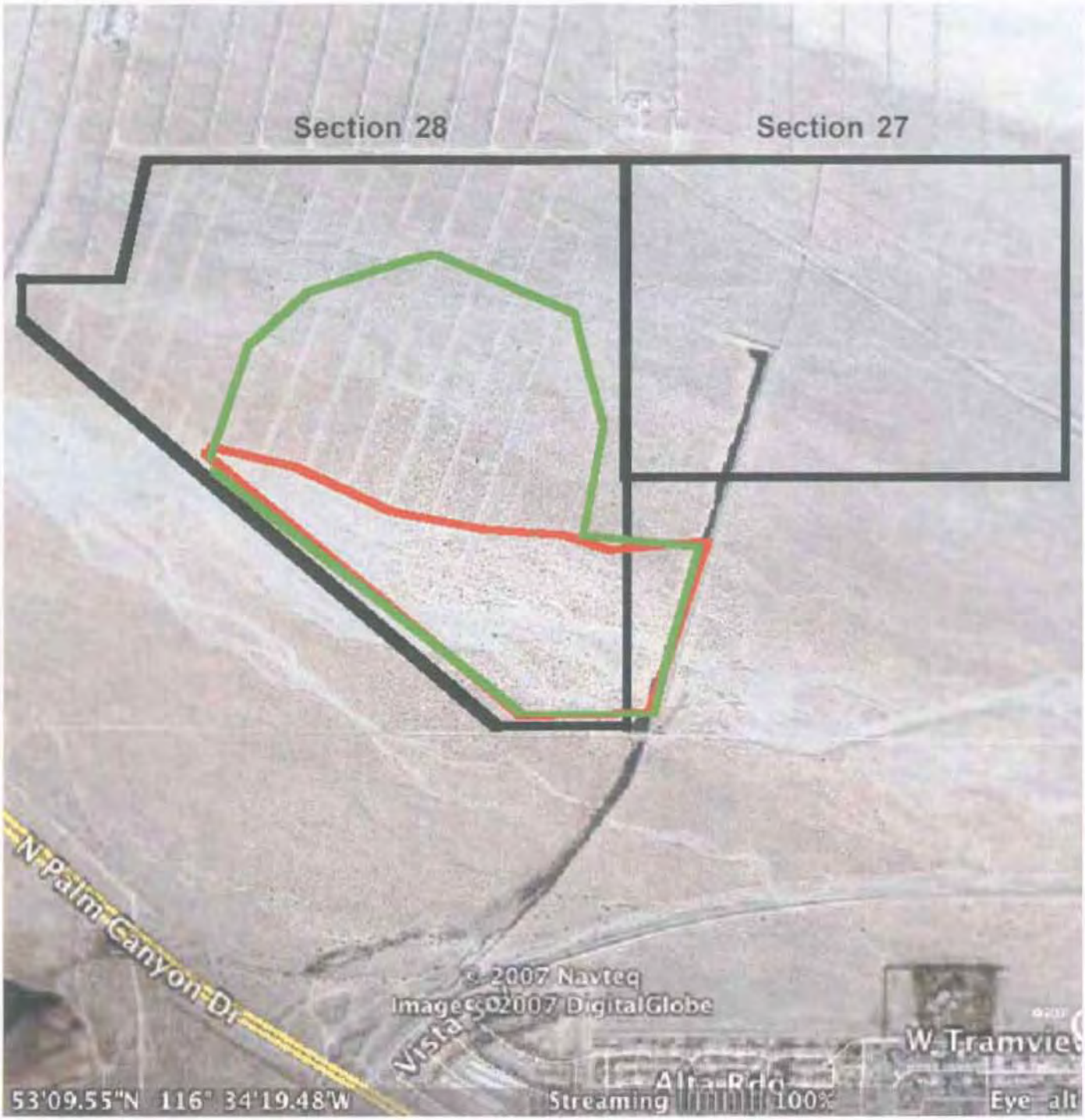
Griffiths, P.G., R.H. Webb, N. Lancaster, C.A. Kaehler, and S.C. Lundstrom. 2002. Long-term sand supply to Coachella Valley fringe-toed lizard habitat in the northern Coachella Valley, California. U.S. Geological Survey, Water-Resources Investigations Report 02-4013, prepared in cooperation with the U.S. Fish and Wildlife Service. Tucson, Arizona.

Response to Letter G

Response to comments from Carol Roberts, US Fish and Wildlife Service (Service), April 9, 2007.

G-1 Regarding impacts to Coachella Valley milkvetch and fringe-toed lizard, the EIR/EIS states that up to approximately 26.9 total acres (temporary plus permanent disturbance) of the entire 1,659 acre project site would be disturbed, however no sand sheets, sand dunes or individual Coachella Valley milk-vetch were found in the portion of Section 27 where the project is proposed. Only 10.3 acres of temporary & permanent disturbance occurs in the project area of Section 28, where portions of this property were found to contain suitable fringe-toed lizard habitat and several hundred individual Coachella Valley milk-vetch were observed. The project design in Section 28 utilizes existing roads and previously disturbed wind turbine sites which were used for wind energy purposes for many years, and hence most of the disturbance area does not contain suitable habitat for these species. Therefore, only a small portion of this 10.3 acre disturbance area includes suitable habitat for Coachella Valley milk-vetch and fringe-toed lizard. The mitigation measures include the requirement that a qualified biological monitor and a field contact representative will be present on site during construction, and an endangered species education program will be implemented with construction personnel in order to minimize or avoid any impacts to these sensitive species. Mitigation Measures 3.2-1 through 3.2-11 in the EIR/EIS provide detailed direction for construction monitoring to avoid significant impacts to sensitive sand dwelling species. The project will also be consistent with the goals and objectives of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) including fencing that allows movement of species, while limiting illegal access of vehicles, and cooperation with various agencies to allow conservation management actions that would potentially include biological monitoring, invasive species removal, species translocations, sediment deposition, levee removal, and minor earth moving.

With respect to the question about the 11.2 acre estimate of permanent habitat loss, Table 2.6-1 does account for a 4.75-acre construction staging area, which is a temporary disturbance only during construction, and no additional equipment storage yards or temporary disturbance would result from the project. The temporary construction staging area location was chosen by the project proponent because no Coachella Valley milk-vetch and no sand sheets were found on this area of the site. See Exhibit A, Coachella Valley Milkvetch and Coachella Valley Fringe-toed Lizard Habitats. Further, as stated above the portion of the project in Section 28 is simply a redevelopment of a previously constructed and decommissioned wind energy project that covered much of Section 28 with extensive existing roads and wind turbine sites, so the amount of new disturbance area is small in comparison to a comparable wind energy development on previously undeveloped natural terrain. Permanent maintenance equipment and vehicles are not needed because they would be stored at the project operator's existing regional service and maintenance facility located just north of the I-10 Freeway, less than 3 miles from the site.



Coachella Valley Milkvetch Habitat

Coachella Valley Fringe-toed Lizard Habitat

Note: *Habitat boundaries are based on aerial interpretation of sand distribution. Habitat area for milkvetch population occurs mostly within the subset area described by the Coachella Valley finge-toed lizard boundary.*

SOURCE: Natural Resources Assessment, Inc.

Mountain View IV Wind Energy Final EIS/EIR

Coachella Valley Milkvetch & Fringe-toed Lizard Habitats

EXHIBIT A

G-2 The proposed project is being constructed in a 100-year floodplain of the Whitewater River, beyond and south of the low flow channel of the Whitewater River. Because of this situation, the project design incorporates flood protection measures and design that allows for surface flow of flood waters through the site without impedance or damage to the wind project facilities. These design measures include deep burying underground cables, deep wind turbine and transformer foundations designed to withstand scour from flowing water, at-grade roads without alteration or concentration of flow, gravel roads that can be readily repaired in the event of floods, and placement of other facilities such as the electrical substation and storage areas outside the floodplain. These design standards meet or exceed those employed on the existing wind facilities currently in the Whitewater River channel to the north of the proposed project area that demonstrates the feasibility of designing facilities to withstand flood flows (that facility was designed and built by the applicant for the current project). For these reasons, should the Whitewater River flow be redirected across this site, the project proponent indicates the facilities are designed to handle the flow, provided they do not exceed the 100-year flood elevation and velocity that is currently experienced at this site. According to the drainage study prepared for the proposed project, the 100-year flow depth at the project site is between 1-2 feet, and the maximum scour depth for the wind turbines and transformers will be 9.3 feet during a 100-year storm event (refer to Section 4.0 of this document). The project has been designed to handle this flow. In the event that future modification of the Whitewater River alignment is made, the project design will also be able to handle the change, provided the flood elevation and velocity are not increased beyond the levels currently experienced under a 100-year flood condition. It should be noted that alteration of flow above the existing 100-year flood elevation is not feasible because this could adversely impact several hundred adjacent existing residences immediately to the south of the project site. Based on these conditions, restriction of development to the south half of Sections 27 and 28 would not be necessary because the project design is compatible with flooding of the entire site.

G-3 See response G-2.

G-4 Per discussions between the applicant and the Service, the applicant has agreed to include construction of sand fencing on the Whitewater Preserve, east of North Indian Canyon Road in Section 26. The applicant will construct 24 segments of sand fences, each segment being 25 feet in length and a total area of approximately 12.4 acres as detailed in new Mitigation Measure 3.2-17 (refer to Section 4.0 of this document).

G-5 The comment states that the project site lies within the proposed Whitewater Floodplain Conservation Area under the impending Coachella Valley MSHCP, which has mapped Coachella Valley fringe-toed lizard and milk-vetch habitat along with several other species proposed to be "covered" under the MSHCP.

The subject property does in fact lie within the proposed Whitewater Floodplain Conservation Area as shown on Figure 4-1 of the Recirculated Final MSHCP (September 2007) and as described on page 3.2-19 of the Mountain View IV Windfarm Draft EIR/EIS. According to Figure 4.11e of the Draft Coachella Valley MSHCP, the portion of the subject property located within Section 28, is BLM land within the incorporated City limits of Palm Springs and designated as Conservation Level 3. The portion of the subject property within Section 27 is CVWD lands within Palm Springs and designated as Conservation land under the proposed MSHCP. On Conservation Level 3 Land, the plan anticipates that habitat loss will not occur on more than 1% of lands managed by each entity, and that development should be consistent with the conservation objectives for the relevant Conservation Area (pg. 4-4, Draft MSHCP, February 2007). The proposed Mountain View IV Windfarm project would remove 15.7 acres of habitat out of a total site area of 1,659 acres, which conforms to the 1% limit on habitat loss.

According to the Recirculated Final Coachella Valley MSHCP, "new ground disturbance associated with repowering or development of new wind energy facilities shall be treated as a Covered Activity similar to development projects permitted or approved by Local Permittees. Within each Permittee's jurisdiction, existing wind turbines may be replaced with new turbines. If old turbines are removed and the former impact area is restored to a natural condition, an equal new area may be disturbed without counting toward the calculation of net disturbance" (pg. 7-16, Recirculated Final MSHCP, September 2007). The entire portion of this project within Section 28 is a replacement of old wind turbines with new ones. Consequently, the project is consistent with the proposed MSHCP policy.

The Draft MSHCP EIR/EIS states, "The plan provides Take Authorization for ground disturbance associated with wind farm development in Conservation Areas that is consistent with applicable Conservation Goals and Objectives. Ground disturbances include roads and staging areas, foundation pads and storage areas, with further disturbance limited once constructed." "Existing and future Development in the wind resource areas would occur in portions of the following Conservation Areas: Cabazon, Highway 111, Whitewater Canyon, Upper Mission Creek/Big Morongo Canyon, Snow Creek/Windy Point, Whitewater Floodplain, Willow Hole and Edom Hill (pgs. 4.4-5 and 4.4-6 Recirculated Final MSHCP EIR/EIS, September 2007)."

The project's EIR/EIS incorporates mitigation measures that require a qualified biological monitor and a field contact representative to be present on site during construction, and an endangered species education program will be implemented with construction personnel in order to minimize or avoid any impacts to sensitive sand dwelling species such as the Coachella Valley milkvetch and fringe-toed lizard. Mitigation Measures 3.2-1 through 3.2-11 in the Draft EIR/EIS

provide detailed direction for construction monitoring to avoid impacts to these species. In addition, the applicant is required to pay fees for the MSHCP, currently estimated to be approximately $154,000 for both parcels (see new Mitigation Measure 3.2-18, Section 4.0). On June 20, 2007 the Service re-initiated formal consultation per a request from BLM to issue a Biological Opinion on Leasing of Federal Land for Wind Energy Development to include information specific to the proposed project. The purpose of the Biological Opinion by the Service is to make a conclusion as to whether the effects of the proposed action would jeopardize the Coachella Valley fringe-toed lizard and milk-vetch. On May 22, 2008, the Service issued its Biological Opinion for the project and made the following conclusion: "No critical habitat for either species occurs within the action area, thus none would be affected. It is the Service's biological opinion that the Mountain View IV Wind Energy Project, as proposed, is not likely to jeopardize the continued existence of the fringe-toed lizard or milkvetch." The entire Biological Opinion is included as Appendix C to this document. Based on these factors, potential impacts to the Coachella Valley fringe-toed lizard and milkvetch would be reduced to a less than significant level, and the proposed project is deemed consistent with the conservation goals and objectives contained in the proposed MSHCP without further mitigations or modifications.

Letter H

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

April 5, 2007

Greg Hill
Bureau of Land Management
Palm Springs-South Coast Field Office
P.O. Box 581260
North Palm Springs, CA 92258

Subject: Mountain View IV Wind Energy Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR), Palm Springs, California [CEQ #20070061]

Dear Mr. Hill:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority Section 309 of the Clean Air Act (CAA).

The DEIS assess alternatives for a proposed wind energy generation project that would be located on public and private lands in the Coachella Valley, within the incorporated limits of the City of Palm Springs, California. The Mountain View IV project would consist of either 58 Gamesa G52 or 49 MHI 1000 wind turbine generators, with a total electrical capacity of approximately 49 megawatts (MW). Additional facilities would include pad-mounted electric transformers, ancillary facilities, gravel roads, overhead and underground connection lines, and an electrical substation. The proposed project will replace an abandoned wind energy project built in the mid 1980's and subsequently removed.

H-1

EPA supports increasing the development of renewable energy resources, as recommended in the National Energy Policy. Based on our review, we have no objections to the proposed project. Accordingly, we have rated the DEIS as Lack of Objections (LO) (see enclosed "Summary of EPA Rating Definitions"). To minimize air quality impacts during construction, we recommend incorporating additional mitigation measures, as described in our detailed comments (attached).

We appreciate the opportunity to review this Draft EIS and request a copy of the Final EIS when it is officially filed with our Washington, D.C. office. If you have any questions, please call me at (415) 972-3846, or have your staff contact Ann McPherson at (415) 972-3545 or mcpherson.ann@epa.gov.

H-1

Sincerely,

Nova Blazej, Manager
Environmental Review Office

Enclosures: Summary of Rating Definitions
EPA Detailed Comments

EPA DETAILED COMMENTS ON THE MOUNTAIN VIEW IV WIND ENERGY PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT (DEIS EIR), PALM SPRINGS, CALIFORNIA, APRIL 5, 2007

Air Quality Impacts

The proposed project is located in the South Coast Air Basin (SCAB). The South Coast Air Quality Management District (SCAQMD) implements local air quality regulations in the SCAB to carry out Federal Clean Air Act (CAA) requirements, as authorized by the U.S. Environmental Protection Agency (EPA). The current SCAB nonattainment designations under the Federal CAA are as follows: carbon monoxide - serious nonattainment; 8-hour ozone - severe nonattainment; particulate matter with a diameter of 10 microns or less (PM_{10}) - serious nonattainment; and particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$) - nonattainment. The SCAB has the worst 8-hour ozone and $PM_{2.5}$ problems in the nation; attainment of these National Ambient Air Quality Standards (NAAQS) will require massive reductions from mobile sources, given the rapid growth in this emissions category and the long lifespan of diesel engines.

The DEIS does not include an evaluation of existing air quality within the geographic scope of the project and does not examine the potential impacts to air quality from the project. Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality. H-2

The DEIS states that the project is not expected to significantly affect air quality as defined by the Air Quality Element of the City's General Plan and is not expected to exceed threshold criteria of the South Coast Air Quality Management District Air Quality Handbook (pg. 4.0-2); however, additional information is not provided. The eastern desert areas of Riverside County are generally non-attainment areas with regard to PM_{10} (pg. 4.0-2). The DEIS acknowledges that the project will create some dust and blowsand during construction and maintenance activities and refers to a Dust Control Plan; however, this Dust Control Plan is not referenced within the document.

Recommendation:
The Final Environmental Impact Statement (FEIS) should include a discussion of existing air quality within the geographic scope of the project. The FEIS should describe and estimate air emissions from potential construction and other activities, as well as proposed mitigation measures to minimize those emissions. The FEIS should reference or include the Dust Control Plan within the appendices of the document.

Construction Mitigation Measures

EPA supports the construction mitigation measures identified in the DEIS: management practices which minimize dust and blowsand to the greatest extent possible; H-3

the use of gravel base to reduce silt content of roadbeds and turbine sites; a 15 or 20 mph vehicle speed limit; and regular watering of roadbeds/graded areas during construction (pgs. 2.0-19; 4.0-2). In addition, due to the serious nature of the PM_{10} and $PM_{2.5}$ conditions in the SCAB, we recommend that the best available control measures for these pollutants be implemented at all times. EPA recommends including a Construction Emissions Mitigation Plan (CEMP) for fugitive dust and diesel particulate matter (DPM) in the FEIS.

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

H-3

Mobile and Stationary Source Controls:

- Reduce use, trips, and unnecessary idling from heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.
- Prohibit any tampering with engines and require continuing adherence to manufacturers recommendations
- Require that leased equipment be 1996 model or newer unless cost exceeds 110 percent or average lease cost. Require 75 percent or more of total horsepower of owned equipment to be used be 1996 or newer models.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Administrative controls:

- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or

power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.)

- Utilize cleanest available fuel engines in construction equipment and identify opportunities for electrification. Use low sulfur fuel (diesel with 15 parts per million or less) in engines where alternative fuels such as biodiesel and natural gas are not possible.
- Develop a construction, traffic and parking management plan that minimizes traffic interference and maintains traffic flow.

H-3

Response to Letter H

Response to comments from Nova Blazej, Manager, Environmental Review Office, U.S. Environmental Protection Agency, April 5, 2007.

H-1 Comments are noted regarding EPA support of renewable energy projects. Regarding incorporation of additional air quality mitigation, please refer to Response D-1 and Appendix B of this Final EIR/EIS.

H-2 The proposed project site is located in the Coachella Valley Planning Area (CVPA) of the Salton Sea Air Basin (SSAB). Air quality in the SSAB is largely dependent upon what is arriving from the upwind SCAB. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies adopted an Air Quality Management Plan (AQMP) in 1979 and have revised it in several increments as attainment schedule estimates were shown to be overly optimistic. A 1997 federal AQMP was locally adopted and forwarded to EPA for evaluation. The 1997 AQMP for the SCAB was designed to meet both federal (EPA) and state (CARB) air quality planning guidelines. The 1997 plan was modified by accelerating the schedule for a variety of measures to control ozone precursor emissions. The 1999 Amendments received EPA approval as the adopted regional air quality plan in 2000. The proposed 2003 plan was locally adopted and received EPA approval in 2004. The SCAQMD is currently in the process of developing a new 2007 AQMP. The draft plan is completed and modifications to the plan have been proposed. The new plan will have to be locally adopted and then sent to the U.S. EPA for approval.

Existing and probable future levels of air quality around the project area can best be inferred from ambient air quality measurements conducted by the SCAQMD at the Indio and Palm Springs air quality monitoring stations. The Indio station monitors the two primary pollutants of concern in the CVPA which are ozone and PM-10. The CVPA is designated as a "serious" non-attainment area for ozone with an attainment target date of 2013. The federal PM-10 standard is occasionally exceeded in the project area and there is a high frequency of violations (around 45 percent) of the more stringent state PM-10 standard. The CVPA was initially declared a "moderate" non-attainment area for PM-10. This designation requires that reasonably available control measures (RACMs) be used for dust control. Some of the highest particulate levels in all of California may occur in the Coachella Valley on windy days. Because high wind events generate so much of their dust from "natural" sources, they are generally excluded from the attainment designation and planning process since emissions controls on human-induced sources would not necessarily be effective in achieving attainment. There have been no violations of the PM-2.5 standard in the last six years of data at the Indio monitoring station.

. As discussed in Response D-1, an analysis of construction activity air pollution emissions was completed and determined that with mitigation, emissions would be below threshold levels. The Air Quality Analysis is attached to this Final EIR/EIS as Appendix B.

H-3 As noted in Response H-2 (as well as D-1), the project will incorporate a Dust Control Plan which contains measures to reduce PM_{10} and fugitive dust emissions during project construction.

Section 4.0
Revisions to Draft EIR/EIS

4.0 REVISIONS TO DRAFT EIR/EIS

The following text changes have been made to the Final EIR/EIS. None of these changes result in a substantial change in the project description or raise important new issues regarding significant effects on the environment. The text that has been removed from the Draft EIR/EIS is indicated by a ~~strikeout~~. New text to be added is indicated with underline.

Item 1:

The following text revision is hereby added to Section 3.2.4 of the Draft EIR/EIS starting in the second paragraph on page 3.2-17:

~~In addition, the site is located on the former floodplain of the Whitewater River, but~~ Through correspondence with the U.S. Army Corps of Engineers (refer to Appendix E of this document), it has been determined that the subject property is ~~well~~ outside the current boundaries of the river flow and has no active connection to the Whitewater River. Consequently, the project would not discharge dredge or fill material into a water of the United States or an adjacent wetland, and therefore, would not be subject to Corps jurisdiction or require a permit under Section 404 of the Clean Water Act. ~~Based on the location and site conditions, the project does not come under the jurisdiction of the U.S. Army Corps of Engineers. Because it is anticipated that no Corps permit will be required, no 401 permit is required from the State Water Quality Control Board's regional office for the Colorado River region.~~ However, the smaller drainages may meet the jurisdictional requirements under CDFG as outlined above and should be reviewed by that agency to determine whether streambed alteration agreements are required.

Item 2:

The following text revision is hereby added to Section 3.2.4, Mitigation Measures of the Draft EIR/EIS on page 3.2-23:

3.2-7 Not more than thirty days prior to construction activity in the area to be disturbed, the biological monitor/FCR shall survey the construction area for CV milkvetch. Any CV milkvetch plants present shall be marked with a flagged stake and protected from damage, by avoiding any surface impacts within five (5) meters of the plant. ~~to the extent possible.~~

Item 3:

The following text addition is hereby added to Section 3.2.4, Mitigation Measures of the Draft EIR/EIS beginning on page 3.2-23:

3.2-17. An additional design measure agreed to by the applicant includes construction of sand fencing on the Whitewater Preserve, east of North Indian Canyon Road in Section 26. The

applicant will construct 24 segments of sand fences, each segment being 25 feet in length and 3 to 4 feet high, with each segment separated by a 50-foot gap to allow movement of wildlife across the site and sand movement within the site. Total length of the sand fences would be 600 feet. Each row of fences would be spaced 300 feet apart in a staggered grid so that the area for sand fence treatment would be a rectangular area 600 feet north-south by 900 feet east-west, equaling approximately 12.4 acres.

3.2-18. The applicant is required to provide mitigation for loss of Coachella Valley fringe-toed lizard habitat through payment of mitigation fees. The amount of the mitigation fee is projected to be $95,118 on Section 27 private land, based on 16.6 acres of permanent and temporary disturbance and the Coachella Valley Multi Species Habitat Conservation Plan (CVMSHCP) fee of $5,730 per acre. The projected amount of the mitigation fee on BLM land in Section 28 is $59,019 based on a temporary and permanent disturbance area of 10.3 acres and a fee of $5,730 per acre, to be provided to BLM or the Center for Natural Lands Management for acquisition of Coachella Valley fringe-toed lizard habitat. Total mitigation fees for CVMSHCP/ fringe-toed lizard habitat is estimated to be $154,137.

3.2-19. All protected cactus species to be removed by the project shall be flagged and transplanted back on site in an undisturbed area prior to construction.

3.2-20. The Right of Way (ROW) Holder shall conduct a post-construction avian and bat fatality survey over a 12 month post-construction period beginning with commencement of commercial operation of the turbines. The survey shall be conducted in spring, summer, fall and winter seasons, using standardized survey protocols, as appropriate for the site and any species of particular concern. The study shall establish statistical adjustments for observer bias and scavenging bias. All surveys and studies shall include a disclosure of assumptions, survey protocols and statistical methodologies in the monitoring reports. The final report shall be provided to the Bureau of Land Management.

Item 4:

The following text addition is hereby added to Section 3.3.4, Mitigation Measures of the Draft EIR/EIS beginning on page 3.3-10:

3.3-1. If human remains are exposed during construction on non-federal land, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code 5097.98. Construction must halt in the area of the discovery of human

remains, the area must be protected, and consultation and treatment shall occur as prescribed by law. If human remains are encountered on federal land, pursuant to the Native American Graves Protection and Repatriation Act and associated regulations, the ~~responsible federal agency official~~ BLM must be notified by telephone immediately, and with written confirmation (43 CFR 10.4[c]). Work in the immediate area shall be halted until a Notice to Proceed is issued by BLM. In addition, ~~all ongoing activities must cease~~, the remains should be secured and protected, and Native American representatives should be consulted (43 CFR 10.4[d]).

3.3-2. Any buried cultural materials unearthed during earth-moving operations associated with the undertaking should be examined and evaluated by a qualified archaeologist prior to further disturbances. Additionally, if such materials are discovered on public lands in Sections 22 and 28, the BLM shall be notified by telephone immediately, and with written confirmation. Work in the immediate area shall be halted until a Notice to Proceed is issued by BLM.

Item 5:

The following text revision is hereby added to the third and fourth paragraphs on page 3.6-3 of the Draft EIR/EIS:

A detailed drainage study was prepared for the project and is attached to this document in Appendix F. The drainage study projects the maximum flow depth in the portion of the Whitewater River containing the project site to be ~~approximately 1 foot~~ between 1 – 2 feet during a 100-year storm flow. In accordance with Section 8.68.170 of the Palm Springs Municipal Code, non-residential structures shall be elevated to at least two feet above the base flood elevation (determined to be two feet) or flood proofed below that elevation so that the structure is watertight with walls substantially impermeable to the passage of water. In order for proposed structures to be safe from the 100-year flow, the elevations of proposed electrical components that are not designed to be below water must be ~~2~~ 3-feet (including 1 foot of freeboard) above the existing ground, not including gravel fill placed around the foundation.

The drainage study also evaluates scour erosion at the site and projects the depth of scour which would affect turbine and transformer foundations. The ~~projected~~ maximum scour depth for the wind turbines and transformers will be ~~11.3 ft and 10.7 ft, respectively for~~ 9.3 feet during a 100-year flood flow scenario. ~~The same scour for a 25-year flow is 7.1 ft and 6.8 ft. for the wind turbines and transformers, respectively. Since the structure expected life is 20 years, the appropriate design frequency for scour is 25 years or less.~~ Therefore the design foundation depth (30 ft. for turbines and 10 ft. for transformers) will be adequate to protect from scour during a 100-year storm event. ~~is~~

~~larger than the scour depth for 25-year flood (7.1 ft. for turbines and 6.8 ft. for transformers). Thus the foundation design depth is adequate for 25-year flood protection against scour.~~

The following text addition is hereby added to Section 3.6.4, Mitigation Measures of the Draft EIR/EIS on page 3.6-4:

3.6-2 The project shall comply with provisions of Chapter 8.68 "Flood Damage Prevention" of the Palm Springs Municipal Code, Section 8.68.170 "Standards of Construction", section (c)(2) "Non Residential Construction". In accordance with the Code, all mechanical and electrical equipment shall be elevated a minimum of 2 feet above the base flood elevation (determined to be 2 feet), equivalent to 4 feet above natural grade. Natural grade shall be the average grade of native soils surrounding the foundation, not including gravel fill placed around the foundation. ~~Padmount transformers and wind turbine electronic and control systems that are not designed to operate under water must be at least two feet above the existing ground level in order to be safe from 100-year flood flows.~~

3.6-3 The project shall comply with provisions of Chapter 8.68 "Flood Damage Prevention" of the Palm Springs Municipal Code, Section 8.68.170 "Standards of Construction", section (a) "Anchoring". In accordance with the Code, all structures shall be constructed with foundations adequately anchored to withstand the maximum scour potential during the 100-year storm, determined to be 9.3 feet.

Item 6:

The following text addition is hereby added to Section 4.2, Effects Found to be Not Significant, of the Draft EIR/EIS:

Environmental Justice

Executive Order (E.O.) 12898 requires federal agencies to consider environmental justice as part of its environmental review. Specifically, it directs them to address, as appropriate, any disproportionately high and adverse human health or environmental effects of their actions, programs, or policies on minority and low-income populations. 2000 U.S. Census data from the City of Palm Springs indicate that at that time there was a higher percentage of minority populations and families below the poverty level in the northern Palm Springs area which includes the older residential neighborhood closest to the project site (approximately 3,000 feet south of the proposed project site). An evaluation of potential adverse environmental effects to this neighborhood is contained in various sections throughout this EIR/EIS. Section 3.5 evaluated the public health and safety effects of the proposed project. This analysis found that the project would not use or store hazardous materials, no hazardous waste would be generated, and safety hazards due to operation of

wind turbines would not be significant due to required safety setbacks and other measures incorporated into project design. Section 3.8, Noise determined that construction and operational noise levels would be lower than the City's standard of 55dB since the nearest noise sensitive receptors are over 3,000 feet from the project site. Furthermore, it has been determined that the project would not induce population growth, nor result in displacement of housing and it would not result in public service expenditures but will instead contribute substantial revenues to several public entities. Since the proposed project or any of its alternatives would not have any significant impacts that would affect local populations in the project area, it would not have a disproportionately adverse environmental justice impact on minority or low-income populations.

Appendix A

List of Agencies Who Received DEIR/EIS

MV IV DEIS/EIR DIST. LIST

Coachella Valley Water District
ATTN: Dan Parks
85-995 Avenue 52
Coachella, CA 92236
760-398-2651

Bruce Wilcox
Imperial Irrigation District
Water Department
333 E. Barioni
Imperial CA 92251
760-339-9756

Desert Water Agency
ATTN: Steve Johnson, Head Engineer
1200 South Gene Autry Trail
Palm Springs, CA 92264
(760) 323-4971

The Gas Company
ATTN: Patrick Swarthout
211 North Sunrise Way
Palm Springs, CA 92262
(909) 355-7615

Palm Springs Disposal Services
Rick Wade, General Manager
4690 E. Mesquite Avenue
Palm Springs, CA 92264
(760) 327-1351

Palm Springs Unified School District
Ivan Dailey
980 E. Tahquitz Canyon Way
Palm Springs, CA 92262
(760) 416-6113

Elaine Chang, Deputy Executive Officer
South Coast Air Quality Management District
Dept: PRDAS
21865 East Copley Drive
Diamond Bar, CA 91765-4182
Phone: 909) 396-2000

Stuart Hemphill
Director, QF Resources
Southern California Edison
2244 Walnut Grove Ave.
Quad 4-D
Rosemead, CA 91770
(626) 302- 9594 direct dial phone

Chris Morley
Right-of-Way Specialist
Coachella Valley Water District
85-995 Avenue 52
Coachella, California 92236

Time Warner Cable
Mike Sagona, Director of Engineering
41725 Cook Street
Palm Desert, CA 92260
760-340-1312

Verizon
Attn: Christopher R. Brown
295 North Sunrise Way
Palm Springs, CA 92262
760-778-3603

Riverside County
Airport Land Use Commission
John Guerin, Senior Planner
Riverside County Administrative Center
4080 Lemon Street, 9th Floor
Riverside, CA 92501
Tel: 951.955.1872

Riverside County Assessor's Office
Jim Harlow
3255 E. Tahquitz Canyon Way, #114
Palm Springs, CA 92262
760-778-2400

Riverside County Planning Dept
ATTN: Paul Clark
82675 Hwy 111, Room 209
Indio, CA 92201
(760) 863-7579

Coachella Valley Association of Governments
John Wohlmuth, Executive Director
73710 Fred Waring Drive, Ste. 200
Palm Desert, CA 92260
(760) 346-1127

City of Cathedral City
Bud Kopp, Interim Planning Director
68-700 Avenida Lalo Guerrero
Cathedral City, CA 92234
760.770.0370

City of Desert Hot Springs
Larry C. Grafton, Planning Department
65950 Pierson Blvd.
Desert Hot Springs, CA 92240
(760) 329-6411

Interested Parties/Organizations

Tom Davis
Agua Caliente Band of Cahuilla Indians
Tribal Planning Director
650 E. Tahquitz Canyon Way
Palm Springs, CA 92262

Palm Springs Chamber of Commerce
Mark Anderson, President
190 W. Amado Road
Palm Springs, CA 92262
760-325-1577

Coachella Valley Mountains Conservancy
Katie Barrows, Associate Director
73-710 Fred Waring Drive, Suite 205
Palm Desert, CA 92260
(760) 776-5026

Rachel Bilyk
2712 Wisconsin Ave NW #602
Washington, DC 20007
215 -668-4087

Federal Agencies

Bureau of Indian Affairs
Kim Snyder, Director
901 East Tahquitz Canyon Way Ste. C 101
Palm Springs, CA 92262
(760) 416-2133

Bureau of Land Management
Claude Kirby, Realty Specialist
690 West Garnet (PO Box 581260)
Palm Springs, 92258
760-251-4850

F.A.A.
ATTN: Dave Kessler
Environmental Specialist
15000 Aviation Blvd.
Lawndale, CA 90261

US Fish & Wildlife Service
Attn: Karen Goebel, Asst. Field Supv.
6010 Hidden Valley Road
Carlsbad, CA 92000-4219
Ph: 760-431-9440

Clearinghouses

EPA
Ms. Pearl Young
US Environmental Protection Agency
Office of Federal Activities
EIS Filing Section
Mail Code 2252-A, Room 7220
Ariel Rios Building (South Oval Lobby)
1200 Pennsylvania Ave, N.W.
Washington, DC 20460

State Clearinghouse
Terry Roberts, Director
1400 Tenth Street
Sacramento, CA 95814
(916) 445-0613

Additional Contacts

U.S. Environmental Protection Agency
Southern California Field Office
600 Wilshire Blvd., Suite 1460
Los Angeles, CA 90017
Phone: (213) 244-1800
Fax: (213) 244-1850

Ann McPherson
Environmental Protection Agency
CED-2
75 Hawthorne Street
San Francisco, CA 94105

NPL News
PO Box 527
Ridgecrest, CA 93556

Appendix B

Air Quality Analysis

May 8, 2007

Stantec Consulting, Inc.
Attn: Katherine Walters
73733 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Re: WECS Construction Air Quality Impact Analysis
Our Reference No. P07-X06

Dear Ms. Walters:

As per your request, we have prepared a construction activity air pollution emissions quantification to address the concerns raised in the EPA's "Detailed Comments on the Mountain View IV Wind Energy Project DEIS/DEIR." We used the California Air Resources Board (CARB) URBEMIS2002 computer model to calculate off-road equipment exhaust emissions based upon the equipment list and phasing plan provided by (Mountain View Power Partners IV, LLC). We utilized the EMFAC2007 computer model to calculate on-road exhaust emissions from delivery of turbine parts and ready-mixed concrete for turbine foundations.

The specified equipment list was broken down into three Phases, but Phases 2 and 3 are almost identical in their equipment needs and levels of delivery traffic. The analysis was therefore conducted for two construction phases since the SCAQMD CEQA significance thresholds are based upon the maximum project activity day regardless of phasing.

The equipment breakdown was as follows:

Clear and Excavate (Phase 1)	**Install Turbines & Electrical Interconnections (Phases 2 & 3)**
Excavators (2)	Bore/Drill Rig
Grader	Cranes (4)
Compactors (2)	Loaders (2)
Dozers (2)	
Loaders (2)	

The URBEMIS2002 model contains three construction phases, including demolition, grading and finish construction. The "demolition" module was used for Phase 1, and the grading module was used for Phases 2 or 3. Demolition does not include a fugitive dust

calculation when there is no structural demolition as for the proposed WECS project. The fugitive dust calculation in Phases 2 or 3, however, applies equally to Phase 1.

In addition to on-site equipment exhaust emissions, a daily truck delivery rate of ten (10) trips per day was assumed to initially deliver concrete and foundation materials, and then turbine parts, power poles, etc. would be delivered in Phases 2 and 3. A 40-mile round trip travel distance was assumed for each trip. Trip length is the distance from the last vehicle stop until reaching the project site, or from the project site to the vehicle's next stop. The concrete trucks may have a shorter travel distance while the turbine delivery travel distance within the Salton Sea Air Basin may be longer than 20 miles to/from the project site. The 40-mile round trip distance is an average of the two types of primary delivery trips.

The results of the emissions calculations are as follows compared to the daily emissions thresholds recommended by the SCAQMD in its CEQA Handbook as comprising a potentially significant source of emissions (pounds/day):

Phase	Mitig(?)	ROG	NOx	CO	PM-10	Fugitive	PM-2.5
1	No	23.5	164.3	186.2	163.7	157.0	39.3
1	Yes	21.2	70.9	186.2	16.9	16.4	3.9
Trucks	400 mi.	0.6	10.9	4.4	0.4	0.0	0.4
TOTAL	Yes	21.8	81.8	190.6	17.3	16.4	4.3

Phase	Mitig(?)	ROG	NOx	CO	PM-10	Fugitive	PM-2.5
2,3	No	11.4	66.5	97.0	159.0	157.0	34.7
2,3	Yes	11.4	57.2	97.0	16.6	16.4	3.6
Trucks	400 mi.	0.6	10.9	4.4	0.4	0.0	0.4
TOTAL	Yes	12.0	68.1	101.4	17.0	16.4	4.0

SCAQMD Thrshld.	75	100	550	100	n/a	55

Without supplemental mitigation, NOx emissions from diesel exhaust (Phase 1) and PM-10 from soil disturbance dust (all phases) will exceed the SCAQMD thresholds. With mitigation, thresholds will not be exceeded. The mitigation measures selected from the URBEMIS2002 model menu include the following in addition to measures that are already incorporated in the DEIR/DEIS:

Equipment NOx	**Fugitive Dust**
Use aqueous diesel fuel	Use diesel particulate filters where possible
Require Tier-3 rated equipment in Phase 1	Stabilize inactive disturbed areas
	Water exposed areas at least 3X daily

	Cover stockpiles with tarps
	Water all haul roads at least 3X daily
	Speed limit = 15 mph on all unpaved roads

Please call me with any questions.

Sincerely,

Hans D. Giroux
Senior Analyst
Giroux & Associates

Attachments: URBEMIS2002 Model Output, EMFAC2007 emission factors

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\WECS II.urb
Project Name: WECS II
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2007 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	23.53	164.28	186.25	0.00	6.68	6.67	0.01
TOTALS (lbs/day, mitigated)	21.20	70.89	186.25	0.00	0.51	0.50	0.01

*** 2008 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	11.39	66.51	97.02	0.00	159.00	1.99	157.01
TOTALS (lbs/day, mitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.12	0.00	0.78	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.09	0.10	1.07	0.00	0.08

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.22	0.11	1.85	0.00	0.09

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\WECS II.urb
Project Name: WECS II
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: November, 2007
Construction Duration: 6
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 15.7 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	23.30	163.84	181.39	-	6.66	6.66	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.23	0.44	4.86	0.00	0.02	0.01	0.01
	23.53	164.28	186.25	0.00	6.68	6.67	0.01

Maximum lbs/day

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum lbs/day

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum lbs/day

	23.53	164.28	186.25	0.00	6.68	6.67	0.01

Max lbs/day all phases

*** 2008***

Phase 1 - Demolition Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum lbs/day

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	157.00	-	157.00
Off-Road Diesel	11.34	66.48	96.42	-	1.99	1.99	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.05	0.03	0.60	0.00	0.01	0.00	0.01
	11.39	66.51	97.02	0.00	159.00	1.99	157.01

Maximum lbs/day

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum lbs/day

	11.39	66.51	97.02	0.00	159.00	1.99	157.01

Max lbs/day all phases

Phase 3 - Building Construction Assumptions: Phase Turned OFF
Start Month/Year for Phase 1: Nov '07
Phase 1 Duration: 2 months
Building Volume Total (cubic feet): 0
Building Volume Daily (cubic feet): 0
Miles per round trip set to zero

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
1	Graders	174	0.575	8.0
2	Off Highway Tractors	255	0.410	8.0
2	Other Equipment	190	0.620	8.0
2	Rubber Tired Dozers	352	0.590	8.0
2	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jan '08
Phase 2 Duration: 4 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Bore/Drill Rigs	218	0.750	8.0
4	Cranes	190	0.430	8.0
2	Rubber Tired Loaders	165	0.465	8.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	20.97	70.45	181.39	-	0.49	0.49	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.23	0.44	4.86	0.00	0.02	0.01	0.01
Maximum lbs/day	21.20	70.89	186.25	0.00	0.51	0.50	0.01
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	21.20	70.89	186.25	0.00	0.51	0.50	0.01
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	16.41	-	16.41
Off-Road Diesel	11.34	57.17	96.42	-	0.15	0.15	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.05	0.03	0.60	0.00	0.01	0.00	0.01
Maximum lbs/day	11.39	57.20	97.02	0.00	16.57	0.15	16.42
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-

Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction-Related Mitigation Measures

Phase 1: Off-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 1: Off-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 1: Off-Road Diesel Exhaust: Tier 3 rated engines
Percent Reduction(ROG 10.0% NOx 50.0% CO 0.0% SO2 0.0% PM10 0.0%)
Phase 2: Soil Disturbance: Apply soil stabilizers to inactive areas
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 3x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 50.0%)
Phase 2: Off-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 2: Off-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 3x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 45.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)

Phase 3 - Building Construction Assumptions: Phase Turned OFF
Start Month/Year for Phase 1: Nov '07
Phase 1 Duration: 2 months
Building Volume Total (cubic feet): 0
Building Volume Daily (cubic feet): 0
Miles per round trip set to zero
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
1	Graders	174	0.575	8.0
2	Off Highway Tractors	255	0.410	8.0
2	Other Equipment	190	0.620	8.0
2	Rubber Tired Dozers	352	0.590	8.0
2	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jan '08
Phase 2 Duration: 4 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Bore/Drill Rigs	218	0.750	8.0
4	Cranes	190	0.430	8.0
2	Rubber Tired Loaders	165	0.465	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas Hearth - No summer emissions	0.00	0.00	0.00	0	0.00
Landscaping	0.12	0.00	0.78	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
Architectural Coatings	0.00	-	-	-	-
TOTALS(lbs/day,unmitigated)	0.12	0.00	0.78	0.00	0.00

	ROG	NOx	CO	SO2	PM10
Maintenance	0.09	0.10	1.07	0.00	0.08
TOTAL EMISSIONS (lbs/day)	0.09	0.10	1.07	0.00	0.08

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.
UNMITIGATED OPERATIONAL EMISSIONS
OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	Units	Total Trips
Maintenance		10.00 trips/	1.00	10.00
				10.00

ROG
55.96

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.30	97.10	0.60
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.50	1.90	96.80	1.30
Med Truck 5,751- 8,500	6.80	1.50	95.60	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

Travel Conditions

Total Vehicle Miles Traveled

		Home-Shop	Home-Other	Commercial Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			

Sum of Total Trips
No.

% of Trips - Commercial (by land use)

Maintenance				2.0	1.0	97.0

Home-
Work

Residential

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths
Phase 1 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel
has been changed from off to on.
Phase 1 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
has been changed from off to on.
Phase 1 mitigation measure Off-Road Diesel Exhaust: Tier 3 rated engines
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 3x daily
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 3x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

Appendix C

U.S. Fish & Wildlife Service Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011

In Reply Refer To:
FWS-ERIV-99B0002-07F0042

MAY 2 2 2008

Memorandum

To: Field Manager, Palm Springs-South Coast Field Office,
Bureau of Land Management, Palm Springs, California

From: Assistant Field Supervisor, Carlsbad Fish and Wildlife Office,
Carlsbad, California

Subject: Biological Opinion for Re-initiation of Formal Consultation on Proposed Mountain View IV Energy Project, Riverside County, California [99B002-07F0042 (5260)]

The attached document transmits the U.S. Fish and Wildlife Service's (Service or we) Biological Opinion based on our review of the AES Seawest's application to the Bureau of Land Management (BLM) for the granting of a 26-year right-of-way/lease on to BLM lands in association with the proposed Mountain View IV Wind Energy Project, City of Palm Springs, Riverside County, California (Project). Pursuant to your request for re-initiation of formal consultation, you determined the Project would likely adversely affect the Coachella Valley fringe-toed lizard (*Uma inornata*; federal threatened species) and the Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*; federal endangered species), pursuant to section 7(a)(2) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Your request for re-initiation of formal consultation, dated June 18, 2007, was received by us on June 20, 2007. Formal consultation was re-initiated on June 20, 2007, and extended on September 12, 2007. This consultation includes re-initiation of consultation on an earlier BLM proposed action, "Leasing of Federal Land for the Purpose of Wind Energy Development in Coachella Valley, Riverside County" (BO ref. no. 1-6-99-F-49, September 3, 1999).

This Biological Opinion is based on information in: our previous Biological Opinion on proposed wind energy development on the Project site (BO ref. no. 1-6-99-F-49); the draft EIR/EIS for the proposed Project dated February 2007, prepared by Dudek; responses to comments on the Project EIR/EIS, provided by the Applicant by email dated February 25, 2008; two biological assessments for portions of the Project, prepared by Natural Resources Assessment, both dated November 11, 2006; a biological resource assessment for a portion of the Project, prepared by Natural Resources Assessment, dated November 8, 2006; a letter from the Applicant to the Service, prepared by Dudek and dated October 26, 2007, providing additional information pursuant to the consultation on the Project; an assessment of potential additional construction costs associated with river diversion through the Project site, provided by the

Applicant by email dated February 22, 2008; an analysis of cumulative effects in the Project action area prepared by Dudek, dated October 25, 2007; a memorandum from Dudek to BLM regarding bird mortality associated with the proposed Project, dated February 2, 2007; a drainage study for the Project, dated November 3, 2006, prepared by Stantec; and various telephone and electronic mail correspondence during the consultation time period. A complete administrative record of this consultation is on file at the Carlsbad Fish and Wildlife Office.

As noted in the Project biological assessments and EIR/EIS, the Coachella Valley fringe-toed lizard (fringe-toed lizard) and Coachella Valley milk-vetch (milk-vetch) occur on the Project site and near proposed Project components. As noted in the Final Re-circulated Coachella Valley Multiple Species Habitat Conservation Plan ("CVMSHCP"; CVAG 2007), fringe-toed lizards are found downstream and downwind of the Project site. We have determined that the Project, as designed, is likely to adversely affect the fringe-toed lizard and milk-vetch. Designated or proposed critical habitat for any species does not occur in the action area, thus none would be affected. The Service has also determined that the Project, as proposed, is not likely to adversely affect any other listed species.

In the attached Biological Opinion, we have determined that the Mountain View IV Energy Project, as proposed, is not likely to jeopardize the continued existence of the fringe-toed lizard or the milk-vetch. Pursuant to agreements regarding the CVMSHCP, the portion of the Project occurring outside of BLM lands would need to receive its incidental take coverage from the City of Palm Springs (a CVMSHCP permitee) through the Section 10(a)(1)(B) permit that will be issued shortly on the CVMSHCP. The City of Palm Springs has land use jurisdiction over the Project; the Coachella Valley Water District portion of the Project is subject to a Conditional Use Permit through the City of Palm Springs. We herein anticipate the incidental take of an undetermined number of fringe-toed lizards could occur as a result of the proposed action within the Project direct footprint on BLM lands limited to a maximum of 9.8 acres (7.8 acres temporarily affected and 2.0 acres permanently affected, of which an undetermined portion would be fringe-toed lizard habitat at any specific time during the Project term) during the Project life, with the take in the forms of harm and direct injury/mortality.

If you have any questions or concerns about this biological opinion, please contact Jon Avery of my staff at (760) 431-9440.

cc: Larry LaPre, BLM District Wildlife Biologist, CDD

BIOLOGICAL OPINION

PROPOSED MOUNTAIN VIEW IV ENERGY PROJECT, BUREAU OF LAND MANAGEMENT RIGHT OF WAY GRANT, RIVERSIDE COUNTY, CALIFORNIA

99-B0002-07F0042

TABLE OF CONTENTS

1.0 CONSULTATION HISTORY

On September 3, 1999, the Service provided to the Bureau of Land Management (BLM) a Biological Opinion on the proposed Leasing of Federal Land for the Purpose of Wind Energy Development in the Coachella Valley, Riverside County (1-6-99-F-49).

On April 9, 2007, the Service reviewed and provided comments by memorandum to BLM on the draft Environmental Impact Report/Environmental Impact Statement for the proposed Mountain View IV Project (Project).

On May 23, 2007, representatives of the Service and BLM held a meeting at the Carlsbad office of the Service regarding the ecological issues in the Whitewater River floodplain and the Project.

On May 24, 2007, the Service received an email from BLM regarding expected listed species coverage for the proposed Project under the existing Coachella Valley Fringe-toed Lizard HCP permit and Biological Opinion 1-6-99-F-49 and potential reconfiguration of existing levees in the Project area.

On May 25, 2007, the Service received an email from BLM regarding past habitat losses in the Project area, potential future fluvial/habitat improvement actions, and mitigation for the Project.

On June 4, 2007, representatives of the Service, BLM, Coachella Valley Water District (CVWD), and AES Seawest/Mountain View (Applicant) held a meeting at the Palm Springs/South Coast office of BLM regarding the Project.

On June 6, 2007, the Service received an email from BLM inquiring about fluvial flow restoration concepts in the Project area.

On June 20, 2007, the Service received a memo from BLM dated June 18, 2007, requesting initiation of formal consultation on the Project.

On June 20, 2007, the Service re-initiated formal consultation on Leasing of Federal Land for the Purpose of Wind Energy Development in the Coachella Valley to include modifications of the proposed Project.

On July 2, 2007, representatives of the Service and CVWD held a meeting at the Coachella office of CVWD regarding opportunities and constraints on management of fluvial flows in the Project Area and fringe-toed lizard habitat in the Whitewater River floodplain.

On July 2, 2007, Mary Beth Woulfe of the Service held a phone conversation with Ray Lenaburg of the Federal Emergency Management Agency regarding potential issues surrounding redirecting flood flows towards several existing levees in the southern portion of the Whitewater River floodplain.

On July 9, 2007, representatives of the Service, BLM, CVWD, Coachella Valley Association of Governments (CVAG), and the Applicant held a meeting at the Palm Springs/South Coast office of BLM regarding the Project.

On July 12, 2007, the Service received a transmittal from the Applicant that included reports pertaining to the blowsand ecosystem, wind wake velocities, and flood drainage in the Project area.

On July 17, 2007, the Service received an email from Dale Anderson at Riverside County Flood Control and Water Conservation District (Riverside County Flood) providing specific details on three existing levees in the southern portion of the Whitewater River floodplain. On July 18, 2007, the Service received an email from Dale Anderson indicating that his agency would probably not object to the removal of a north/south running levee (CVWD levee in Figure 3.1-1 below) in the southern portion of the Whitewater River floodplain.

On July 19, 2007, the Service received an email from the Applicant that included additional information pertaining to winds and blowsand movement in the Project area.

On July 19, 2007, the Service sent an email to BLM, CVWD, and Applicant with information regarding 3 levees in the southern portion of the Whitewater River floodplain and their relationship to potential modified flood flows through the Project area.

On August 3, the Service sent a memorandum to the BLM indicating that formal consultation was re-initiated on June 20, 2007, and noted additional information that was need for completion of the consultation.

On September 12, 2007, the Service requested an extension of formal section 7 consultation on the Project, and noted additional information that was needed for completion of consultation.

In a letter dated October 9, 2007, the Service received supplemental information from Dudek (Applicant's consultant) to address proposed Project minimization and mitigation measures.

In two letters dated October 25, 2007, the Service received supplemental information from Dudek to address cumulative effects issues in the Project area.

In a letter dated October 26, 2007, the Service received information that was needed for completion of the consultation from the Applicant, pursuant to our letter of September 12, 2007, requesting additional information.

From November 2007 to May 2008, the staff of the Service Carlsbad office were engaged in section 10 permit processing for the Coachella Valley Multiple Species Habitat Conservation Plan, which includes the Project Area.

On February 22, 2008, the Service received an email from BLM with information addressing potential relocation of existing power poles on a levee in the Project area.

On March 7, 2008, the Service emailed a draft of the proposed Project description compiled by the Service from: the Project EIR/EIS; three Project biological assessments; three Applicant responses to comments on the EIR/EIS; and three letters from the Applicant/Dudek to BLM or the Service.

On March 12, 2008, the Service and BLM held a phone conference to discuss the proposed Project description. On March 13, 2008, the Service emailed a revised draft of the proposed Project description to BLM.

On March 20, 2008, the Service and the Applicant held a meeting in the Service Carlsbad office to discuss the proposed Project description. On March 20, 2008, the Service emailed to BLM a revised draft of the proposed Project description.

On March 24, 2008, the Applicant emailed the Service and BLM, indicating that the revised Project description the Service emailed to BLM on March 20, 2008, was acceptable as the description of the proposed Project and asked for comments from BLM. No comments were subsequently received by the Service from BLM. The Project description utilized herein is the Project description the Service emailed to BLM on March 20, 2008, with additions from the EIR/EIS for the Project.

On April 9, 2008, the Applicant provided additional Project description information to the Service by phone regarding proposed powerline construction on the site.

On May 1, 2008, a draft Biological Opinion for the proposed action was sent to BLM for review and comment.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Specific Federal Action

Pursuant to an application, BLM is proposing to grant to the Applicant, AES SeaWest, Inc./Mountain View Power Partners IV, LLC, a right-of-way/lease on to BLM lands in association with the proposed Mountain View IV Wind Energy Project, within the City of Palm Springs, Riverside County, California. The applicant has requested a new right-of-way grant from BLM on Section 28 to construct and operate a new wind energy generation facility on public land. The term of the proposed BLM right-of-way grant is 26-years, as that reportedly provides adequate time to develop and commission the Project, operate it for the minimum term of a power purchase agreement, and provide time to decommission and remove the Project. The Project also includes a proposed linear BLM right-of-way in Section 22 to allow for extension of overhead power lines, road access to the Project site, and construction of a proposed electrical substation. The BLM, as co-lead agency with the City of Palm Springs, is also required to

approve the Final EIR/EIS for the Project. This proposed action also includes re-initiation of consultation on a previous unimplemented BLM action, Leasing of Federal Land for the Purpose of Wind Energy Development in the Coachella Valley, Riverside County (evaluated in a previous Biological Opinion, 1-6-99-F-49).

2.2 General Project Features

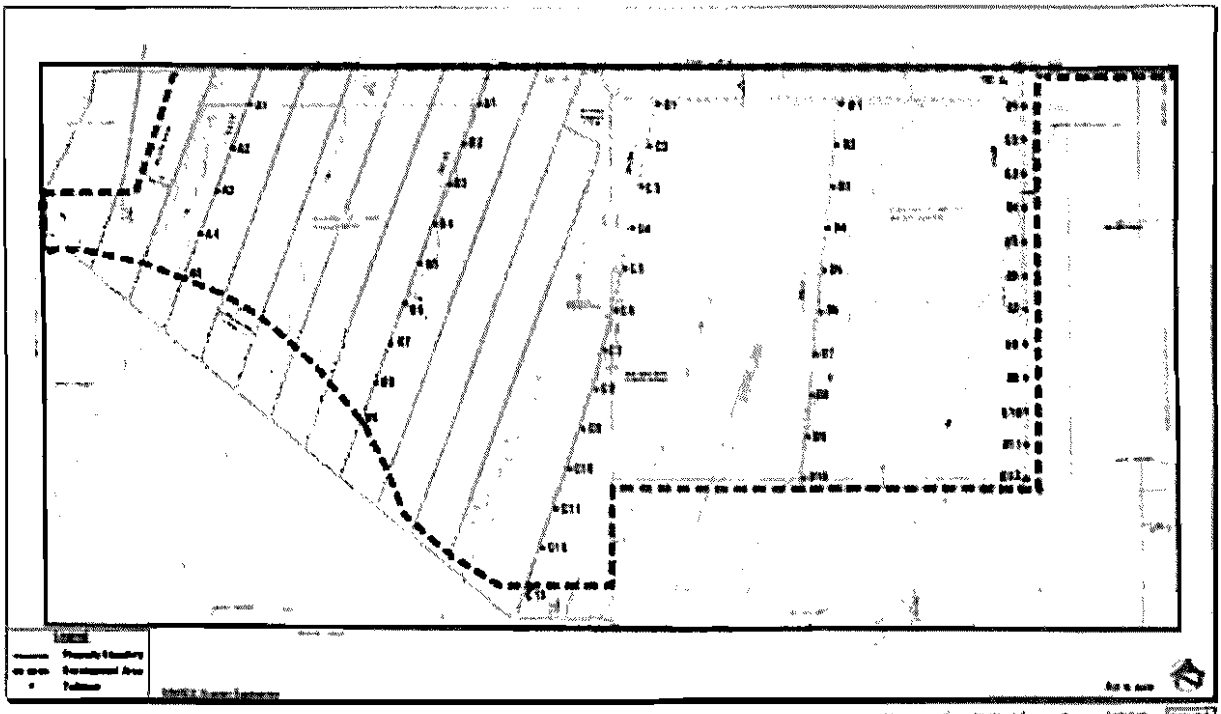
The proposed Mountain View IV Wind Energy Project would be sited on BLM lands and Palm Springs jurisdictional lands located within the western end of the Coachella Valley, west of North Indian Canyon Drive and south of Interstate-10 in Palm Springs, California. The subject properties are located within Section(s) 22, 27 and 28, Township 3 South, Range 4 East, SBBM, as shown on the USGS 7.5 minute Desert Hot Springs quadrangle.

The proposed Project consists of both public (BLM) land in Sections 22 and 28, along with private land (owned by CVWD) in Section 27, contiguous on the eastern boundary. The public land consists of 629 acres of BLM lands in Section 28 and 400 acres in Section 22. The total Project area on BLM land is approximately 1,029 acres. The total Project area within CVWD property on Section 27 is approximately 630 acres, contiguous with the eastern BLM land boundary. The entire proposed Project site is approximately 1,659 acres and is fully within the incorporated city limits of the City of Palm Springs.

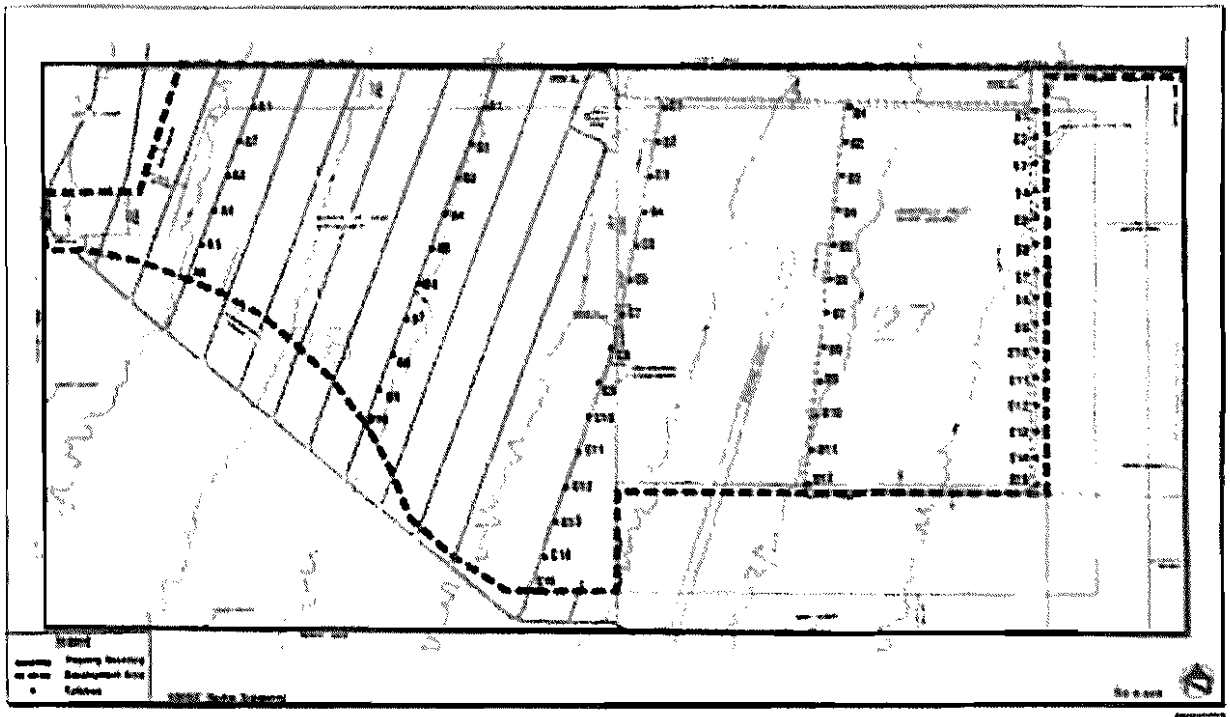
The proposed Project consists of either 49 Mitsubishi Heavy Industries (MHI) 1000A (1,000 kW) or 58 Gamesa Eolica G52 (850 kW) wind turbine generators (WTG), pad mounted electric transformers, gravel roads, underground and overhead interconnection lines, and an electrical substation. The total electrical capacity would be either 49 megawatts (MW) under Development Option A (using MHI 1000A turbines) or 49.3 MW using Development Option B (using Gamesa G52 turbines). Option A uses a wind turbine with a larger diameter rotor, and a 1,000 kilowatt rating, but would employ fewer turbines overall, and Option B uses a wind turbine with a smaller rotor and 850 kilowatt rating, but would include more turbines. A larger rotor and greater megawatt rated wind turbine requires wider spacing between adjacent turbines than the smaller rotor with the lower megawatt rating. According to the Applicant, all the major wind turbine manufacturers in the U.S. market are presently sold out until mid-2008 or beyond, and the Applicant and BLM are unable to determine which manufacturer would be able to supply the wind turbines for the Project. For this reason, two development option layouts and wind turbine types are included in the proposed Project description from the Applicant, in order to deal with the current uncertainty in wind turbine supply. The proposed Project would not mix two different types or sizes of wind turbine, but instead there would be one, uniform wind turbine make and model used in the Project.

The BLM portion of the Project is proposed to include between 21 and 24 wind turbine generators rated at 850 to 1,000 kilowatts (kW) each, for a total of between 20.4 and 21.0 MW capacity. The portion of the proposed Project in Section 28 (BLM land) would be placed in the same general location of an abandoned wind energy Project built in the mid-1980's that was removed circa 1998 by AES SeaWest. An interconnecting electrical line and electrical substation

for the Project are proposed in Section 22. The CVWD portion of the Project is subject to a Conditional Use Permit through the City of Palm Springs and would include between 28 and 34 wind turbines in Section 27 with up to 28.9 MW in rated capacity. The total installed capacity of the public and private land under either Option A or B would not exceed 50.0 MW.



Development Option A Site Plan 2.6.1



Development Option B Site Plan 2.62

The proposed Project would utilize existing 16-foot wide gravel roads totaling 17,200 linear feet, and would create 16,065 linear feet of new 16-foot wide gravel roads to connect to existing adjacent roads. Each of the wind turbines would have a 63-foot by 47-foot gravel area, with 4 inches to 6 inches of gravel over compacted native soil. No more than 2,000 total cubic yards of cut and 2,400 total cubic yards of fill, balanced on site, would be required. An existing off-site road in Section 21 crossing private land and an existing road along the southern boundary of Section 22 provide access to the site. Proposed associated facilities include a data communication system, overhead and underground 34.5 kilovolt (kV) interconnecting electrical lines, and a 34.5 kV to 115 kV electrical sub-station located adjacent to existing 115 kV transmission lines in Section 22.

Existing roads in Section 28 that would be closed by the proposed Project to any traffic and allowed to revegetate include, beginning from the western most road in Section 28, the third, fifth, sixth, seventh, eighth, tenth, eleventh, and fourteenth north-south roads. The existing fourth, ninth, twelfth and thirteenth north-south roads would continue to be utilized, and the existing east-west roads would be utilized by the Project as well. The existing roads in Section 27 would not be used by or closed by the proposed Project.

The Applicant has reportedly acquired a 20 to 25-year power purchase contract with a major electric utility to supply 100 percent wind generated electrical energy. The proposed Project would contribute revenues to the City of Palm Springs, BLM, County of Riverside, and State of California during its development and operation phases. In addition, these revenue streams would last 20 years, as that is the minimum term of the power purchase agreement, the design

life of the equipment, and Projected Project time frame. Upon Project termination, the Project would be decommissioned by the Applicant at no cost to the public.

Approximately 23.9 total acres (temporary plus permanent disturbance) of the entire 1,659 acre Project site would be directly disturbed. Approximately 8.0 acres of temporary & permanent disturbance would occur in the Project area of Section 28, where portions of this property were found to contain suitable fringe-toed lizard habitat and several hundred individual Coachella Valley milk-vetch plants. The proposed Project design in Section 28 would utilize existing roads and previously disturbed wind turbine sites which were used for wind energy purposes for many years.

The 13.3 acre estimate of temporary habitat loss includes a proposed 4.75-acre construction staging area, which is a temporary disturbance only during construction, and no additional equipment storage yards or temporary disturbance would result from the Project. Permanent maintenance equipment and vehicles would not be needed or utilized onsite because they would be stored at the Project operator's existing regional service and maintenance facility located just north of the I-10 Freeway, less than 3 miles from the site.

The proposed Project would be constructed in the 100-year floodplain of the Whitewater River, south of the current low flow channel of the Whitewater River. The Project design incorporates flood protection measures and design that would allow for surface flow of flood waters through the site without impedance or damage to the wind Project facilities. These proposed design measures include deep buried underground cables (8.0 feet) and deep wind turbine and transformer foundations (28 to 32 and 15 to 18 feet, respectively) designed to withstand scour from flowing water, at-grade roads without alteration or concentration of flow, gravel roads that can be readily repaired in the event of floods, and placement of other facilities such as the electrical substation and storage areas outside the floodplain. The electrical control systems, power management systems, safety systems, and data monitoring systems of the wind turbines would be elevated above the flood water and located and designed to make them safe from damage from flood waters during 100-year flood flows. These design standards meet or exceed those employed on the existing wind facilities currently in the Whitewater River channel to the north of the proposed Project area, which demonstrate the feasibility of designing facilities to withstand flood flows (that facility was designed and built by the same Project proponent as for the Mountain View IV Project). For these reasons, should Whitewater River low flows (for example: 25 year and below storm events) be redirected across this site, these facilities are designed to handle the flow provided they do not exceed the 100-year flood elevation and velocity that is currently predicted to occur at this site. According to the drainage study prepared for the proposed Project, the 100-year flow depth is 0.82 feet, and the 100-year flood velocity is 4.64 cfs/ft unit flow (see Draft Mountain View IV Windfarm EIR/EIS Section 3.6-3 and Appendix E). The Project is designed to handle this flow. In the event that future modification of the percolation ponds and associated facilities is made, the Project design would be able to handle future potential habitat management actions (water diversions, berms, etc) provided they do not exceed the 100 year flood elevation and flood velocity flows at the wind turbines, transformers, and underground facilities.

Construction would take up to six months. The Project would result in an incremental increase in permanent human presence in the area. Overall human activity on the wind energy facility site is expected to decrease after construction, and would be limited to regular maintenance visits (two to six visits per day, usually a light truck with a two person crew). On-site activity would be restricted to roads and graveled areas.

No nighttime lighting is proposed for this Project, except for the proposed electrical substation; the substation will utilized the shielded minimum lighting required for security purposes. The Federal Aviation Administration requires lighting of a portion of the wind turbines with flashing red strobe lights to provide warnings to air traffic. These lights would be intermittent and of low intensity (red spectrum).

No landscaping is proposed for this site. Additionally, the equipment and material used on site would be made of nonflammable material, decreasing the risk of fire.

The construction of the wind energy facility would begin with clean up of numerous existing unauthorized trash piles on the Project site. The wind energy facility would experience a decrease in trash because of pre-construction clean up requirements and ongoing site maintenance. In addition, the site would be fenced against illegal access, with a resulting decrease in trash accumulation by outside persons. AES SeaWest, Inc. would implement established procedures with on site personnel to ensure that no trash accumulation is created by their activities.

The property would provide protection by securing the remaining open space from illegal trespass with fencing using three-strand barbed wire and lockable gates to protect the site from many of the impacts that are on-going, such as trash dumping and off-road vehicle traffic, and concomitant destruction or loss of plant communities, habitats, and wildlife. The type of fencing utilized would allow for passage through the site by most wildlife species.

2.3 Foundations

The turbine foundations consist of a patented design using a large diameter, cast-in-place pier. This type of pier would be constructed by excavating to approximately thirty (30) foot depth with an excavator. Within the excavation, a smaller diameter, corrugated-steel casing would be set concentrically within the larger diameter corrugated steel casing. Steel tie rods within PVC sleeves would be placed vertically and concrete placed in the annular space between the casings. Soil backfill would be placed within the central casing. The annular space between the outer casing and the excavation walls would be backfilled with sand-cement slurry.

Transformers would be placed adjacent to the turbine foundations on raised foundations. The design raises the transformer above the surrounding soil, elevates it above potential flood levels, and provides containment of oil in the event of a spill. Excavation of the transformer foundations would be done in a similar manner to that for the turbine foundations. The transformer foundations extend approximately 10 feet in depth below grade, and are designed to

contain 125 percent of the volume of oil in the transformer in the event of a leak or spill. Soil excavated for the transformer foundation is placed inside the CMP tube which forms the foundation, also resulting in little waste soil and reduced site disturbance.

2.4 Drainages

All proposed roads and facilities would be at the existing grades. Because of the expected amount of area that would be affected, on site mitigation for drainage impacts would be in the form of appropriate road design and site-location of towers away from the drainage. The Project roads would be gravel, and at-grade to allow free flow of water across the site, and they would not concentrate or divert flow and thereby cause damage to adjacent property.

2.5 Power Transmission Features

The Project Applicant proposes to utilize and extend an existing, wooden aboveground powerline and construct a new electrical substation to interconnect to the proposed wind energy Project. The proposed corridor is located south of Interstate 10 and east of Indian Avenue. Interconnection of the Project is proposed to be from a point on the northwestern corner of Section 27, proceeding north along an existing north-south overhead pole line west of the half section line of Section 22 and continuing overhead across the Union Pacific Railroad to a proposed substation, near the northern boundary of Section 22, (Township 3 south, Range 4 west) south of Garnet Avenue. At this point the proposed substation will step up the voltage for connection into an existing 115kV line owned by Southern California Edison.

In the northern part of Section 22, the proposed powerline would cross a set of Union Pacific Railroad tracks and enter a small substation to be built for the Project. From the substation, the line would extend northeast to an existing Southern California Edison (SCE) 115 kilovolt tower line. The proposed 34.5 kV overhead powerline would be between 60 and 80 feet in height, the substation would include overhead electrical structures between 30 and 80 feet in height, and the 115 kV tap line to the existing SCE 115 kV line will be approximately 100 feet in height.

The proposed Project includes the construction of a wooden pole powerline and substation. Construction of the powerline and 115 kV tap would not include any filling or grading. The substation site would be graded and graveled. Total temporary disturbance of these power transmission features would not exceed 3.0 acres for the powerline, substation, and 115 kV tap, and permanent disturbance is estimated at 1.2 acres.

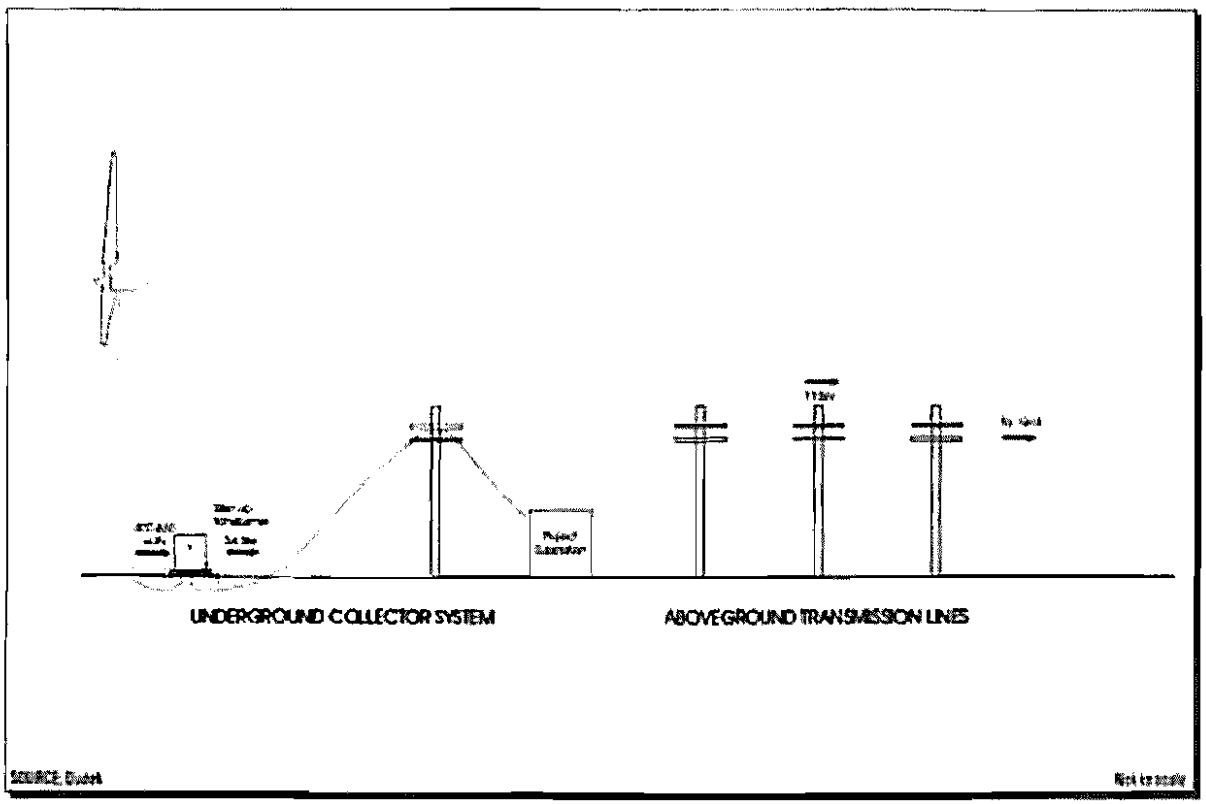
The proposed power transmission features would use existing access roads to the extent possible, plus compaction of native sandy soils, and an existing 0.5 mile long power pole line. Most of the site would remain in its current condition. Within Section 22, south of the railroad tracks, proposed powerline construction would not involve grading, and access would be by tired auger and pole trucks utilizing existing roads to and across the site, where possible. Trucks would travel cross-country where necessary (where existing roads do not exist) to auger holes and place power poles, and to spool out and string cables. No new roads would be constructed in the area

south of the railroad tracks and north of the low-flow channel of the Whitewater River in Section 22.

Within Section 21, Township 3 south, Range 4 west (CVWD lands), the Project Applicant will work with CVWD towards relocation of the power poles along the levee downstream of the last CVWD percolation pond for the purpose of allowing for levee removal by others. These power poles would be relocated off of the levee and any replacement poles would not rely on the levee for flood damage reduction protection. This levee is in the NW corner of section 21, and is approximately 1,130-foot-long, east of the most downstream of CVWD's percolation ponds, and along the current southern edge of the Whitewater River channel in this location.

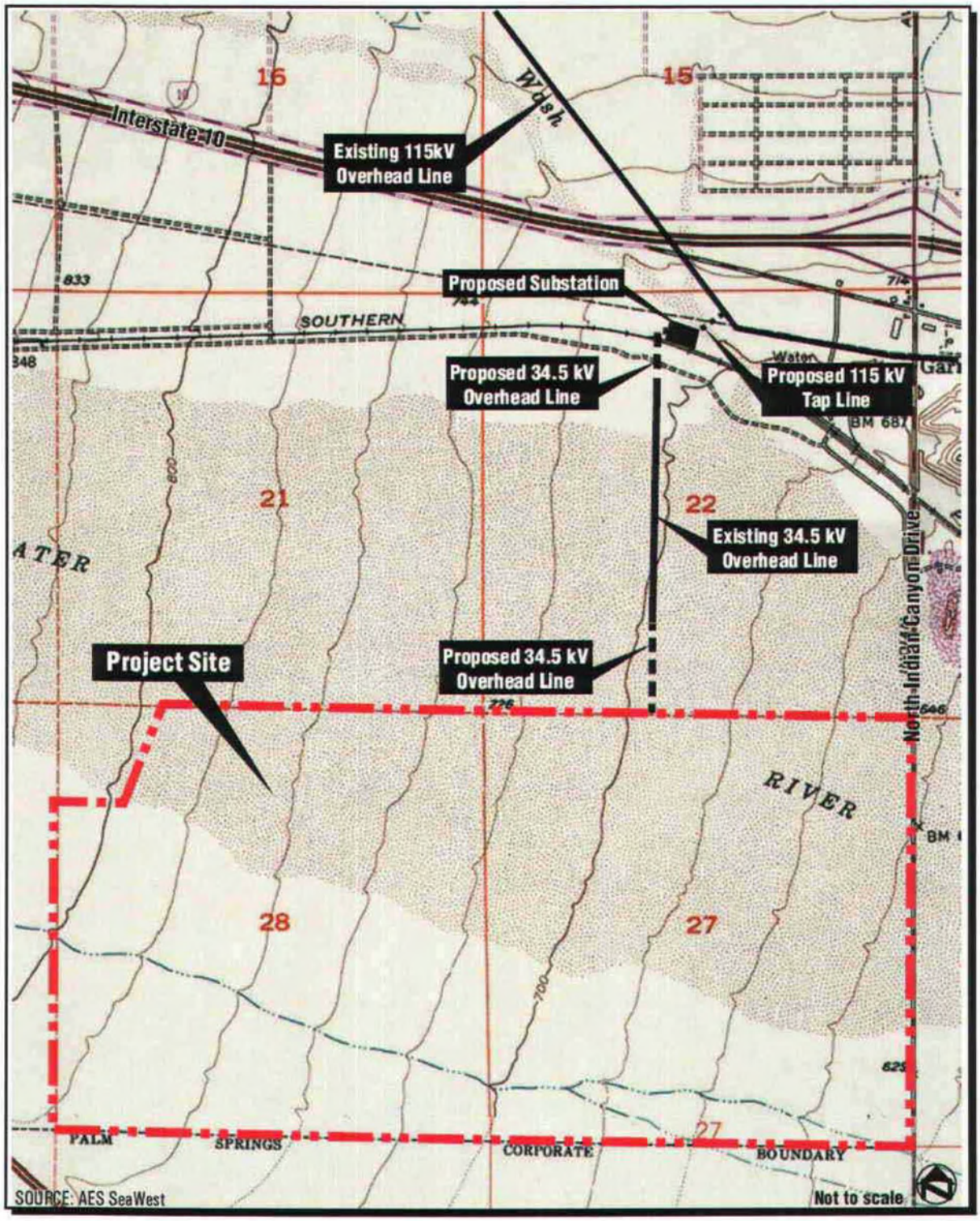
The proposed design elements of the powerline and the substation include the following:

- The powerline would be constructed using wooden poles, minimizing perching sites for birds.
- The powerline would be built to the standards of the Avian Protection Plan Guidelines prepared by the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC) and the U.S. Fish and Wildlife Service (Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996). These standards are designed to minimize the risk of bird electrocutions associated with overhead electrical structures.
- The majority of the powerline would utilize an already existing wooden pole line to minimize new disturbance in the Project area.
- The placement of the substation north of the railroad tracks and outside of the sand species habitat was chosen to minimize impacts to these species.
- Overhead lines were chosen to minimize grading, trenching and excavation and to allow surface movement during and after construction.
- Powerline routing was chosen to minimize the distance and disturbance area.
- Site-location of the substation was chosen to avoid grading or filling in Garnet Wash and is outside the 100-year floodplain.
- Placement of the 115 kV tap would not require filling or grading in Garnet Wash.
- To the extent the BLM has jurisdiction, nighttime lighting for the substation will be minimized and mitigated as possible (example – shading, ecologically compatible wave lengths, minimum lumens necessary, etc.)



Mountain View IV Wind Energy Project EIS/EIR
Electrical Transmission Schematic

FIGURE 2.6-6



Mountain View IV Wind Energy Project EIS/EIR

New Power Line Alignment and Substation

FIGURE 2.6-5

2.6 Coachella Valley Multiple Species Habitat Conservation Plan

Pursuant to the goals and objectives of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), the Applicant proposes the following for the Project:

1. Pursuant to the CVMSHCP, proposed site fencing would be designed to "maximize connectivity among populations and avoid habitat fragmentation within Conservation Areas to conserve biological diversity, ecological balance, and connected populations of Covered Species" (CVAG 2007).

2. Pursuant to the CVMSHCP, the proposed protection of the area through fencing and patrol would help to "Minimize adverse impacts from off-highway vehicle (OHV) use, illegal dumping, edge effects, exotic species, and other disturbances" (CVAG 2007) by limiting access both to vehicles and to dumping of garden litter.

3. Pursuant to the CVMSHCP and California Desert Conservation Area Plan Amendment for the Coachella Valley (BLM 2002), joint access or use of the site would be provided to BLM, Service, Coachella Valley Water District, California Department of Fish and Game (CDFG), the Coachella Valley Conservation Commission, and their agents, to "manage the Conservation Areas adaptively to be responsive to short-term and long-term environmental change and new science" (CVAG 2007). It is understood that protocols developed by BLM for access and safety would be followed by those utilizing the site for conservation management actions. It is also understood that conservation management actions would be coordinated with BLM and the Applicant, and would potentially include biological monitoring, invasive species removal, species translocations, sediment deposition, levee removal, minor earth moving (as limited above under General Project Features), etc.

As proposed, the wind energy facility would not disturb approximately 98 percent of the land within the Project site. The proposed wind energy facility development would use existing roads and wind turbine sites to the extent possible. The additional permanent disturbance is not expected to exceed one percent of the site area. Most of the site would remain in its current condition.

The following mitigation measures are proposed to minimize impacts resulting from construction and operation of the Project:

- The right of way holder (ROW Holder) shall designate a field contact representative (FCR) who would be responsible for ensuring compliance with protective measures for the Coachella Valley fringe-toed lizard (CVFTL) and the Coachella Valley milk-vetch in coordination with the BLM, and shall be authorized to halt any construction related actions that may be in violation of protective measures for threatened or endangered species. If the revised CVMSHCP is approved prior to approval of the Project, the FCR would ensure compliance with that plan.

- Prior to initiating any surface disturbing activities, ROW Holder shall prepare and present an endangered species education program to all employees/contractors involved in any construction activities. The program would contain, at a minimum, the following topics for the Coachella Valley fringe-toed lizard and Coachella Valley milk-vetch:
  - Distribution and occurrence
  - General behavior and ecology
  - Species sensitivity to human activities
  - Legal protection
  - Penalties for violation of State or Federal Laws
  - Reporting requirements
  - Project protection and mitigation measures.

  Education programs previously prepared and approved by BLM and USFWS for wind energy development Projects in the area may also be used without further approval, provided the program has incorporated the required topics as noted above.

- Locations of poles, guy anchors, and trenches, shall be chosen to avoid habitat suitable for fringe-toed lizards and milk-vetch to the maximum extent practicable utilizing the existing Project design and layout. Work area boundaries shall be conspicuously staked, flagged or marked to minimize surface disturbance to surrounding habitat.

- Poles and guy wires shall be installed while avoiding crushing or removing perennial vegetation to the maximum extent practicable.

- All vehicles shall be confined to existing access routes or previously disturbed areas to the maximum extent practicable.

- The ROW Holder shall hire a qualified biological monitor with experience in fringe-toed lizard and milk-vetch identification and ecology to be present during construction. The biological monitor may also function as the FCR.

- Not more than thirty days prior to construction activity in the area to be disturbed, the biological monitor/FCR shall survey the construction area for milk-vetch. Any milk-vetch plants present shall be marked with a flagged stake and protected from damage, by avoiding any surface impacts within five (5) meters of the plant to the extent practicable.

- Desert willow hummocks shall be avoided, with no disturbance to occur within five (5) meters, to the extent practicable

- If any triple-ribbed milk-vetch are found, the ROW Holder shall suspend operations in the vicinity, and notify BLM to determine whether the plants may be affected by the ROW Holder's actions.

- The FCR/biological monitor shall maintain a record of the date, time and location of all fringe-toed lizards, and milk-vetch species found in the right of way. Any damage, injury or death to any of these species shall be recorded.

- Within 90 days of completion of the work, the FCR shall prepare and submit (to BLM and Service) a brief report summarizing the Project. Color photographs would be taken by the FCR or biological monitor before, during and after construction to be included in the report. The report shall include a description of the Project and compliance with the biological mitigations.

- All trash and food items shall be properly contained and regularly removed from the Project site.

- No pets shall be permitted on the Project site.

- Additional design measures proposed by the Applicant include construction of sand fencing on the Whitewater Preserve, east of North Indian Canyon Road in Section 26. The Applicant proposes to construct 24 segments of sand fences, each segment being 25 feet in length and 3 to 4 feet high, with each segment separated by a 50-foot gap to allow movement of wildlife across the site and sand movement within the site. The sand fence would utilize vertical natural wood slats with 50 percent coverage and be supported by galvanized T-posts sunk a minimum of 2 feet into the sandy soil. Total length of sand fences would be 600 feet. Each row of fences would be spaced 300 feet apart in a staggered grid so that the area for sand fence treatment would be a rectangular area 600 feet north-south by 900 feet east-west, equaling approximately 12.4 acres.

- The Applicant proposes mitigation for loss of habitat through payment of mitigation fees. The proposed amount of the mitigation fee is projected to be $95,118 on Section 27 private land, based on 16.6 acres of permanent plus temporary disturbance and the CVMSHCP fee of $5,730.00 per acre. The projected amount of the mitigation fee on BLM land in Section 28 is $59,019.00 based on 10.3 acres of permanent plus temporary disturbance and a fee of $5,730.00 per acre, to be provided to BLM or the Center for Natural Lands Management for acquisition of Coachella Valley fringe-toed lizard habitat. The total mitigation fees for CVMSHCP/fringe toed lizard habitat would be $154,137.00.

- All protected cactus species to be removed by the Project would be flagged and transplanted back on site in an undisturbed area prior to construction.

- Twelve (12) months of post-construction bird and bat fatality monitoring of operations, with scavenging and observer efficiency corrections, would be conducted on the Project site. The Right of Way (ROW) Holder shall conduct this survey beginning with commencement of commercial operation of the turbines. The survey shall be conducted in

spring, summer, fall and winter seasons, using standardized survey protocols, as appropriate for the site and any species of particular concern. The study shall establish statistical adjustments for observer bias and scavenging bias. All surveys and studies shall include a disclosure of assumptions, survey protocols and statistical methodologies in the monitoring reports. The final report shall be provided to the BLM and Service.

2.7 Burrowing Owl

Focused surveys for burrowing owls would be conducted prior to Project construction related ground disturbance. The survey would be conducted according to the following recommended guidelines of the Burrowing Owl Consortium (1993) and in consultation with the CDFG and the Service.

At least one burrowing owl exists on site, and one burrow was found. Impacts to the burrowing owl would be avoided by adopting a construction setback of a minimum 200 feet distance if construction takes place during the non-breeding season and a minimum of 500 feet if construction takes place during the breeding season (Riverside County measures). The following measures would apply to construction within Section 27 only as no individuals of this species were found within Sections 22 or 28.

- A focused survey for burrowing owl shall be conducted within Section 27 prior to Project construction-related ground disturbance. The survey would be conducted according to the recommended guidelines of the Burrowing Owl Consortium (1993) and in consultation with the CDFG and the Service. Occupied burrows would not be disturbed during the nesting season (February 1 through September 30) unless a qualified biologist approved by the CDFG verifies through noninvasive methods that either: (1) the birds have not begun egg laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

- If owls are present that could be affected by Project construction, the approved biologist shall develop a program to mitigate impacts to this species either through avoidance or by passive relocation. Suggested measures for either of these methods are described below. The program shall be developed according to the 1993 Mitigation Guidelines of the Burrowing Owl Consortium and in consultation with the CDFG and the Service.

If burrowing owls are present, one or more of the following mitigation measures would be required:

1. If avoidance is the preferred method of dealing with potential Project impacts, then no disturbance would occur within 50 meters (approx. 160 feet) of occupied burrows during the non breeding season of October 1 through January 31 or within 75 meters (approx. 250 feet) during the breeding season of February 1 through September 30.

2. Avoidance also requires that a minimum of 6.5 acres of foraging habitat be permanently preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls

(with or without dependent young) or single unpaired resident bird. The configuration of the protected habitat would be approved by the CDFG.

3. To offset the loss of foraging and burrow habitat on the Project site, a minimum of 6.5 acres of foraging habitat (calculated on a 100-meter [approx. 300-foot] foraging radius around the burrow) per pair or unpaired resident bird, would be acquired and permanently protected. The protected lands would be adjacent to occupied burrowing owl habitat and at a location acceptable to the CDFG. Protection of additional habitat acreage per pair or unpaired resident bird may be applicable in some instances.

4. When destruction of occupied burrows is unavoidable, existing unsuitable burrows would be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on the protected lands site.

5. If owls must be moved away from the disturbance area, passive relocation techniques (as described below) would be used rather than trapping. At least one or more weeks would be necessary to accomplish this and allow the owls to acclimate to alternate burrows.

6. The Project sponsor would provide funding for long-term management and monitoring of the protected lands. The monitoring plan would include success criteria, remedial measures, and an annual report to the CDFG.

2.7.1 Passive Relocation - With One-Way Doors

- Owls would be excluded from burrows in the immediate impact zone and within a 50-meter (approx. 160 feet) buffer zone by installing one-way doors in burrow entrances. One-way doors (e.g., modified dryer vents) would be left in place 48 hours to ensure owls have left the burrow before excavation.

- Two natural or artificial burrows would be provided for each burrow in the Project area that would be rendered biologically unsuitable. The Project area would be monitored daily for one week to confirm owl use of burrows before excavating burrows in the immediate impact zone.

- Whenever possible, burrows would be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe would be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.

2.7.2 Passive Relocation - Without One-Way Doors

- Two natural or artificial burrows would be provided for each burrow in the Project area that would be rendered biologically unsuitable. The Project area would be monitored daily until the owls have relocated to the new burrows. The formerly occupied burrows may then be excavated.

- Whenever possible, burrows would be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe would be inserted into burrows during excavation to maintain an escape route for any animals inside the burrow.

2.8 Project Close-out

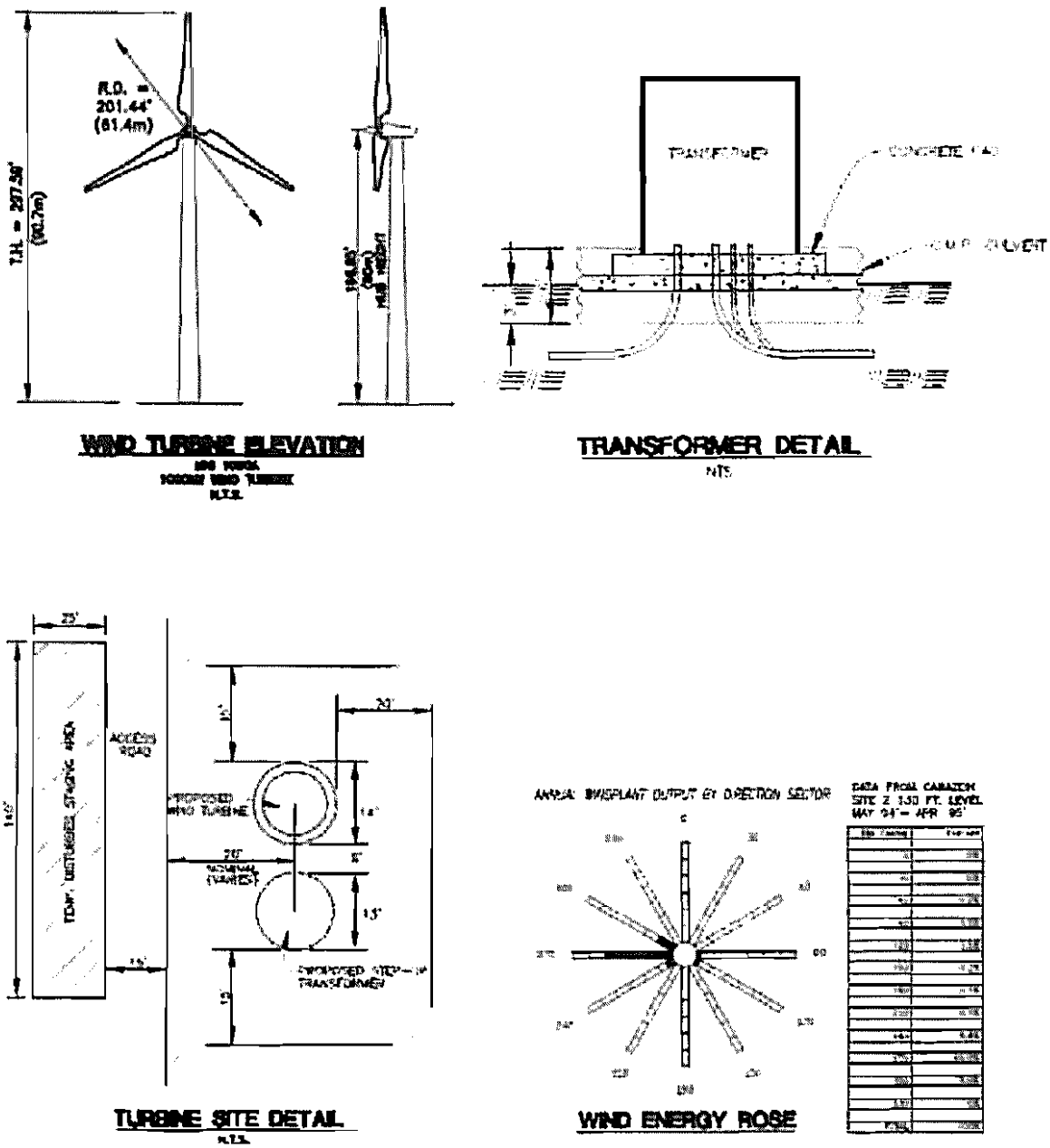
- As proposed, the design life of the Project is 20 years. At the end of the Project life, the wind turbines, pad mounted transformers, electrical substation, and overhead pole line would be removed and the site would be restored using BLM approved surface preparation and seeding measures. Roads and all disturbed areas would be smoothed, re-contoured to the surrounding undisturbed terrain, and allowed to re-vegetate. Wind turbine and pad mount transformer foundations, and overhead poles would be removed to a depth of 3 feet below the surrounding surface elevation. No above-ground structures that are part of the Project would remain after decommissioning. Decommissioning would be completed within 12 months of the end of the Project life and termination of the right-of-way in accordance with BLM requirements.

- The proposed BLM right-of-way grant term is requested to be 26 years from date of issuance for all of the Project facilities on BLM land. The lease with CVWD would expire in November, 2030.

Table 2.6-1
Site Disturbance Summary

Site Component	Disturbance
Number of Turbines	49-58
Turbine Sites	3.3-3.9 acres
New Access Roads	5.9 acres
Substation	0.6 acres
New Interconnect lines	0.8 acres
Permanent Disturbed Area*	***10.6-11.2 acres***
Temporary Disturbed Area**	***13.3 -15.7 acres***
Estimated Raw Cut	2,000 cubic yards
Estimated Raw Fill	2,400 cubic yards

*It should be noted that of this total permanent disturbed area, between 5.8 to 6.1 acres would be in areas already disturbed by CVWD activities (described in *Section 2.6*), thus reducing actual disturbance of natural areas to between 4.8 and 5.1 acres.
**Temporary disturbed areas include a 3,500 square foot staging area adjacent to each turbine and a 4.75 acre construction staging area in the northeast corner of Section 28 as well as trenching for interconnection of turbines. The temporary staging and trenching areas will be renaturalized at the completion of construction.

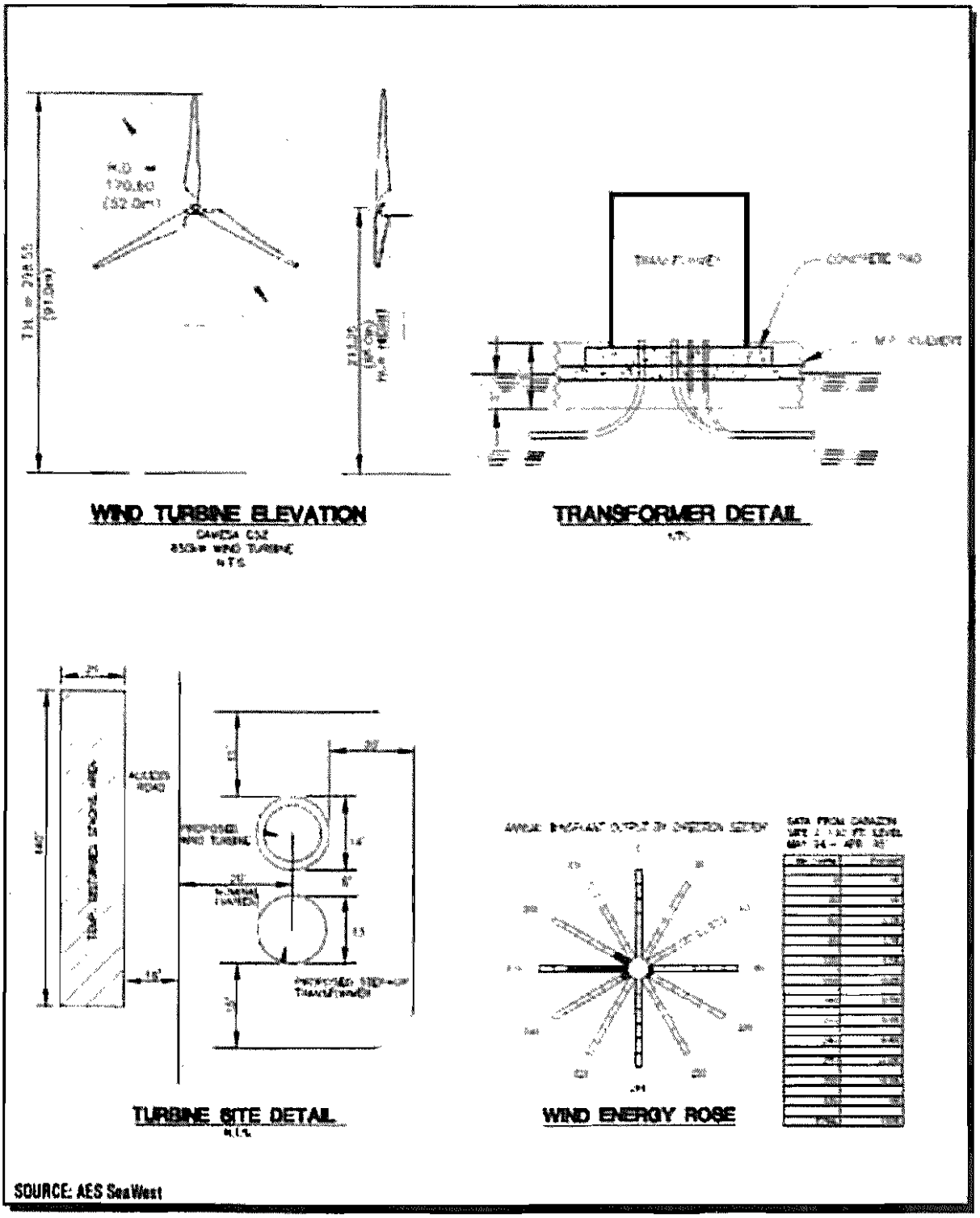


SOURCE: AES SeaWest

Mountain View IV Wind Energy Project EIS/EIR

Mitsubishi 1000A Equipment Details

FIGURE 2.6-3



Mountain View IV Wind Energy Project EIS/EIR

Gamesa G52 Equipment Details

FIGURE 2.6-4

3.0 STATUS OF THE SPECIES

3.1 Coachella Valley Fringe-toed lizard (*Uma inornata*)

3.1.1 Legal/Listing Status

On September 25, 1980, the Coachella Valley fringe-toed lizard (fringe-toed lizard) was federally listed as endangered due to destruction/degradation of suitable habitat for developmental and agricultural purposes (45 ***FR*** 63812). Critical habitat was designated concurrently with the listing (*ibid.*). The State also listed the fringe-toed lizard as threatened in 1980.

In 1985 a recovery plan for the Coachella Valley fringe-toed lizard was finalized (USFWS 1985). This species is currently rated as recovery priority number 5c, according to the FY 2005 recovery data call. This number indicates high threat and low recovery potential. The "c" indicates conflict with development or economic activity.

3.1.2 Critical Habitat

In 1978, critical habitat was proposed for the fringe-toed lizard on about 170 square miles of the Coachella Valley (43 ***FR*** 44806, Schweik and Thomas 2003); this proposal was withdrawn by the Service in 1979 (43 ***FR*** 12382). Critical habitat was re-proposed in 1980 (45 ***FR*** 36038), and then later designated that same year with the listing of the species. The designation encompassed about 19 square miles (on approximately 11 percent of the acreage of the original proposal); the designated area consisted of suitable habitat within the Thousand Palms area and lands along the western Indio Hills that were known to be important sand source areas (45 ***FR*** 63812). When the designation was made, it was noted that sufficient data were available to propose critical habitat on only a portion of the remaining blowsand ecosystem in the Coachella Valley (45 ***FR*** 63812).

Critical habitat for the species is not in the action area for the proposed Project and, thus, would not be affected; it will not be mentioned further herein.

3.1.3 Species Description

The Coachella Valley fringe-toed lizard is in the family Phrynosomatidae. It is one of three fringe-toed lizard species found in the United States: the Mojave (*Uma scoparia*), the Colorado Desert (*U. notata*), and the Coachella Valley (*U. inornata*). The three species of fringe-toed lizards in the genus *Uma* have unique adaptations for sand dune habitats (Norris 1958, Carothers 1986, Luke 1986). Of the three, the Coachella Valley fringe-toed lizard has the most restricted range and is the most adversely affected by human activities.

The Coachella Valley fringe-toed lizard has a whitish or sand-colored back and belly, with a light pattern of eye-like markings that form shoulder stripes. They average 6 to 9 inches (15 to 23 centimeters) in total length and possess numerous morphological adaptations that protect the lizard's body from abrasion and exclude sand particles from body openings including: 1) nostrils

that exclude sand and a U-shaped nasal passage, analogous to a kitchen sink trap, to trap sand particles if they do enter the nostril (trapped sand particles can then be blown out by a burst of air); 2) the snout is wedge-or shovel shaped, rather than blunt, to spread the sand as it dives into the substrate; 3) an elongated upper jaw that overlaps the lower jaw, allowing the lizard to dive into sand without filling its mouth; 4) fringed eyelids with a double seal to exclude sand; 5) flaps of skin that cover the ears when under sand; 6) smooth scales to reduce friction; and 7) elongated, fringed toes that increase foot surface area and traction for running over and swimming through sand (Norris 1958; Luke 1986; USFWS 1985, 2000a, 2000b, 2005; CVAG 2005, 2007).

3.1.4 Distribution

The Coachella Valley fringe-toed lizard is endemic to the Coachella Valley (Valley) of Riverside County and is only found associated with relatively large patches of aeolian (wind-blown) sand (England and Nelson 1976; 45 ***FR*** 63812; LaPre and Cornett 1981; Turner *et al.* 1981, 1984; England 1983; USFWS 1985, 2000a, 2000b, 2005; CVAG 2005). Historically it was found on the Valley floor from near Cabazon at the northwestern edge of its range, to near Thermal at the southeastern edge (CVAG 2005), a former overall range length of about 45 miles. Its current range is less than 75 percent by length, or about 33 miles of the length of the valley floor (in the longest direction based on modeled habitat). Its distribution within the existing length of its range is now highly fragmented compared to historic conditions (England and Nelson 1976; 45 ***FR*** 63812; LaPre and Cornett 1981; Turner *et al.* 1981, 1984; England 1983; USFWS 1985, 2000a, 2000b, 2005; CVAG 2005, 2007; Hedtke *et al.* 2007).

The most important losses of fringe-toed lizard habitat have resulted from urban and agricultural growth in the Coachella Valley since 1945 (45 ***FR*** 63812). In 1940, the human population in the Coachella Valley was 12,000, and by 1970 it had risen to over 100,000 (*ibid.*). In 2000, the population of the upper (northwestern) half of the Coachella Valley numbered just under 159,000 permanent residents, with approximately another 100,000 seasonal (winter) residents (Minichiello 2004).

Most of the Coachella Valley floor was once an extensive blowsand ecosystem (CVAG 2005; The Nature Conservancy 1985). In 1985, the Coachella Valley Fringe-toed Lizard Habitat Conservation Plan (The Nature Conservancy 1985) identified about half of the of the Valley floor as "undisturbed occupiable habitat" for the fringe-toed lizard. Currently, most of the Valley floor no longer contains habitat for the species due to losses from development. Once-contiguous habitat across most of the Valley floor has been fragmented into an artificial patchwork of small isolated potential and currently suitable habitat areas in a landscape of now-inhospitable terrain of agriculture and urban development (45 ***FR*** 63812; England 1983; USFWS 1985, 2000a, 2000b, 2005; CVAG 2005, 2007; Chen *et al.* 2006; Service GIS analysis based on 2005 aerial photos and CVAG mapping 2007; Hedtke *et al.* 2007). The species is now restricted to five or six fragmented populations within a much-reduced range of viable habitat (CVAG 2007).

The historic (pre-European settlement) extent of fringe-toed lizard habitat is estimated to have been 130,000 (45 ***FR*** 63812) to 170,000 acres (The Nature Conservancy 1985). As urban and agricultural development of the Coachella Valley have progressed, fringe-toed lizard habitat decreased to about 63,000 acres in 1980 (45 ***FR*** 63812), and was estimated to be about 31,000 acres range-wide in 2000, by the CVAG MSHCP model for the species (Service GIS analysis based on CVAG mapping 2007). Based on these estimates, during the 20th century between 76 and 82 percent of fringe toed lizard habitat has been lost; similar loss figures were provided by Hammerson (2005), but Barrows (1996) and Chen *et al.* (2006) estimated losses of even greater percentages. Substantial direct habitat losses have occurred since 2000 (Service GIS analysis based on 2005 aerial photos and CVAG mapping 2007).

CVAG estimates that approximately 31,293 acres of modeled fringe-toed lizard habitat occurs range-wide, with about 4,088 acres (1,655 hectares) of CVAG-modeled habitat for the fringe-toed lizard occurring on the Agua Caliente Indian Reservation (Service GIS analysis based on CVAG mapping 2007). Our literature review, field evaluation, and GIS analysis of the CVAG model for the species indicates that considerably less than 31,294 acres of fringe-toed lizard suitable or potential habitat occurs today in the action area (Service GIS analysis based on CVAG mapping 2007). For example:

Approximately 3,075 acres (1,245 hectares) of CVAG-modeled habitat are identified in the proposed Thousand Palms Reserve; however, within this same area only about 620 acres (250 hectares) are actual dune habitat where fringe-toed lizards are primarily found, and total potential or suitable fringe-toed lizard habitat in this area is approximately 1,850 acres (750 hectares) (Barrows 2006b; Groom and Grant, in prep), or about 60 percent of the CVAG-modeled habitat for the same area.

In the Thousand Palms region, about 400 acres of established housing and golf course development (in one section near Washington Street) are modeled as suitable habitat for fringe-toed lizard by CVAG (Service GIS analysis based on CVAG mapping 2007 and 2005 aerial photos).

The Whitewater Floodplain Conservation Area includes 5,586 acres of CVAG-modeled habitat for the fringe-toed lizard. Our analysis, based on field reconnaissance and aerial photo reviews and Service GIS calculations, indicated that about 1,195 acres of potential mid or high-function habitat for fringe-toed lizards exists in the Whitewater Floodplain Conservation Area. Over 4,000 acres of modeled habitat in Whitewater Floodplain Conservation Area were found to be devoid of substantial blowsand deposits and were unsuitable as habitat in 2005 (Service field and GIS analysis); these areas were not expected to become suitable habitat in the future given the existing floodplain modifications in the area (levees and basins), even following mid-sized fluvial deposition events (e.g., 50-year and smaller flood events), as these areas are not downwind of expected/current fluvial deposition areas, based on mapping of existing floodplain conditions by Griffiths *et al.* (2002b) and Service field and GIS analysis (see also **Environmental Baseline** below).

About 7,923 acres of CVAG-modeled habitat occurs on "The Big Dune", of which approximately 2,994 acres was developed as of 2005 (Service GIS analysis based on 2005 aerial photos and CVAG mapping 2007).

These examples total to more than 9,000 acres of modeled habitat that is not likely suitable or potential habitat for the species. Other areas within the range of the species have similar overestimations of suitable or potential habitat (Jon Avery and Tyler Grant, Service, personal observations 2006). Barrows (1996) estimated that fringe-toed lizard habitat available today range-wide is considerably less than 31,000 acres; his 1996 estimate was that only about 5 percent of the historically available habitat was still intact, which, based on the historical acreages noted above, would amount to about 6,500 to 8,500 acres of habitat.

It was reported in 2000 by the Service that only about 12,000 acres of the Valley-floor blowsand ecosystem continue to receive the naturally occurring blowsand (USFWS 2000). Considering all the factors above and our review of both potential and suitable habitat in the field and of aerial photos, we estimate that currently available suitable or potential habitat for the species range-wide consists of between 15,000 to 20,000 acres, or approximately 9 to 15 percent of estimated historically available habitat (45 ***FR*** 63812; The Nature Conservancy 1985; Service GIS analysis based on historic and recent aerial photos, and CVAG mapping 2007). An undetermined lesser amount that has reasonable potential to remain or become suitable habitat for the fringe-toed lizard in the long-term based on current potential for fluvial and aeolian sand transport (e.g., areas that would continue to receive the naturally occurring blowsands) (Service GIS analysis and CVAG mapping 2007).

3.1.5 Habitat Affinities

The Coachella Valley fringe-toed lizard is endemic to the blowsand ecosystems of the Coachella Valley and is adapted for living in fine wind-blown sand. Historically it was found from near sea level up to around 1,600 feet elevation (Stebbins 1985). General types of blowsand deposits to which the fringe-toed lizards are restricted include sandy plains, sand hummocks, and dune systems. The sand dunes/hummocks/plains of the Coachella Valley are associated with the high winds that almost continually blow through the area, and consist of fine sand that is eroded and transported by the wind and accumulates in various locations where the wind is slowed by geologic features (such as drainages) or vegetation (such as individual creosote shrubs or stands of mesquite). The viability of the habitat for the fringe-toed lizard is typically dependent upon a continuous or periodic sand source that comes from flood deposition of sediments upwind (Simons, Li & Assoc. 1997). Deeper sand deposits with more topographic relief are apparently preferred by the species over flatter sand sheets. These lizards also apparently prefer areas with sand grains from 0.004 to 0.02 inches (0.1 to 0.5 millimeters) in size (Stebbins 1944; Simons, Li and Assoc. 1996; Griffiths *et al.* 2002b).

As winds move down the Coachella Valley from the northwest, the wind energy is reduced farther southeast (where the Valley is wider the winds are slower); over centuries dune deposits in the Valley were formed as aeolian sand deposition exceeded aeolian sand erosion (net gain) in

that area over time. Blowsand dependent species such as fringe-toed lizards fully rely on the areas where aeolian sand has been deposited. Fringe-toed lizards live, or historically lived, in both the relatively permanent dunes (such as The Big Dune and the dunes in the Thousand Palms area) as well as in the somewhat temporary dunes, sheets, and hummocks within aeolian transition areas. Fringe-toed lizards typically live in these aeolian transition areas at least as long as they have sand deposits; periodic inputs of aeolian sand (such as a sufficiently big pulse every decade or more often) into these aeolian transition areas naturally keep a portion of the blowsand ecosystems functioning. The larger dunes typically function ecologically for longer periods without this same sand input frequency, as their sand supply is literally deeper and longer lasting. For example, the blowsand habitat areas within the Whitewater Floodplain Conservation Areas consist of aeolian transition areas, and require periodic sand inputs for continued ecological functioning for fringe-toed lizards (or their numbers/density drop to perilously low numbers); maintenance of these periodic large pulses of aeolian sand transport are essential to maintain the ecological functioning of the area for the fringe-toed lizard.

3.1.6 Life History

The fringe-toed lizard hibernates below ground, between November and February/March, when the daytime temperatures are predominantly below its activity range of body temperature (The Nature Conservancy 1985). Turner *et al.* (1981) found fringe-toed lizards to be active when ambient temperatures were between 22 to 39 degrees Celsius, and ground surface temperatures were between 37 to 58 degrees Celsius. During the hottest times of the year, when the surface temperatures may reach or exceed the lethal limit for the species, the lizard escapes from the heat by "swimming" or burrowing beneath the sand and restricts its activities to the early morning and late afternoon hours (USFWS 2000).

Reproduction occurs in the spring (typically beginning in March), shortly after adults emerge from winter dormancy, and extends through mid-August (Mayhew 1965). Little is known about the location and timing of egg laying, however, hatchlings begin to appear from late June to early September. Whether the males exhibit territorial behavior is disputed. Sexual maturity is reached after two years, adults breed for several years, and the life expectancy for the fringe-toed lizard is about five years (The Nature Conservancy 1985). Courtship lasts until the end of May. A few weeks after mating, females dig burrows and deposit two to four eggs that hatch between June and early October (Thelander 1994).

The food habits of the lizard are not well studied, but the species is known to be omnivorous. Some researchers report differences in food habits by population (area), with one population eating a high proportion of vegetable matter and another mostly animal matter. Studies document that the lizards feed on small insects, such as ants and bees, along with leaves, buds, or seeds from native plants that grow in the Coachella Valley. During wetter years, they feed more often on flowers and plant-dwelling arthropods. During drier years, they resort more often to leaves and ants (Durtsche 1987, Durtsche 1995).

Horchar (1992) estimated average home range size on the Whitewater Floodplain Reserve as 0.1 acre (0.04 hectare) for adult males and 0.05 acre (0.02 hectare) for adult females.

3.1.7 Ecosystem Processes

Blowsand geomorphic systems in the Coachella Valley are made up of two main sub-systems, a fluvial component and an aeolian component (Sharp 1964, Proctor 1969, Lancaster *et al.* 1993, Simons, Li, & Assoc. 1997, Griffiths *et al.* 2002b). The fluvial component consists of (1) a set of source areas where sediments are eroded by water flows, (2) transport routes (e.g., gullies and streams) through which sediments are moved downstream, and (3) fluvial deposition areas where stream-borne sediments are deposited (Sharp 1964, Lancaster *et al.* 1993, Simons, Li and Assoc. 1997, Griffiths *et al.* 2002b). The aeolian component consists of (1) a set of source areas where sediment is produced and entrained (typically from fluvial deposition areas) by wind, (2) one or more transport corridors through which aeolian sediments are moved, and (3) a deposition sink where wind-blown materials are deposited for varying lengths of time (Lancaster *et al.* 1993, Griffiths *et al.* 2002b).

Sand transport systems that maintain the ecosystems this species depends upon are composed of sand source areas, fluvial transport zones, fluvial deposition/aeolian erosion areas, wind transport corridors, and aeolian sand deposition areas. The process begins with fluvial erosion of sands from source areas, followed by transport of those sands to downstream fluvial deposition areas. The frequency and magnitude of these fluvial processes are driven by precipitation patterns in the involved watersheds, and are thus affected by drought. Piechota *et al.* (2004) evaluated historical streamflow records and tree ring data for the Upper Colorado River Basin. Tree ring data from the Basin indicate that more severe droughts have occurred in the past, and the 1999-2004 drought in the Upper Colorado River Basin was the seventh worst in an approximately 500 year record. Based on the tree ring data, the largest drought in the Basin occurred at the end of the 16th century and lasted for at least 20 years (Piechota *et al.* 2004). Tree ring data for southern California indicate that during the past 600 years, "dry" periods have averaged more than twelve years in length and intervening "wet" ones were about 10 years in duration (Tevis 1958). This regional tree ring data is relevant to the Coachella Valley, as Lancaster *et al.* (1993) noted that the major variations in precipitation in the Coachella Valley region generally parallel those observed in most areas throughout the southwestern U.S. Some observers have forecasted periods of 20-30 years of protracted drought for the Coachella Valley region in the foreseeable future, partially in response to expected future climate patterns (Griffiths *et al.* 2002, Schmidt and Webb 2001). If such protracted drought periods occur, the delivery of fluvial sand to the northern Coachella Valley deposition areas (most notably the Whitewater River floodplain system), essential to blowsand transport processes, will be substantially reduced because of the decrease in flood occurrence (Griffiths *et al.* 2002).

Sharp (1964) found that 50 percent of the sediment grains (by weight) in the Coachella Valley traveled within 5 inches (13 centimeters) of the ground, and 90 percent moved within 25 inches (64 centimeters) of the ground. The wind speed profile in this zone that moves sand is very sensitive to resistance and obstructions on the ground surface (Simons, Li and Assoc. 1997). Development blocking prevailing wind flows causes major impacts to sand movement to the blowsand deposits, as it causes significant alteration of the wind profile (Simons, Li and Assoc.

1997). The shielding effects of any substantial barrier to the natural transport of sand will, in time, extend to the downwind end of the aeolian deposition area because of the extreme unidirectional nature of the sand movement pattern in the Coachella Valley (Weaver 1979).

Wind is an effective agent of sediment erosion, transport, and deposition where there is little vegetation to bind loose material together and provide surface roughness to limit the effectiveness of the wind (Briggs *et al.* 1997, Muhs and Been 1997). Vegetation cover limits the amount of sediment availability to aeolian activity (Lancaster 2001) and stabilizes dune sands (Muhs and Been 1997).

The fine sand that fringe-toed lizards inhabit is ultimately supplied by the wind. The Coachella Valley is very windy; the prevailing unidirectional winds come from the northwest through the San Gorgonio Pass. Winds are stronger in the western part of the Valley and weaker/slower in the more open eastern portions of the Valley. During rain-storm events, sand and other sediments are eroded from canyons and hillsides surrounding the Valley and deposited by flood flows onto alluvial plains and floodplains (e.g., Whitewater River floodplain downstream of Windy Point) (Lancaster *et al.* 2002, Griffiths *et al.* 2002b). In subsequent months or years, sand and smaller particles on the ground surface of these plains are entrained and transported by the wind (Griffiths *et al.* 2002b). Wind transport sorts the sediments into finer and heavier components, as finer particles are carried farther and faster, while larger sands drop out sooner (Griffiths *et al.* 2002b).

It should be understood that blowsands are moved by the wind very close to the ground surface, versus smaller particles (e.g., dust) that billow high in the air. Because aeolian mass movement of sand particles occurs within 5 feet (1.5 meters) of the ground, a typical building effectively traps sands and significantly affects the pattern of sand transport (Simons, Li and Assoc. 1997). The billowing dust clouds observed more than a few feet above ground during high-wind events in the Coachella Valley do not contain a significant amount of sand (Sharp 1964). Shrubs, topographic features, and structures slow the wind near the ground surface, causing sand to drop out and accumulate, and dunes and hummocks to form near these features (Sharp 1964, Simons, Li and Assoc. 1997, Griffiths *et al.* 2002b).

Depending on the amount of entrained sand (in the aeolian transport supply from upwind) and wind speeds, sand accumulations dynamically increase and decrease over time (Griffiths *et al.* 2002b). When the sand supply from upwind is heavy, temporary accumulations of blowsand build up, often lasting for years or decades (Griffiths *et al.* 2002b). Without supplementation of additional blowsand transported from areas upwind (such as when relatively recent fluvial sediment deposit surface supplies dwindle during extended droughts/periods without stormflows), the winds erode blowsands from these temporary aeolian accumulations faster than it is replaced; this depletes or eliminates the dunes or hummocks and gradually degrades fringe-toed lizard habitat (Simons, Li and Assoc. 1996, Griffiths *et al.* 2002b). Areas without input of sand become "armored" as the larger sediments that are not typically carried by the wind remain and the finer sands blow away (Griffiths *et al.* 2002b). Some blowsand habitat areas become depleted of blowsand periodically in the natural ebb and flow of climate conditions. Other areas

become unnaturally depleted periodically or in the long-term, due to artificial conditions (such as a blocked sand transport corridor) affecting the supply of sand; this is usually combined with natural climate patterns. Nevertheless, whether depletions are primarily naturally- or artificially-caused, these areas of depleted blowsands do not provide habitat for the fringe-toed lizard during the period they remain devoid of blowsand; therefore, maintenance of these ecosystem processes is essential to sustaining sufficient area of habitat for the species.

Turner *et al.* (1984) provided empirical evidence that sand barriers negatively affect the lizard populations in otherwise unaltered habitat because such obstructions prevent or greatly reduce the movement of blowsand, an essential component of lizard habitat. They found that population densities on three plots immediately upwind from windbreaks ranged from 2 to 18 lizards per acre (4.4 to 45 per hectare), while densities on plot downwind from the windbreaks were 0 to 0.2 lizard per acre (0 to 0.4 per hectare). As a result, Turner *et al.* (1984) concluded that the blowsand ecological process was indispensable to lizard survival. Unless the sand source corridors are protected, essential sand transport zones will likely be obstructed and the blowsand habitat within the Conservation Areas will likely continue to degrade at an accelerating rate that matches the growth of upwind urban areas (Simons, Li and Associates 1997).

Near the Banning Fault in the Willow Hole Conservation Area, sand dunes form where wind-blown sand is trapped by mesquite vegetation (USGS 2004). The mesquite traps blowing sand over time, creating habitat for fringe-toed lizards in the form of dunes associated with the mesquite hummocks (Griffiths *et al.* 2002). Historically (e.g., 1950's), relatively large areas of mesquite hummocks occurred in what is now the Thousand Palms Reserve (Lancaster *et al.* 1993, CVAG 2004, USFWS 1998). Mesquite hummocks present historically likely played an important role in dune formation on the Thousand Palms Reserve (Barrows 1996, Griffiths *et al.* 2002b, Simons, Li, and Assoc. 1997), as they locally slowed the wind causing blowsands to drop out and accumulate. When they were alive and foliaged, these mesquite stands helped anchor the dunes/hummocks of the Thousand Palms Reserve (Griffiths *et al.* 2002b, Simons, Li and Assoc. 1997).

3.1.8 Genetics

Trépanier and Murphy (2001) analyzed nine populations of Coachella Valley fringe-toed lizards using mitochondrial DNA and found them to be nearly identical. They found the species to be most similar to its nearby congener, the Colorado Desert fringe-toed lizard. They found genetic differences among the nine Coachella Valley fringe-toed lizard populations to be considerably less than genetic differences among populations of the Colorado Desert fringe-toed lizard (*Uma notata*), indicating a relatively recent genetic isolation of each Coachella Valley fringe-toed lizard population. Trépanier and Murphy (2001) also noted that the entire *U. inornata* species has genetic variation similar to single populations of *U. notata* or *U. scoparia* (Mojave fringe-toed lizard), thus indicating that historical genetic variation was likely low in the Coachella Valley fringe-toed lizard, perhaps due to a genetic bottleneck or founder effect. Ongoing losses of habitat and restrictions/fragmentation of its range translate into reduced population sizes that continue to erode genetic variation.

Hedtke *et al.* (2007) used microsatellite loci to examine range-wide population structure and inter-population gene flow in the Coachella Valley fringe-toed lizard. Their results indicate low population differentiation consistent with high gene flow, recent colonization and range expansion, and/or frequent local extirpation/recolonization events. They also found high historical gene flow among populations and current isolation of remaining populations, with potential deleterious effects that likely result from reduction in gene flow, such as inbreeding and loss of genetic variation (Hedtke *et al.* 2007). They suggested that "conservation planning for this species should include monitoring of potential deleterious effects that may result from reduction in gene flow, such as inbreeding and loss of genetic variation, to ensure maintenance of ecological and evolutionary population processes adequate for long-term survival of the species" (Hedtke *et al.* 2007).

3.1.9 Biology of Small Populations

Remaining Coachella Valley fringe-toed lizard populations range-wide likely fluctuate periodically to very low densities and absolute numbers (Muth 1987, 1991; Muth and Fisher 1991; Barrows 1996, 2006b; Chen *et al.* 2006). Range-wide habitat loss and fragmentation has resulted in recent isolation of small remnant or peripheral fringe-toed lizard populations (45 *FR* 63812; England 1983; USFWS 1985, 2000a, 2000b, 2005; CVAG 2005, 2007; Chen *et al.* 2006; Service GIS analysis based on 2005 aerial photos and CVAG mapping 2007; Hedtke *et al.* 2007). The effect this reduction and fragmentation of habitat (and related periodically low populations sizes) will have on the genetic variability and long-term evolutionary persistence of *U. inornata* populations depends in part on the historical rates of gene flow among these populations and the degree of population structure (Hedtke *et al.* 2007). The remaining populations of fringe-toed lizard are likely very small from the standpoint of maintaining population viability, as noted below.

The best available information on conservation biology of small populations has become refined over the last two decades. For example, at least three "replicate" population reserves are recommended for conservation of each rare species, and these populations should be self-sustaining and at a minimum retain 90-95 percent of their genetic diversity for 100-200 years (e.g., Soule and Simberloff 1988, Murray *et al.* 1999, Nekola and White 1999, Margules and Pressey 2000, Fairbanks *et al.* 2001, Noss *et al.* 2002, Canadian Wildlife Service and U.S. Fish and Wildlife Service 2005).

Small, isolated populations of animals are vulnerable to stochastic events, i.e., accidents of demography and genetics, and environmental fluctuations and catastrophes [underlining the need for large core areas and connectivity of important smaller habitat areas (Franklin 1980, Frankel and Soulé 1981)]. Relatively rare events, such as 1-in-50- or 100-year (e.g., 1 or 2 percent chance of occurring in any year) droughts, floods, fires, storms, likely have large effects on population viability of species like fringe-toed lizards, particularly on fragmented populations (e.g., Ludwig 1996, 1999; Johst and Brandl 1997). Connectivity between populations is seen as necessary for providing genetic and demographic rescue, and for viability of species that reach

low densities in small populations (Noss 1983, Harris 1984, Noss and Harris 1986, Soulé 1987, Hedtke *et al.* 2007) Genetic and demographic rescue is the arrival of immigrants into a small population; it is generally beneficial because it slows the rates of loss of genetic variation and inbreeding associated with small populations, and it lowers the chance of extinction caused by small numbers of individuals (Noss 1983, Harris 1984, Noss and Harris 1986, Soulé 1987). Unfortunately, landscape connectivity between the remaining populations in the Coachella Valley is mostly or completely lost, and cannot be restored without removing significant areas of existing development (45 ***FR*** 63812; England 1983; USFWS 1985, 2000a, 2000b, 2005; CVAG 2005, 2007; Chen *et al.* 2006; Service GIS analysis based on 2005 aerial photos and CVAG mapping 2007).

Small populations typically suffer from increased rates of localized extinction, in part because of an unavoidable increase in matings between close relatives (Frankham *et al.* 2005). Inbreeding reduces reproductive success in most species (Frankham 1995a, Frankham *et al.* 2005) and increases extinction rates (Frankham 1995b, Frankham and Ralls 1998). From their studies of metapopulations of Glanville fritillary butterflies (*Lelitaea cinxia*), Saccheri *et al.* (1994) empirically found that inbreeding contributes to extinction of wild populations. In another example, studies of the New Zealand conifer *Halocarpus bidwillii* showed strong correlations of population size with genetic variability: large populations had the greatest levels of heterozygosity, highest percentage of polymorphic genes, etc. (Primack 1993). Census populations of this plant that were smaller than 8,000 individuals appeared to have suffered a loss of genetic variability, with the lowest variability in the smallest populations (Primack 1993).

The concept of the effective population size was introduced by Wright (1931, 1938) to link real populations to the theory developed for ideal populations (Nunney 2002). Effective population size is defined as the size of an ideal population whose genetic composition is influenced by random processes in the same way as a real population of census size (Nunney 2002). Increasing effective population size results in an increase in the ability of the population to retain neutral and nearly neutral genetic variation (Nunney 2002). In conservation biology, the effective population size, not the census number, is of primary concern (Frankham *et al.* 2005). Temporal fluctuation in population size is most important factor causing the effective population size of natural populations to be substantially less than their actual (census) sizes (Lande 1988; Frankham *et al.* 2005). Effective population size is generally about one-tenth of the census population size (Frankham *et al.* 2005, Lynch and Lande 1998, Reed *et al.* 2003, Kalinowski 2002).

Estimates of minimum viable effective population sizes, based solely on genetic threats, suggest a minimum of 500-5000 individuals (Frankham *et al.* 2005; Lande 1995; Franklin and Frankham 1998; Lynch and Lande 1998; etc.). Recommendations for minimum viable effective populations sizes that consider the synergy of genetic, demographic, and environmental/catastrophic stochastic threats, suggest even larger effective populations sizes (i.e., starting at 1,000's of individuals) (e.g., Lande 1995; Franklin and Frankham 1998; Lynch and Lande 1998). Additionally, Reed *et al.* (2003) and Vucetich *et al.* (1997) demonstrated that minimum viable population sizes should be larger for more variable (fluctuating) populations,

versus for more stable populations. Minimum effective population size is important, in part, because small populations of many species tend to randomly go extinct (e.g., Primack 2006; Noss and Cooperrider 1994).

In small effective population sizes, inbreeding can greatly reduce the average individual fitness, and loss of genetic variability from random genetic drift can diminish future adaptability to a changing environment (Lande 1988). Theory and empirical example suggest that demography is usually of even more immediate importance than population genetics in determining the minimum viable sizes of wild populations, thus minimum viable effective population sizes based solely on genetics can be seen as important minimums (Lande 1988). The demographic and genetic threats mentioned above are particularly relevant to a species with periodically small populations (fluctuating to low numbers), such as fringe-toed lizards, due to artificial habitat loss and fragmentation (Lande 1998). Since 1985, studies have revealed that this species is subject to large fluctuations in population size (Barrows (2006b). Based on the tenets of conservation genetics (e.g., Frankham *et al.* 2005; Vucetich *et al.* 1997), these fluctuations threaten the species due to the absolute low numbers reached by each population. Anthropogenic factors of habitat loss and fragmentation that limit and isolate these populations work synergistically with the natural population fluctuations to threaten the continued survival of the species.

A portion of the genetic variability and heterozygosity within a species that accumulates over thousands of years is lost when absolute numbers reach very low levels in a genetic bottleneck (Vucetich and Waite 1998). Reductions in population size result in loss of genetic diversity, increased inbreeding, and an increased risk of the expression of deleterious mutations associated with inbreeding (Primack 2006; Frankham *et al.* 2005; Vucetich and Waite 1998). The persistence of a few small populations following genetic bottlenecks does not contradict the conclusions that inbreeding and loss of genetic diversity are normally deleterious, and that long-term effective population sizes at least in the high 100's or above 1,000 are typically required for genetic viability of a species (Frankham *et al.* 2005; Reed *et al.* 2003; Lande 1995; Lynch and Lande 1998), even when demographic and environmental stochasticity are not considered. Higher levels of genetic variability increase the likelihood that individuals within the population have a genetic variant that can allow them to cope with a new stressor (e.g., climate change or disease) (Frankham *et al.* 2005).

The loss of genetic variability in fringe-toed lizards on the Whitewater River floodplain would decrease the likelihood that genetic variations (that would likely aid the species' persistence in the future) remain in the population, though this loss of genetic diversity does not necessarily doom a species to immediate extinction (Thomas 1990). However, the loss of genetic diversity makes a population more prone to extinction or localized extirpation from new diseases or stochastic environmental changes (Soule and Mills 1998; Frankham *et al.* 2005). The population would be partially inbred and could consequently manifest deleterious genes that decrease reproductive fitness, survival, and fecundity more frequently (Briskie *et al.* 2004; Frankham *et al.* 2005). Some genetic bottlenecks can be relatively harmless if (by chance) few deleterious mutations are present in the remaining population (Frankham *et al.* 2005). Conversely, in some bottleneck situations, deleterious mutations are fixed and the population declines to extirpation

(Frankham *et al.* 2005). Evolutionary potential (the ability to adapt to change over time) of a species is reduced by genetic drift and inbreeding in small populations (Frankham 1999).

3.1.10 Population Trends

Little is currently known about fringe-toed lizard populations outside the reserve system consolidated by the existing CVFTL HCP, other than wind-blown sand habitats suitable for the lizard continue to decline as a result of conversion to development uses. Relative unknowns include census population sizes and densities, fluctuations in population size and density, and reproductive rates. It is also unknown what constitutes a significant barrier to fringe-toed lizard movement and/or reproduction. Because fringe-toed lizards are very closely confined to aeolian sand deposits (Stebbins 1944, Norris 1958, Carpenter 1963, Pough 1970, Barrows 1997), it is expected that populations separated in the long-term by a substrate patch devoid of sand that is over 2,000 feet wide can be considered isolated. Even within reserves little is known about fringe-toed lizards; monitoring has shown that populations of the species fluctuate with precipitation.

Past studies have shown that population size, density and age structure can vary greatly. The average number of fringe-toed lizards that survive from year to year is apparently greater than expected for a lizard its size (Muth 1991). Fringe-toed lizard densities are likely to be influenced by important habitat features, such as sand compaction and patch size (Turner *et al.* 1981, 1984), as well as depth and width of blowsand available at the ground surface in a given area and time. Turner *et al.* (1981) estimated the density of fringe-toed lizards in seven study plots to range from 1.8 to 18.2 lizards per acre. A long-term demographic study by Muth and Fisher (unpublished data, 1985-2003; pers. comm.) revealed density variations among years from 7 to 60 per acre at the Whitewater Floodplain Reserve. Importantly, Mark Fisher noted a very low density of approximately 1 lizard per 5.6 acres (2.3 hectares) in an occupied portion of the Whitewater Floodplain Conservation Area during the period of relatively low sand transport/depleted sand conditions that preceded the winter of 2004/2005 within that system (Mark Fisher, pers. comm., 2006). Considering that approximately one thousand acres or less of suitable habitat likely would be extant in the proposed Whitewater Floodplain Conservation Area after periodic expected droughts over a decade long (as noted below), this reported density of 0.2 lizards per acre translates into a population that has, and would in the future, periodically drop to a census population in the hundreds of individuals.

To date, fringe-toed lizard monitoring efforts have provided minimal data on range-wide population trends. Long-term indices of population density are available for the Thousand Palms Reserve, but not for the rest of the Coachella Valley. This trend information, gathered between 1986 and 2002, indicates that fringe-toed lizard numbers fluctuate with annual rainfall amounts (Barrows 1996, 2006b; Chen *et al.* 2006). Lizard numbers fell to nearly undetectable levels in drought years in the few areas (Thousand Palms Reserve and Whitewater Floodplain Reserve) that were monitored (Barrows 1996, 2006b; Chen *et al.* 2006). This information did not offer insight into proximate factors that drove population fluctuations, nor did it attempt to validate index counts to produce population estimates. Some minimal data on population numbers and only basic data on population trends have been acquired for small portions of the Coachella

Valley Reserve system through the monitoring efforts to date. Some monitoring efforts have documented fluctuations in population densities that are related to availability of basic resources, such as food and loose sand (e.g., (Barrows 1996, 2006b; Chen *et al.* 2006).

Populations in most areas of the Coachella Valley likely fluctuate with environmental variations and/or natural fluctuations in habitat function (Barrows *et al.* 1995). Often the basic causal factors of sand stabilization and depletion, and related local population declines, are essentially natural (even if they are significantly modified by the artificial conditions created by development of the Valley over the last several decades). Most (if not all) populations of fringe-toed lizards were historically connected to other populations periodically, and likely functioned as a metapopulation (Hedtke *et al.* 2007). With the natural diversity of ecosystems in the Valley, historic local fringe-toed lizard declines (such as during a drought) were not likely equal across the entire species range, as the causes for local declines were unlikely to be of equal strength across the range (CVAG 2005). As such, it is very likely that source populations of fringe-toed lizards historically remained extant to re-colonize spatially connected areas where fringe-toed lizard populations declined to zero (Hedtke *et al.* 2007). Once favorable ecosystem conditions returned (such as a new pulse of aeolian sand following flood-related sediment deposition upwind), it is expected that fringe-toed lizards re-invaded those naturally restored habitat areas where local extirpations had occurred. Thus, immigrants from one population likely re-colonized habitat areas which were left open by the extirpation of another population. The substantial artificial fragmentation of almost all remaining fringe-toed lizard populations in the Valley makes these natural population fluctuations important, as a high potential exists for these populations to fluctuate to zero with no potential for natural recolonization.

The extinction of one small population of fringe-toed lizards is described in Chen *et al.* (2006) and Barrows (2006b). Chen *et al.* (2006) examined the time to extinction and the habitat patch size (where the fringe-toed lizards went extinct), to create a model to predict the time to extinction based on habitat patch size. The Chen *et al.* (2006) model estimated the propensity of extinction of fringe-toed lizards in small habitat patches isolated from other occupied habitat patches. The model predicted that the population on the Thousand Palms Reserve would go extinct in 78 years. This prediction is important because the Thousand Palms fringe-toed lizard population is likely the largest and most robust population for the species remaining range-wide. This model is even more important when considered with the unrelated prediction that the dunes (and thus most of the fringe-toed lizard habitat) within the Thousand Palms Reserve are expected to disappear in 50 years (Simons, Li and Assoc. 1997). The Chen *et al.* (2006) model illustrates that random events can cause extinction of what are currently more moderate-sized populations, over a period of several decades.

Very little census population data is available for the Willow Hole, Edom Hill, or Snow Creek areas due to lack of focused monitoring. Based on acreages of available habitat in each of these areas, all populations are likely smaller than the Thousand Palms population, thus, they are subjected to the threats for small populations noted herein. Despite almost 20 years of monitoring by various parties, the population trends and parameters of the species remain largely unknown. We do not have reliable estimates of what the population sizes are inside or outside

any of the reserves, nor do we know how widely those population sizes have fluctuated (or how close various populations may have come to extirpation). We do know that a linear relationship exists between the amount/function of habitat that is extant at any time and the ultimate number (and status) of lizards, and that habitat continues to be directly and permanently lost. As such, population numbers must be considered to be declining appreciably as available habitat has been declining extensively over time.

3.1.11 Threats

Urbanization and agricultural development in the Coachella Valley has significantly affected the blowsand ecosystem that the fringe-toed lizard depends upon, and new development is expected to continue these impacts. Development has occurred directly on sand fields and in wind corridors, and has blocked aeolian transport of sand in many areas (Simons, Li and Assoc. 1997). Development has also reduced groundwater in localized areas, which in turn has reduced vegetation (mesquite predominately) that once anchored the blowsand in some deposition regions of the Valley, such as Thousand Palms (Simons, Li and Assoc. 1997). As the Coachella Valley continues to urbanize, protection of sand sources and aeolian corridors are an increasing concern; future structures and landscaping in these corridors could block or impede blowsand transport (Simons, Li and Assoc. 1997).

The most common threats facing imperiled species in the U.S. are habitat degradation/loss and invasive species (Wilcove *et al.* 1998); these are the main threats for the fringe-toed lizard. This species currently exists as relatively small populations occurring in a small area of southern California; the vast majority of the blowsand habitat for the species has been lost or highly degraded by urbanization and associated development. Some of the remaining habitat (and the ecological processes that support it) is partially protected in reserves and a national wildlife refuge, but significant direct or indirect threats to all remaining habitat continue. The species' small historical range is now much reduced due to agricultural and urban development, with reports of 76 to 95 percent of its habitat having been lost, as noted above. Much of the remaining habitat has been degraded, and some historic habitat has been lost, by stabilization of dunes by planted windbreaks. Most of the remaining habitat is fragmented by roads and a railroad, and has been degraded by barriers to sand transport corridors, OHV use, and invasive species. For example, structures erected within the sand transport corridor areas and the establishment of non-native plant species, such as tamarisk (*Tamarix ramosissima*) and athel (*T. aphylla*) trees, have partially or fully stabilized a large portion of the once free moving sand deposits in the Valley, preventing the continued replenishment of substantial areas of the blowsand habitat which the lizard relies on for its survival. Dense populations of Saharan mustard (*Brassica tournefortii*) have recently (or periodically) invaded the Snow Creek and Thousand Palms areas; these plant invasions coincide with high rainfall events and stabilize the soils within sand source and transport zones, at least temporarily, and thus reduce or otherwise modify aeolian sand transport to downwind depositional areas.

Several aspects of fringe-toed lizard ecology and behavior contribute to the species' sensitivity to habitat loss and degradation, including the following: 1) the fringe-toed lizard is currently

distributed over a small area; 2) fringe-toed lizards are found on the Coachella Valley floor where the majority of residential and agricultural development typically occurs; 3) fringe-toed lizards are susceptible to a variety of predators, many of which occur at elevated levels near agriculture or urban areas; and 4) fringe-toed lizards inhabit the most arid portion of the Sonoran Desert, in which drought is likely an important natural factor in population dynamics.

Three isolated reserves currently exist for the species range-wide: Thousand Palms Reserve, Whitewater Floodplain Reserve, and Willow Hole/Edom Hill Reserve. The fringe-toed lizard populations within these reserves are not protected from existing and future threats: these reserves in their current state are not expected to maintain self-sustaining populations for more than the next several decades, due to the current levels of development and habitat fragmentation that impact the essential ecosystem processes that maintain the blowsand habitat required by the species (Chen *et al.* 2006; Simons, Li and Assoc. 1997; Lancaster *et al.* 1993; Simons, Li and Assoc. 1996).

Periodic decade-plus-long droughts, longer in duration than the one that occurred from 1993 to 2005, are predicted in the Valley in the foreseeable future, based on past climate history gathered from several centuries of tree ring data in the region (e.g., see Piechota *et al.* 2004; Stahle *et al.* 2000; Tarboton 1995; Goodrich 2007; McKelvey and Johnston 1992). As such, these expected future droughts are a primary threat to the species, considering its artificially fragmented remaining habitat, the reduced/marginal habitat function of most of that remaining habitat, and the natural population fluctuations associated with these events.

The most important threats to the fringe-toed lizard are artificial: habitat loss, habitat fragmentation/isolation, small population sizes, invasive species, and degradation ecosystem processes that support the blowsand ecosystem that the lizard depends upon. The synergistic combination of these factors likely will interact such that most or all remaining (now artificially isolated) populations will decline to zero in the foreseeable future as part of otherwise natural population cycles (particularly associated with droughts), with no potential for natural re-establishment.

The stochasticity and magnitude of these fringe-toed lizard population fluctuations represents a substantial threat to this species. Large fluctuations were likely a normal part of this species' natural history. However, low ebbs (fluctuations) of the populations pose a major threat to the fringe-toed lizard, because of the artificially smaller absolute patch and population sizes (compared to historic numbers), and fragmented configurations of remaining habitat within (existing and future expected) reserves. Large population fluctuations experienced by the isolated remaining populations of fringe-toed lizards, make the species susceptible to local extirpations in all existing and future expected reserves, particularly during the expected low population ebbs. These fluctuations also threaten the species with overall extinction, when such threats are considered across the remaining fragmented populations expected to be conserved.

3.1.12 Existing Conservation

Pursuant to existing laws and regulations, a total of three habitat conservation plans (HCPs) have been developed for the species: 1) the Coachella Valley Fringe-toed Lizard Habitat Conservation Plan (CVFTL HCP), 2) the CVMSHCP, and; 3) the Agua Caliente Band of Cahuilla Indians Tribal HCP, which is a draft HCP with permit processing ongoing. Associated with the CVFTL HCP and CVMSHCP, as well as Project approvals per section 7 of the Endangered Species Act (ESA) and the California Environmental Quality Act, substantial acreages of habitat and ecosystem processes areas have been acquired in fee or set aside for the benefit of the fringe-toed lizard and the ecosystem it depends upon. Substantial acreage of conservation lands were acquired between 1996 and 2008 pursuant to the CVMSHCP, in anticipation of it being permitted. The Whitewater Floodplain Reserve was initially set aside through a consultation with BLM for the CVWD percolation ponds; the Whitewater Floodplain Reserve was/is relied upon for mitigation/conservation for the species within the CVFTL HCP and CVMSHCP. The two other existing fringe-toed lizard reserves were established through a combination of the CVFTL HCP and the BLM signing a Memorandum of Understanding, Implementing Agreement, and a Record of Decision associated with the reserves identified in the CVFTL HCP. Further details are provided below.

In 1984, BLM consulted with the Service on a 30-year right-of-way grant request from the CVWD for development of percolation ponds within the Whitewater River floodplain (Biological Opinion 1-1-84-F-17). This project is described below in **Environmental Baseline**. Approximately 1,170-acres of CVWD lands and 24 acres of BLM lands (1,194 acres total) of the Whitewater Reserve were protected as a result of this consultation.

Also in 1984, the CVWD, BLM, and Service signed an "Agreement" that defined their respective roles and responsibilities for managing lands within the Whitewater River floodplain, including the Whitewater Floodplain Reserve and lands upstream (BLM 1995).

In 1985 a recovery plan for the Coachella Valley fringe-toed lizard was finalized (USFWS 1985). This species is currently rated as recovery priority number 5c, according to the FY 2005 recovery data call. This number indicates high threat and low recovery potential. The "c" indicates conflict with development or economic activity.

In 1986 the Coachella Valley Fringe-toed Lizard Habitat Conservation Plan (CVFTL HCP) (The Nature Conservancy 1985) was adopted. An "Agreement" to execute the CVFTL HCP was signed in April 1986 by the City of Coachella, City of Indio, City of Cathedral City, City of Rancho Mirage, City of Palm Desert, City of Indian Wells, City of La Quinta, City of Desert Hot Springs, City of Palm Springs, The Nature Conservancy, and the County of Riverside. In April 1986 the CVFTL HCP was permitted by the Service (Permit No. PRT-698685).

The CVFTL HCP was the second HCP ever completed and the first HCP completed pursuant to Section 10(a)(1)(B) of the Act (under the 1982 amendments to the Act). As a result of the CVFTL HCP, a system of reserves was assembled to protect some of the remaining blowsand habitat for the fringe-toed lizard. These three reserves, currently called the Coachella Valley Preserve System, were mitigation for development covered by the CVFTL HCP, though the

system of Reserves included a substantial acreage of lands that were already mitigation for other Projects, as well as some existing BLM lands. The Coachella Valley Preserve System is a combination of Federal lands, CVWD mitigation lands (pre-CVFTL HCP), and private lands acquired with congressional appropriation monies and mitigation fees collected under the CVFTL HCP

The Coachella Valley Preserve System consolidated by the CVFTL HCP includes three Reserves that provide protection for about 17,000 acres of land reported in 1985 to contain approximately 7,800 acres of blowsand (The Nature Conservancy 1985). The CVFTL HCP estimated 5,201 acres (2,100 hectares) of "occupiable habitat" in the Thousand Palms Reserve in 1985. Approximately 620 acres (250 hectares) of high-function dune habitat, and 1,236 acres (500 hectares) of inter-dune habitat currently exist in the Thousand Palms Reserve (Barrows 2006b; Groom and Grant, in prep). The CVFTL HCP estimated about 1,200 acres (486 hectares) of occupiable habitat in the Whitewater Floodplain Reserve in 1985 (The Nature Conservancy 1985). Approximately 287 acres (116 hectares) of habitat, predominantly of low- to mid-function, existed in the Whitewater Floodplain Reserve in 2005, or about 24 percent of the habitat acreage estimated by the CVFTL HCP in 1986 (Service GIS analysis).

In April 1986 BLM, Service, CDFG, and The Nature Conservancy signed an "Implementing Agreement for Management" associated with the CVFTL HCP, that defined their roles and responsibilities for managing their respective lands within and surrounding the Coachella Valley Preserve System (70 ***FR*** 329, BLM 1995). In this Implementing Agreement all signatories agreed to "...carefully regulate, or forbid where necessary, activities which may be adverse to the conservation of the CVFTL, including but not limited to disturbance of blowsand and native vegetation, depletion of groundwater, construction and grading, recreation use of off-road vehicles, hunting, and camping."

In January 1991 a Memorandum of Understanding (termed the "Coachella Valley Preserve System MOU") was signed by The Nature Conservancy, CDFG, California Department of Parks and Recreation, Service, and BLM regarding the management and protection of the Coachella Valley Preserve System (BLM 1995).

The Serviced issued a Biological Opinion on the California Desert Conservation Area Plan Amendment for the Coachella Valley (CDCA Plan Amendment) in December 2002. Pursuant to a Record of Decision (ROD) by BLM under the CDCA Plan Amendment signed in December 2002, BLM is obligated to manage BLM lands consistent with the proposed CVMSHCP. The ROD for the CDCA Plan Amendment commits BLM to "Establish habitat conservation objectives for assessing compatible uses in eight vegetation community types and developing appropriate mitigation measures. (Approximately 95% of the public land base is to be managed consistent with the multi-species habitat conservation objectives established through the Coachella Valley Multiple Species Habitat Conservation Plan)" (BLM 2002b). The ROD also indicates: "To facilitate consistency with the goals and objectives of the CVMSHCP, the BLM established habitat conservation objectives for protecting sensitive species and their habitats...These habitat objectives apply to all BLM-administered public lands that fall within

the conservation area boundary established through the CVMSHCP. Future activities on public lands within the conservation area must achieve the habitat objectives either through avoidance or application of appropriate mitigation measures to be in conformance with the Coachella Valley Plan and consistent with the CVMSHCP" (BLM 2002b). Specifically, the CDCA Plan Amendment states: "For the 8 vegetation community types (Figure 2-4), the habitat conservation objectives outlined in Table 2-4 would be used to assess compatible uses and to develop appropriate mitigation measures within Conservation Areas on BLM-managed land" (BLM 2002a). The objectives in Table 2-4 of the CDCA Plan Amendment state that BLM will "Conserve 99 percent of..." each vegetation community within Conservation Areas on BLM-managed land; these eight general "vegetation communities" are: sand dunes and sand fields, desert scrub communities, chaparral communities, desert alkali scrub, marsh communities, dry wash woodland and mesquite communities, riparian communities, and woodland and forest communities; these communities include all fringe-toed lizard (and milk-vetch) habitat in Conservation Areas. In the CDCA Plan Amendment BLM defines "conserve" as the use of "all methods and procedures which are necessary to bring any endangered species or threatened species to the points at which the measures provided pursuant to the Endangered Species Act are no longer necessary" (BLM 2002a).

Federal, State, and private grants/monies have also funded acquisition of fringe-toed lizard habitat and ecosystem processes lands essential to the species. Pursuant to all the above noted conservation efforts, a total of approximately 5,999 acres of CVAG-modeled fringe-toed lizard habitat are considered Existing Conservation Lands by CVAG to date (2007). Additional lands that provided essential ecosystem processes, notably sand source areas and transport corridors, have also been conserved. Additionally, BLM, Riverside County, and the local jurisdictions in the Coachella Valley have increased compliance with existing trespass laws through increased enforcement of illegal OHV use in fringe-toed lizard habitat in recent years.

The Service is currently in the process of evaluating the CVMSHCP for a permit. Per the habitat modeling performed by CVAG, approximately 27,070 acres of fringe-toed lizard habitat exists in the Plan Area. Under the Plan, the CVMSHCP Permittees will protect and manage 6,999 acres of unprotected (as of 1996) CVAG-modeled habitat for the species, together with 5,999 acres of existing conservation lands, for a total of 12,998 acres of modeled habitat to be conserved in the CVMSHCP Conservation Areas. These 12,998 acres amount to 48 percent of CVAG-modeled habitat for species in the CVMSHCP Plan Area that existed in 1996. The Reserve System under the MSHCP is also designed to protect most of the remaining sand source/sand transport areas that are essential to the blowsand ecosystems of the Snow Creek/Windy Point, Willow Hole, the Whitewater Floodplain, Flat Top Mountain, and the Thousand Palms areas. We expect that these 12,998 acres of CVAG-modeled habitat would be conserved and legally protected in perpetuity.

3.1.13 Future Conservation

Besides those noted above, several additional conservation efforts are expected to occur in the future in the Valley, notably: a) the proposed draft Agua Caliente Band of Cahuilla Indians Tribal HCP; b) mitigation for other land use actions by agencies not permitted under the CVMSHCP (e.g., City of Desert Hot Springs, several water districts, school districts, utilities, railroad, etc.), and actions in the Coachella Valley by federal agencies. If permitted, the conservation actions of the Tribal HCP would largely be independent of CVMSHCP and BLM planning and conservation efforts, though these actions are expected to be coordinated with CVMSHCP and BLM in the future. In the case of public agencies (e.g., State and Federal), the goal of conservation actions would typically be to consolidate public conservation ownerships and improve protection of ecosystems processes (e.g., sand source and transport) and ecosystem management. Other anticipated conservation efforts expected include acquisitions and management by non-profit organizations. Tribal acquisition/management/legal protection of lands for conservation purposes would likely occur inside and outside of Reservation boundaries, as well as in areas that are in and adjacent to the CVMSHCP Conservation Areas, including conservation of blowsand ecosystems (habitat as well as sand source/transport areas) that support fringe-toed lizards. The expected acreages of blowsand ecosystem that would be protected or enhanced with these combined efforts are substantial, but are undetermined; this conservation will be essential to the long-term survival of the species.

Since it is expected that there will be many Project proponents in the Plan Area will not be under the control of the proposed Permittees, their actions would not be Covered Activities, and the impacts and mitigation from these actions would be cumulative effects (see Cumulative Effects below). These actions by non-Permitees are expected to result in conservation of an undetermined, but potentially substantial, acreage of lands within the Plan Area outside of Conservation Areas.

3.1.14 Conservation Needs

In 1985, a recovery plan for the fringe-toed lizard was published by the Service. The primary objective of the recovery plan is to: "Minimize further decline of the species and degradation of its habitat by securing and protecting suitable habitat in two or more large scale protected areas that maintain viable, self-sustaining populations" of the species. The secondary objectives of the recovery plan are: "Protect, manage, and enhance existing habitat"; "Maintain and enhance fringe-toed lizard populations"; "Foster public awareness and support for the conservation of the fringe-toed lizard and its ecosystem through an education and public awareness program"; "Utilize existing laws and regulations protecting fringe-toed lizard and its habitat."

The best scientific and commercial data available indicates that long-term conservation of at least three or four viable populations (based on viable effective population sizes generally accepted in the peer-reviewed literature) of fringe-toed lizard with self-sustaining ecosystem processes (e.g., sand supply) is necessary for conservation of the species (Murray *et al.* 1999, Nekola and White 1999, Margules and Pressey 2000, Fairbanks *et al.* 2001, Noss *et al.* 2002, Canadian Wildlife

Service and U.S. Fish and Wildlife Service 2005, Frankham *et al.* 2005). The CVMSHCP and our related permit are expected to provide a majority of the conservation measures necessary for the fringe-toed lizard. Outside of implementation of the CVMSHCP, additional conservation of fringe-toed lizard habitat and ecosystem processes areas are necessary within and outside CVMSHCP Conservation Areas. Some of this conservation will be complementary to the CVMSHCP (termed Complementary Conservation under the CVMSHCP), and the balance will be outside or coordinated with the CVMSHCP planning efforts. This additional conservation (primarily in the forms of acquisition, protection, management, and Project impact minimization) is expected and necessary from federal, tribal, state, and local jurisdictions/agencies in the Coachella Valley that are not Permitees under the CVMSHCP. The most important conservation efforts for the fringe-toed lizard are expected to occur in the Whitewater River floodplain, the Willow Hole/Banning fault area (particularly mesquite hummocks), the Snow Creek/San Gorgonio/Windy point area, and in the Thousand Palms area. These efforts will need to include protection of sand supply and transport areas, maintenance/restoration of ecosystem processes (the associated groundwater, fluvial, and aeolian processes/regimes that support habitat), as well as a protection/enhancement sufficient area of potential and suitable habitat areas to meet conservation goals.

3.1.15 Synopsis of Status

The fringe-toed lizard is endemic to the Coachella Valley. Most of the historic habitat for the species has been lost due to development. The distribution of the species is now restricted to five or six fragmented populations within an artificially much-reduced range and acreage of viable habitat (CVAG 2007). Once-contiguous habitat across most of the Valley floor has been fragmented into an artificial patchwork of small isolated potential and currently suitable habitat areas within a landscape of now-inhospitable terrain.

Monitoring studies that have been conducted to date are inconclusive with respect to the status of the fringe-toed lizard range-wide or even on the established reserves where monitoring has been occurring for two decades. The fringe-toed lizard populations within the study plots on the Whitewater Floodplain Reserve declined to very low numbers/densities due to the drought and sand depletion conditions of 1993-2005, whereas the population numbers within the Thousand Palms Reserve declined as well, but apparently not to such low densities during the same period. The basic status of the species within the remainder of the range of the species, (mostly made up of The Big Dune, Snow Creek, and Willow Hole areas), is essentially unknown, though the amount of remaining potential habitat is known and is limited in extent.

The species status has continued to decline over the last few decades since listing, commensurate with losses of habitat and ecosystem processes, and threats facing the species have increased in magnitude and have become substantially more imminent and better understood (45 ***FR*** 63812; England 1983; USFWS 1985, 2000a, 2000b, 2005; Barrows 1996, 2006b; Simons, Li and Assoc. 1997; Lancaster *et al.* 1993; Simons, Li and Assoc. 1996; Griffiths *et al.* 2002b; CVAG 2005, 2007; Chen *et al.* 2006; Hedtke *et al.* 2007; Service files, GIS analysis based on 2005 aerial photos and CVAG mapping 2007). Although, three isolated reserves currently exist for the

species (Thousand Palms Reserve, Whitewater Floodplain Reserve, and Willow Hole/Edom Hill Reserve), these reserves do not provide the protection of habitat or ecosystem processes necessary to sustain the species. Remaining populations likely have small to very small effective population sizes. The species is currently on a downward trend towards extinction within the next several decades. The continued direct loss of habitat, conversion of habitat, disturbance and fragmentation of existing habitat (including existing reserves), and the substantial loss or degradation of sand sources and transport corridors necessary to sustain remaining habitat combined with the natural population cycles of this species, makes its survival tenuous in the long-term without directed management efforts on its behalf.

3.2 Coachella Valley Milk-vetch (*Astragalus lentiginosus* var. *coachellae*)

3.2.1 Legal/Listing Status

The Coachella Valley milk-vetch (milk-vetch) was federally-listed as endangered on October 6, 1998. Refer to the final listing rule (63 ***FR*** 53596) for a detailed discussion on the taxonomic history and description of this taxon. The species was listed in recognition of the plant's imperiled status from habitat losses caused by urban development and human modifications to the sand transport system that maintains the unique ecosystem the species relies upon. The taxon is on the California Native Plant Society List 1B and has no State status.

3.2.2 Critical Habitat

On July 1, 2002, the Court ordered the Service to reconsider a previous "not prudent" determination regarding critical habitat for the species, to publish a proposed critical habitat designation for the taxon, if prudent, on or before November 30, 2004, and to publish a final critical habitat designation on or before November 30, 2005. Pursuant to this order, critical habitat for this species was proposed on December 14, 2004, on 3,583 acres (1,450 hectares) in three units in Riverside and San Bernardino counties, California (69 ***FR*** 74468). The three units proposed for designation as critical habitat were in the Whitewater River System, Mission Creek and Morongo Wash System, and Thousand Palms System (69 ***FR*** 74468). A final rule was published on December 14, 2005 (70 ***FR*** 74112), that determined critical habitat would not be designated for the Coachella Valley milk-vetch.

As stated in the final critical habitat rule, the Service identified 17,746 acres (7,182 hectares) of local, County, State, Federal, and private lands containing features essential to the conservation of Coachella Valley milk-vetch in Riverside County. However, all habitat with essential features (described below) was located within areas proposed to be mostly conserved and managed by the CVMSHCP or within areas conserved under the CVFTL HCP, and therefore was excluded from the critical habitat designation under section 4(b)(2) or 3(5)(A) of the Act. The primary constituent elements for the identified 17,746 acres (7,182 hectares) of essential habitat for the Coachella Valley milk-vetch (69 ***FR*** 74468) included:

1. Unconsolidated sands stored within rivers and tributaries in the San Bernardino, Little San Bernardino, and San Jacinto Mountains and Indio Hills. The unconsolidated sands stored in these rivers and tributaries are not occupied by Coachella Valley milk-vetch, but represent the original source of the loose sand that forms the sand dunes and flats that are occupied by this plant.

2. Unconsolidated sands deposited on the alluvial fans of the San Bernardino, Little San Bernardino, and San Jacinto Mountains and Indio Hills. The unconsolidated sands deposited on these alluvial fans are not occupied by Coachella Valley milk-vetch; instead, these sands are transported by wind and water to form the fluvial and aeolian sand dunes and flats that are occupied by this plant.

3. Suitable flooding regimes to transport unconsolidated sands from rivers and tributaries to the alluvial fans of the San Bernardino, Little San Bernardino, and San Jacinto Mountains and Indio Hills.

4. Suitable wind and flooding regimes to transport unconsolidated sands deposited on the alluvial fans of the San Bernardino, Little San Bernardino, and San Jacinto Mountains and Indio Hills to the fluvial and aeolian depositional areas, including areas west of Edom Hill/Willow Hole reserve, areas west of Coachella Valley Preserve, and the Whitewater Floodplain area that are occupied by Coachella Valley milk-vetch.

5. Aeolian sands on active, stabilized, and shielded sand dunes or fields, and sandy alluvial sites in washes within the San Gorgonio/Whitewater River aeolian sand transport system, Mission Creek/Morongo Wash aeolian sand transport system, and the Thousand Palms aeolian sand transport system that are occupied by Coachella Valley milk-vetch.

3.2.3 Species Description

The Coachella Valley milk-vetch was described by Rupert C. Barneby (1964) based on a specimen collected in 1913 by Alice Eastwood in Palm Springs, California. Coachella Valley milk-vetch, a member of the pea family (Fabaceae), is an annual or short-lived perennial with ascending stems 4-12 inches (10-30 centimeters) tall. The leaves, stems, and fruits are densely covered with short, appressed (pressed flat), white hairs. The pink-purple flowers are arranged in 11 to 25-flowered racemes (a simple, elongated inflorescence) and the two-chambered fruits are strongly inflated. The Coachella Valley milk-vetch is one of 19 varieties of *A. lentiginosus* found in California (Spellenberg 1993), none of which occur in the same region or habitat types. However, *A. aridus* and *A. crotalariae* may be found within the geographical and ecological range of *A. lentiginosus* var. *coachellae*. Both of these taxa, in contrast to the Coachella Valley milk-vetch, have fruits with a single chamber.

3.2.4 Distribution

Coachella Valley milk-vetch historically and currently has a limited distribution and is endemic to the southern California portion of the western Sonoran desert. Barneby (1964) initially described this taxon as apparently confined to the Coachella Valley. However, specimens collected in 1973 from the valley floor near Desert Center [approximately 50 miles (80 kilometers) to the southeast of the Coachella Valley] were identified as *A. l.* var. *coachellae* and attributed to Barneby. These specimens were apparently misidentified and have since been determined to be *A. l.* var. *variabilis* (Knaus 2006). Barneby (1964) notes *A. l.* var. *variabilis* from the Desert Center area, and reports *A. l.* var. *coachellae* only from the Coachella Valley.

The majority of historic and existing occurrences are found in the northern Coachella Valley, generally from just east of Cabazon to the dunes off Washington Avenue, north and west of Indio (Service 2004). The taxon currently is found mostly in and around Snow Creek, Whitewater River floodplain, Mission Creek, Morongo Wash, Willow Hole, The Big Dune, and the Thousand Palms Reserve.

The Coachella Valley Associated of Governments (CVAG) modeled 36,398 acres Coachella Valley milk-vetch habitat within the plan area for the CVMSHCP. Additional Coachella Valley milk-vetch modeled habitat (several thousand acres) occurs on Agua Caliente Indian Reservation, outside the CVMSHCP plan area on The Big Dune. Range-wide, most of the lands where Coachella Valley milk-vetch suitable and potential habitat exists are privately owned.

Surveys conducted by James Cornett in 2002 found 1,491 individuals of Coachella Valley milk-vetch on a site south of Interstate 10 between Date Palm Drive and Bob Hope Drive (Sections 10, 14, 22, and 24; T4S, R5E) (MBA 2002). Surveys conducted in 2004 by Mr. Cornett, near Palm Vista and Los Alamos Roads and on adjacent Reservation lands, detected more than 500 individuals within the boundaries of proposed residential development parcels (Cornett 2004). Mr. Cornett reportedly stopped counting after 500 and suggested that thousands more plants were present (J. Cornett, pers. comm.). On June 30, 2005, Service personnel observed more than 2,000 individuals scattered across the same site and adjacent lands (USFWS unpublished data). Based on available data, Sections 10, 14, 22, and 24 together support the largest known population of Coachella Valley milk-vetch.

In April 2005, surveys conducted for the Desert Southwest Transmission Project and Devers to Palo Verde II Project identified 38 occurrences of the Coachella Valley milk-vetch between North Palm Springs and Indio. The surveys located 98 individual Coachella Valley milk-vetch associated with these occurrences (Greystone Environmental Consultants 2005).

While the overall range of this species may not be significantly reduced from the historical distribution, the number of extant occurrences has declined dramatically (K. Barrows 1987, Service 1996). The majority of historical habitat has been eliminated or degraded because of the direct and indirect effects of development. Most of the historical habitat has been directly converted to urban or agricultural development, and the almost all of the remaining habitat has

been substantially degraded by reduced/eliminated sand sources, OHV use, and/or invasive plant species.

3.2.5 Habitat Affinities

Many taxa in the genus *Astragalus*, including *A. lentiginosus* var. *coachellae*, are endemic to habitats with specific substrate or hydrologic conditions and are, therefore, naturally limited in distribution by the necessary combination of various physical factors (Service 1998). The Coachella Valley milk-vetch is found on loose sands, mostly within the Coachella Valley of Riverside County. Coachella Valley milk-vetch populations in the Coachella Valley are strongly affiliated with active, stabilized, and shielded sandy substrates (Sanders and Thomas Olsen Associates 1996, White 2004). This taxon is primarily found on loose aeolian (wind transported) or alluvial (water transported) sands that are located on dunes or flats, and along disturbed margins of sandy washes (Service 2004). This biotic community type has been categorized by Holland (1986) as stabilized and partially-stabilized desert sand fields.

Most of the suitable sandy habitat for the species in the Coachella Valley is generated from sand derived from alluvial fans and floodplains of several specific drainages of the Indio Hills and San Bernardino, Little San Bernardino, and San Jacinto Mountains (Griffiths *et al.* 2002, Lancaster 1997). Sediment is entrained from slopes and channels in the headwaters and drainage mid-reaches, and is transported downstream in channels during infrequent flood events (Griffiths *et al.* 2002). Fluvial transport is the dominant mechanism that moves sediment into fluvial depositional areas in the Coachella Valley (Griffiths *et al.* 2002). Some sediment is stored on terraces within the channels, whereas during larger flood events, sediment is stored on the surface of large coalescing alluvial fans as floodplain deposits, or is transported through these fans in channelized washes and deposited over broad depositional areas on the valley floor. For sufficient fine-grained sands to reach the aeolian system in the Valley floor and ultimately support suitable habitat for the taxon, it is necessary to protect major fluvial channels that transport source sand from the surrounding drainage basins, as well as alluvial fans and floodplain depositional areas.

Active sand dunes are an important habitat for the Coachella Valley milk-vetch. The highest densities of Coachella Valley milk-vetch have been found in locations containing large areas of aeolian sand, including Snow Creek (Sanders and Thomas Olsen Associates 1996), The Big Dune, and Willow Hole areas (Service files, BLM, unpublished data 2001a). Within active and stabilized sand fields and dunes, the species tends to occur in coarser sands in the margins of dunes, but not in most active blow sand areas (White 2004). Active dunes are generally characterized as barren expanses of moving sand where perennial shrub species are sparse. The dunes may intergrade with stabilized or partially stabilized dunes, which have similar sand accumulations and formations but are stabilized by evergreen or deciduous shrubs, scattered low annuals, and perennial grasses. Active sand fields are similar to active dunes, but are characterized as smaller sand accumulations that are not of sufficient depth to form dune formations. They also may be characterized as hummocks forming behind individual shrubs or clumps of vegetation.

Stabilized sand fields are similar to active sand fields but contain sand accumulations that are stabilized by vegetation or are armored (Service 2004). Armoring is the process where the wind picks up and moves small sand grains, and leaves behind larger sand grains forming an "armor" that prevents wind from moving additional smaller particles trapped below (Sharp and Saunders 1978). The stabilized sand fields in the latter case are temporary, becoming active when the armor is disturbed over large areas, or new blowsand is deposited by the wind from upwind fluvial depositional areas (Service 2004).

Coachella Valley milk-vetch is also found in shielded sand dunes and fields (Service 2004). Shielded sand dunes and fields have similar sand formations as compared to active and stabilized sand dunes and fields, except that sand source and transport systems that would normally replenish these areas have been interrupted or shielded by human development (Service 2004).

Coachella Valley milk-vetch also occurs in localized patches of aeolian sand or along active washes that are, in some cases, fairly distant from large dunes or sand field areas (White 2004). Some of these localized patches of aeolian sands are characterized as ephemeral sand accumulations lacking dune formation (Service 2004). This type of habitat generally occurs at the western end of the Coachella Valley where wind velocities are highest (Sharp and Saunders 1978).

The sandy substrates that provide suitable habitat for Coachella Valley milk-vetch are extremely dynamic in terms of spatial mobility and tendency to change back and forth from active to stabilized (Lancaster 1995). This has significant consequences for Coachella Valley milk-vetch because their population densities vary with different types of sandy substrates (Service 2004). Because suitable habitat is transitory in some portions of the Valley, currently unoccupied areas can also become suitable following fluvial and aeolian events. For instance, the greatest densities of plants have been recorded on dune and hummock habitats, such as The Big Dune, Snow Creek, and Willow Hole, whereas smaller densities of plants have been recorded on stabilized sand fields (Service files, BLM, unpublished GIS data 2001a). Conserving a relatively wide variety of sandy substrate types is important for the conservation of Coachella Valley milk-vetch because of the dynamics of the aeolian sand transport processes and the artificially reduced and limited extent of remaining habitat (Service 2004).

Plant species often found in association with the Coachella Valley milk-vetch include creosote bush (*Larrea tridentata*), burro-weed (*Ambrosia dumosa*), indigo bush (*Psorothamnus emoryi*), fourwing saltbush (*Atriplex canescens*), sand verbena (*Abronia villosa*), dicoria (*Dicoria canescens*), Indian ricegrass (*Achnatherum hymenoides*), croton (*Croton californicus*), sandmat (*Chamaesyce polycarpa*), sandpaper plant (*Petalonyx thurberi*), annual desert rattleweed (*Astragalus aridus*), salton milk-vetch (*A. crotalariae*), and devil's lantern (*Oenothera deltoides*).

3.2.6 Life History

Coachella Valley milk-vetch seeds germinate in response to winter rains (White 2004). Likewise, seasonally dormant root crowns (the root crown is the point at which the root and stem of a plant meet) sprout new shoots in response to winter rains. The date of first flowering may be as early as December and continues into May, though most flowering specimens have been collected in March and especially in April (White 2004). The first date of fruit may be as early as February, but most specimens of fruits have been collected in April and May. The Coachella Valley milk-vetch fruiting bodies are inflated, an apparent adaptation for being dispersed by wind. As such, wind transport corridors between populations facilitate gene flow and population "rescue" after extirpation events in dynamic habitat areas. At maturity, the pods dry and fall to the ground, where they are dispersed by wind. As summer progresses, the vegetation dies above the root mass, with an unknown proportion of plants persisting into the following summer and fall as dormant root crowns (White 2004). Coachella Valley milk-vetch populations typically do survive drought periods as dormant seeds (seed bank), and the numbers of above-ground plants at any given time is only a limited temporal indication of population size (White 2004). It is not known how long seeds may remain viable, but studies on *A. lentiginosus* var. *micans* demonstrate that buried seeds can remain viable for at least 8 years (Pavlik and Barbour 1986). Therefore, suitable habitat that is essential for the long-term survival of this taxon can often be devoid of above-ground individuals (during dry periods), yet contain undetected (by typical surveys) seed bank and dormant root crowns.

3.2.7 Population Trends

Historical abundance of the taxon in the Coachella Valley is unknown. Twenty to twenty-five occurrences have been recorded within the past decade (CDFG/CNDDB 2001); and 90 percent are found within 3.1 miles (5 kilometers) of Interstate 10 (Barrows 1987, CNDDB 2001). Approximately 20 to 25 percent of the documented plant occurrences are protected on the three existing fringe-toed lizard Reserves in the Coachella Valley Preserve System. An estimated 75 to 80 percent of the known Coachella Valley milk-vetch occurrences are found on unprotected lands. Of these, approximately 7 percent exist on Southern California Edison (SCE) lands, 7 percent occur on lands within the Agua Caliente Band of Cahuilla Indian Reservation, and the remainder is situated on other private parcels.

Overall, populations of Coachella Valley milk-vetch vary widely in numbers of above-ground plants from year to year, depending on the environmental conditions, making assessments of total individual numbers difficult. At locations where the Coachella Valley milk-vetch was monitored in 1995, densities varied from 3.1 to 148 plants per acre (1.3 to 60 plants per hectare) (Sanders and Thomas Olsen Associates 1995). Because the general overlap of milk-vetch habitat with that of the fringe-toed lizard, it is expected that the extent of milk-vetch habitat has likely been similarly reduced by 85 to 91 percent compared to historic conditions (as noted for the fringe-toed lizard above), with concomitant losses of milk-vetch occurrences and populations in number and sizes.

3.2.8 Threats

The elimination of habitat for Coachella Valley milk-vetch likely initiated with the introduction of agriculture over a century ago, but urbanization has greatly accelerated these losses in the past 40 years. Significant dune habitat for the species once occurred along much of the length of the Coachella Valley floor. Increased urbanization has reduced available habitat through direct conversion of land, and indirectly through alterations in the sand transport system responsible for the creation/maintenance of sandy ecosystems (Barrows 1987). Structures, percolation ponds, utility substations, spoil piles and levees, road fill, and/or tree windrows have been constructed/planted within most of the remaining sand transport corridors, stabilizing, confining, or blocking much of the historically free moving sand down the valley, preventing or reducing the continued sand replenishment of the blowsand habitat. As habitat for the species becomes increasingly fragmented by urban development, remaining populations become more vulnerable to adverse effects of OHV activities, roadside maintenance, paving/landscaping, and non-native plant invasions. Fragmentation increases the potential for stochastic events that detrimentally affect long-term survival probability. Similarly, fragmentation also decreases the species' resilience to rebound from such events. Additionally, populations of Coachella Valley milk-vetch have been altered by development of wind energy parks and degraded by OHV use (K. Barrows, pers. comm. 1996).

The primary threat to Coachella Valley milk-vetch is the extensive urban development in the Coachella Valley (63 ***FR*** 53596). Urbanization can directly destroy plants and suitable habitat on a Project site. Additionally, development can indirectly degrade or eliminate suitable habitat by covering sand source areas with structures or landscaping, or by blocking sand transport through a Project site to habitat areas downwind of the development. As note above, periodic inputs of aeolian sands are essential to the maintenance of the dynamic blowsand ecosystems of the Coachella Valley (Service 1998). Residential, commercial, road, and golf course developments without the appropriate design considerations when in sand source/transport corridors, typically have adverse effects on the local aeolian and flooding regimes by reducing the wind movement of sands and modifying the flooding and drainage patterns. Occupied and potential habitat areas that are downstream or downwind of these developments (habitat that depends on a periodic supply of loose unconsolidated sands for its long-term existence), are generally degraded by the alteration, blockage, and reduction in the supply of sand.

Another threat includes habitat degradation and loss by the spread of invasive plants, such as Saharan mustard (*Brassica tournefortii*) and Mediterranean grass (*Schismus barbatus*) (69 ***FR*** 74468). Invasive plant species can potentially displace Coachella Valley milk-vetch by stabilizing loose sediments, reducing transport of sediment to downwind habitats occupied by this species, and competing for limited resources, such as water. Dense populations of Saharan mustard have invaded most suitable milk-vetch habitat areas in the Valley, and are particularly evident with standing plants in heavy rainfall years.

On private and public lands, unauthorized OHV use has increased in recent years and is expected to damage or destroy standing plants and occupied habitats directly. A lack of enforcement capability has contributed to the proliferation of this problem.

On private and public lands, the construction and operation of sand and gravel mines, debris dams, and percolation ponds directly and indirectly impact plants and occupied habitat and decrease the amount of fluvial sediments to depositional areas in downstream occupied habitats. For example, the percolation ponds constructed on BLM and CVWD lands in the Whitewater Floodplain Conservation Area resulted in the direct loss of occupied habitat and have substantially altered the transport of sand to downstream occupied habitats (Griffiths *et al.* 2002b).

3.2.9 Existing and Future Conservation

Please see Existing Conservation and Future Conservation above for the fringe-toed lizard. Existing and future conservation efforts for the Coachella Valley milk-vetch and fringe-toed lizard are largely the same, as their habitat needs are similar. Exceptions include some future conservation expected for the milk-vetch (and other species) along Morongo Wash and other drainages, as well as in the Willow Hole/Banning Fault area; many of these efforts would not likely directly benefit fringe-toed lizards.

3.2.10 Conservation Needs

No recovery plan has been published for the milk-vetch. As with the fringe-toed lizard, the best scientific and commercial data available indicates that long-term conservation of at least three or four viable populations (based on viable effective population sizes generally accepted in the peer-reviewed literature) of milk-vetch with self-sustaining ecosystem processes (e.g., sand supply) is necessary for conservation of the species (Murray *et al.* 1999, Nekola and White 1999, Margules and Pressey 2000, Fairbanks *et al.* 2001, Noss *et al.* 2002, Canadian Wildlife Service and U.S. Fish and Wildlife Service 2005, Frankham *et al.* 2005). The CVMSHCP and the requirements of our associated permit are expected to provide the majority of the measures necessary for the milk-vetch conservation. Outside of implementation of the CVMSHCP, additional conservation of milk-vetch habitat and ecosystem processes areas are necessary within and outside CVMSHCP Conservation Areas. Some of this conservation will be complementary to the CVMSHCP (termed Complementary Conservation under the CVMSHCP), with the balance outside or coordinated with the CVMSHCP planning efforts. This additional conservation (primarily in the forms of acquisition, protection, management, and Project impact minimization/modification) is expected and necessary from federal, tribal, state, and local jurisdictions/agencies in the Coachella Valley that are not Permitees under the CVMSHCP. The most important conservation efforts for the milk-vetch are expected to occur upstream and along the Morongo Wash floodplain, the Whitewater River floodplain, the Willow Hole/Banning fault area (including mesquite hummocks), the Snow Creek/San Gorgonio/Windy point area, and in the Thousand Palms area. Essential needs also include the protection of sand supply and transport areas, maintenance/restoration of ecosystem processes (the associated groundwater,

fluvial, and aeolian processes/regimes that support habitat), as well as a protection/enhancement sufficient area of potential and suitable habitat areas necessary to meet basic conservation goals.

3.2.11 Synopsis of Status

The Coachella Valley milk-vetch is currently persisting in the Coachella Valley, but no estimates of range-wide population sizes exist. As noted above, increased urbanization has reduced available habitat and the sand transport system necessary to maintain this species by 85 percent or more over historic conditions. Almost all remaining populations of the species are fragmented and isolated; habitat for the species is becoming increasingly fragmented by urban development and more vulnerable to adverse effects of OHV activities, road construction, and invasive plant species. The currently expected continued loss and degradation of habitat, disturbance, fragmentation of populations and loss or degradation of sand sources and sand transport corridors necessary to sustain remaining habitat synergistically combine to make survival of this species tenuous in the long-term.

4.0 ENVIRONMENTAL BASELINE

The regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal Projects in the action area that have already undergone section 7 consultation, and the impacts of State or private actions which are contemporaneous with the consultation in progress.

4.1 Action Area and Project Site

Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). The action area is the area in which the Environmental Baseline, Effects of the Action, and Cumulative Effects are analyzed.

4.1.1 Action Area and Surrounding Land Uses

The action area is located within the upper Coachella Valley of Riverside County, situated near the eastern end of the San Gorgonio Pass. The upper Coachella Valley region is an extensive outwash alluvial plain, ringed by steep hills and mountains. The San Gorgonio Pass (Pass) is a narrow (five miles wide) east-west pass which connects the coastal and San Bernardino plains with the Coachella Valley. Topographic relief in the area surrounding the action area ranges from the gently sloping desert floor which makes up the majority of the Pass area and upper Coachella Valley, to steep mountain slopes in the northwestern and southwestern portions of the Pass. The action area is surrounded by the Little San Bernardino Mountains to the north, the San Gorgonio Pass extending to the west, open valley desert to the east, and the San Jacinto Mountains to the southeast.

The action area utilized herein includes the floodplain of the Whitewater River from downstream of Windy Point to the downstream end of section 6, Township 4S Range 5E, on the Agua Caliente Indian Reservation. The action area also includes additional areas outside the floodplain of the Whitewater River within section 22, Township 3S Range 4E, including areas on both sides of the Southern Pacific/Union Pacific Railroad and across Garnett Wash. The action area additionally includes blowsand habitats adjacent (northeast) to the portion of the Whitewater River floodplain noted above. See Figure 3.1-1 below.

The action area is located on the desert floor, within the Whitewater River floodplain and some areas immediately adjacent, on the Valley floor between State Route 111 and Interstate 10. The action area has gently sloping topography (outside of constructed levees), with elevations ranging from about 1,000 feet above sea level in the northwest to about 440 feet in the southeast.

The primary sand source for the Whitewater Floodplain Conservation Area and action area is the active and relatively open flood plain of Whitewater River downstream of Windy Point; the river is intermittent on the valley floor and emanates from the San Bernardino Mountains with tributaries in the San Jacinto Mountains (Griffiths *et al.* 2002b). Sediments, most importantly sand, is fluvially deposited (and existing deposits become exposed) during stormwater flows within the floodway and portions of the floodplain of the Whitewater River. Finer sediments are entrained in a largely unidirectional wind field created by the westerly winds and deposited downwind in unstable coppice dunes/hummocks (Griffiths *et al.* 2002a). These dunes/hummocks are transitory and decrease in size as the supply of alluvial sand is depleted (Griffiths *et al.* 2002a). Wind energy in the Coachella Valley is abundant, and aeolian sand transport is limited solely by the supply of suitable fluvially-deposited sediment (Griffiths *et al.* 2002a). The data analyzed by Griffiths *et al.* (2002b) suggest that changes in fluvial sediment supply significantly influence rates of aeolian sediment transport in the Whitewater Floodplain; the highest aeolian sand transport rates follow periods of high discharge in the river, and low rates either preceded or coincided with high runoff.

Much of this sand historically was dropped (fluvially deposited) where storm flows encounter wide floodplain areas and slow down; in this case most of it is fluvially deposited in the wide portions of the floodplain/floodway downstream of Windy Point and upstream of Section 6 (T4S R5E) of the Agua Caliente Indian Reservation (CVAG 2007, Griffiths *et al.* 2002b). The consistent winds down the Coachella Valley (northwest to southeast) later move those sediments that are sand-sized and smaller that are exposed on the ground surface (Sharp 1964). The winds at the upper end (northwestern) of the Valley are strongest (where the Valley is narrow) and thus have the highest potential to move the larger (sand sized) sediments in quantity. Sediments that are not exposed (buried or capped) are not picked up by the wind. Aeolian sand movement is slowed (or even stopped) by vegetation or other similar features (berms, fences, buildings, etc. that slow the wind near the ground surface), as all substantial sand movement happens very close to the ground (Sharp 1964).

Over a period of years following a moderate or larger fluvial deposition event (such as typically occurs about once a decade in the Valley), a large amount (a spike of sand quantity over time) of sand is blown from these fluvial deposition areas into, and eventually through, the aeolian transition areas. The last substantial drought period, which ended the winter of 2004-2005, involved an extended period (approximately 12 years) with little fluvial deposition in the Whitewater River floodway or floodplain (within the action area and Conservation Area). During this drought period most of the surface blowsand sand deposits within these aeolian transition areas in the action area were eroded by the consistent winds and blown downwind. Most of this aeolian sand traversing this portion of the Whitewater Floodplain used to end up in The Big Dune.

Anthropogenic impediments prevent the delivery of some fluvial sediment to the Whitewater Floodplain Conservation Area from both the upper San Gorgonio River (which historically and possibly currently feeds into a gravel pit near the town of Banning) and Blaisdell Canyon (which is cut off from the Whitewater depositional area by California Highway 111) (Griffiths *et al.* 2002b). Sediment yield to the Whitewater fluvial depositional area in the modern era is less than in the predevelopment period owing to these reductions in sediment delivery (Griffiths *et al.* 2002b). The in-stream mining operation on the upper San Gorgonio River likely reduces sediment yields in the entire San Gorgonio basin by 14 percent (Griffiths *et al.* 2002b).

Before the construction of percolation ponds, retention dikes, a railroad, and major highways (the pre-development period for the Valley), the areal extent of the Whitewater depositional area strongly reflected the amount of annual sediment deposited (Griffith *et al.* 2002b). In the modern era, the extent of the Whitewater depositional area has been reduced by alteration of channels and floodplains (Griffiths *et al.* 2002b). The construction of the percolation ponds in the Whitewater River floodplain has reduced the amount of sand available for aeolian transport in the Whitewater Floodplain Conservation Area by reducing the total area of sand exposed to the wind and reducing the area of fluvial deposition (Griffiths *et al.* 2002b). These ponds also trap some fluvial sediment (CVAG 2007), which is then unavailable for aeolian transport owing to the geometric arrangement of the ponds perpendicular to wind direction combined with the high slope angles on the dikes (Griffiths *et al.* 2002b). This has blocked westerly aeolian sand transport from crossing much of the historic depositional area (Griffiths *et al.* 2002b). In combination, the Whitewater fluvial depositional area has been reduced by nearly 50 percent (from 7.1 to 3.6 square miles) by the direct and indirect effects of the installation of the percolation ponds along the south edge of the river (Griffiths *et al.* 2002b). This then results in a significant quantity of sediment deposition to occur in a narrower swath and farther downstream than occurred historically under the natural fluvial sediment regime (Griffiths *et al.* 2002b). The result is less sand being fluvially deposited within the Whitewater Floodplain Conservation Area in locations that are effective for maintaining aeolian processes and therefore blowsand habitat for the fringe-toed lizard.

Urban development (mostly since the 1980's) now intercedes between these transition areas on the Whitewater Floodplain and The Big Dune; the sand that now reaches this interceding development predominately ends up at this downwind edge, or is removed from within the

developed area. Much of The Big Dune is now developed so no appreciable aeolian sand is expected to reach the remaining undeveloped portions of The Big Dune. Given this fragmentation and isolation, no part of the Big Dune was included in any CVMSHCP Conservation Area, although some habitat (including occupied habitat by fringe-toed lizards and milk-vetch) likely still exists there.

The action area contains existing artificial features, including paved and dirt roads, fencing, overhead power lines, CVWD percolation ponds, levees/berms, debris piles, railroad, tree windrows, and hundreds of wind turbine generators. Most of the action area is within the CVMSHCP Whitewater Floodplain Conservation Area. The Whitewater Floodplain Reserve is within the center of the action area. Also within the action area are a portion of the Whitewater River floodway/high-water channel and adjacent potential/suitable habitat for the fringe-toed lizard and milk-vetch occurring within Section 6 of the Agua Caliente Indian Reservation; Section 6 occurs at the downstream (southeastern) of the action area. Most of the land within the action area is controlled by CVWD or BLM. Most of the non-CVWD private lands in the action area occur in its eastern third, on both sides of North Gene Autry Trail.

The Whitewater Floodplain Reserve was thought by some researchers to have a sustainable aeolian sand sources (Meek and Wasklewicz 1993), while others (e.g., Griffiths *et al.* 2002b) questioned whether the Whitewater Floodplain Reserve will have a sufficient recurrent sand supply for survival of the fringe-toed lizard, because of the fluvial and aeolian disruptions associated with the percolation ponds upstream on the highly episodic sediment deposition from the Whitewater River. Some additional artificial adverse effects to fluvial and aeolian processes result from debris stockpiles and levees (on CVWD lands within the Whitewater Reserve) associated with Garnet Pit Mine.

4.1.2 Project Site

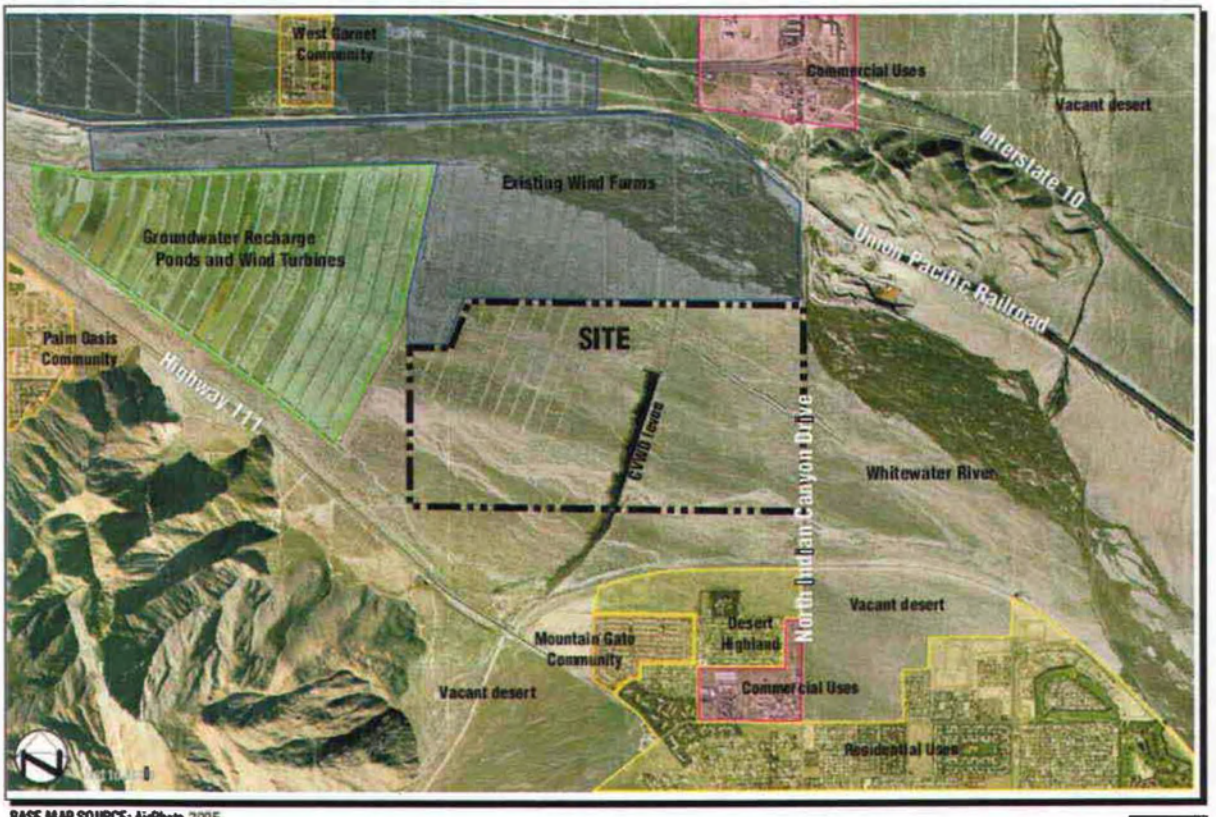
The Project site is located in close proximity to existing wind turbine arrays; it is located south and east of more than 600 existing wind turbines located within the Whitewater River floodplain area of the City of Palm Springs. Additional man-made features located in close proximity to the Project site include: North Indian Canyon Drive located directly east of the site (running north-south); the Southern Pacific/Union Pacific Railroad line and Interstate 10 freeway, both located north of the site; and State Highway 111 less than one mile southwest of the site. An existing residential community is located south of the Project site on the opposite side of flood damage reduction levee. An existing 1.2 mile-long levee extends north-south across and off a portion the Project site (within Section 27).

The Project site for the proposed action consists of Section 27, most of section 28 (predominately proposed wind energy turbines and transformers) and portions of section 22 (predominately proposed electrical substation, overhead lines, and tap line). The Project site as defined herein includes all areas that would be directly affected by the proposed Project, and the adjacent areas within the vicinity. This differs from the Project site defined in the draft EIS/EIR for the Project, in that it includes the powerline transmission features. See Figure 2.6-5.

The Section 27 and 28 portions of the Project site currently consist primarily of undeveloped desert land with 11.1 miles of existing gravel roads, buildings, meteorological towers, overhead pole lines, and fences originally installed for a previous wind energy Project on Section 28. Section 22 contains five operating wind energy Projects, access roads, overhead pole lines, wind turbines, meteorological towers, pad-mounted transformers, outdoor storage yard, electrical substation, and a railroad. Section 27 also includes a 0.7 mile-long portion of an existing CVWD levee that extends offsite, a gravel road, and two 199 foot tall meteorological towers for collecting wind and climate data. Section 28 currently contains four 199 foot tall meteorological towers, remnants of a previous wind turbine operation including seven concrete block and wood buildings, some abandoned electrical transformers, 15 gravel roads, approximately 2.3 miles of overhead electrical lines, and an existing operating wind energy Project on the western end, operated by others than the applicant. The remainder of the Project site is primarily covered by desert scrub vegetation, and a series of drainage swales, along with areas of cobbles and boulders. Scattered debris occur throughout the Project site that apparently have been illegally dumped, blown onto the site, or left by periodic flooding of the Project area.

The proposed development is located on property that is currently zoned Watercourse on the Palm Springs Zoning Map. The zoning classification permits the types of land uses that are proposed, subject to a Conditional Use Permit and the requirements of Section 94.02.00(H)(8) of the Palm Springs Municipal Code regulating Commercial Wind Energy Conversion Systems (WECS). The applicant has entered into an agreement with the CVWD to lease its land on Section 27.

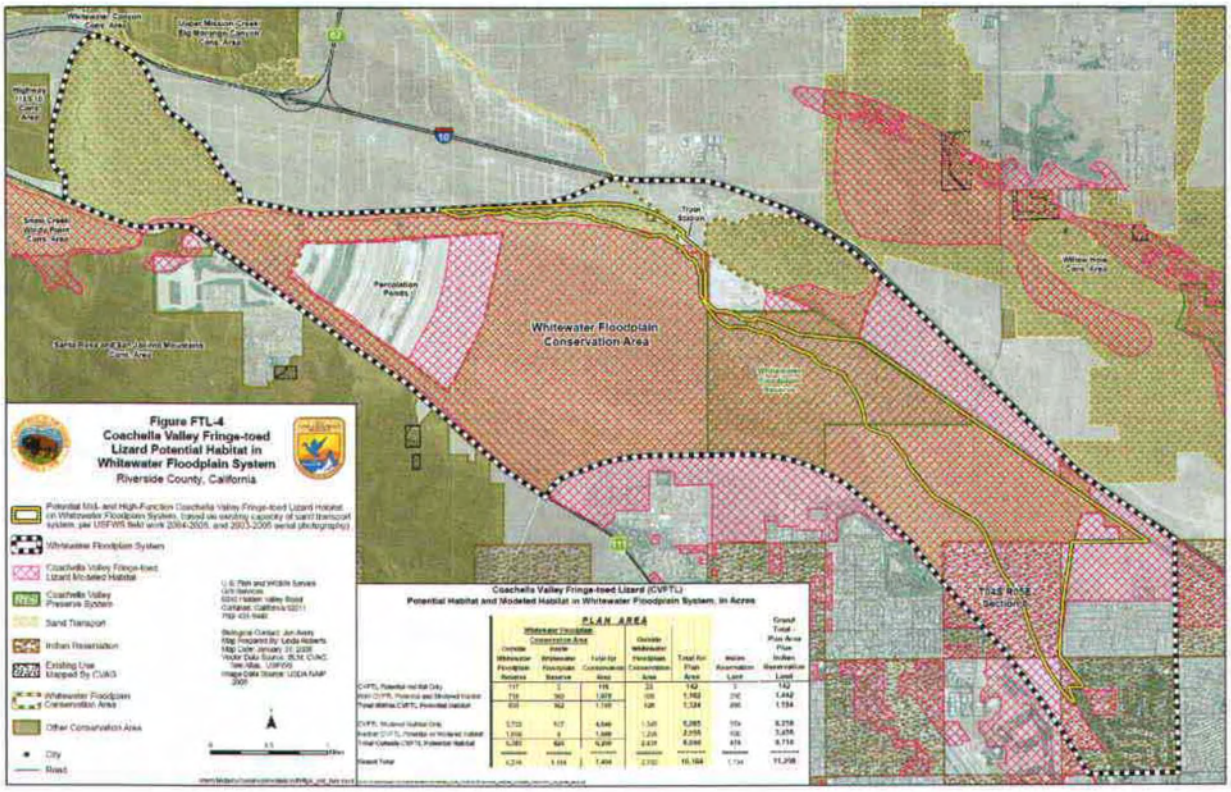
Aside from the north-south running "CVWD levee" (see figure 3.1-1), the Project site does not have any steep slopes but has gentle sloping topography to the southeast with total relief of approximately 160 feet, ranging from about 804 feet above sea level at the northwest corner to 644 feet at the southeast corner. According to Dale Anderson at Riverside County Flood Control and Water Conservation District, this levee is defunct and no longer in use. Per conversations with Federal Emergency Management Agency and Riverside County Flood Control and Water Conservation District (see Consultation History above) regarding potential issues surrounding redirecting flood flows towards three existing levees in the southern portion of the Whitewater River floodplain, both agencies indicated they would probably not object to the removal of the north/south running levee (partially occurring on site) in the southern portion of the Whitewater River floodplain.



BASE MAP SOURCE: AirPhoto 2005

Mountain View IV Wind Energy Project EIS/EIR
Existing Land Uses

FIGURE 3.1-1


Whitewater Floodplain Conservation Area
Percolation Ponses
Figure FTL-4
Coachella Valley Fringe-toed Lizard Potential Habitat in Whitewater Floodplain System
Riverside County, California
Whitewater Floodplain System
Coachella Valley Fringe-toed Lizard Modeled Habitat
Coachella Valley Preserve System
Sand Transport
Indian Reservation
Existing Use Mapped By CVMSHCP
Whitewater Floodplain Conservation Area
Other Conservation Area
City
Road
Coachella Valley Fringe-toed Lizard (CVFTL)
Potential Habitat and Modeled Habitat in Whitewater Floodplain System, in Acres
PLAN AREA

4.2 Status of the Species and Critical Habitat within the Action Area

4.2.1 Coachella Valley Fringe-toed Lizard

Critical habitat for the fringe-toed lizard does not occur in the action area for the proposed Project.

The Coachella Valley fringe-toed lizard is endemic Coachella Valley and occurs in the action area and Project site. Range-wide and within the action area, drought conditions and associated natural sand depletion cycles have caused (and are expected to cause) temporary lizard population declines. Although these conditions are periodic and natural (and are those under which the species evolved), they are problematic when combined with the synergistic effects of the current artificial conditions of small population and patch sizes, fragmentation, species invasions, modified fluvial/aeolian regimes, and loss of core areas and connectivity. Thus, natural drought conditions substantially threaten all remaining fringe-toed lizard populations, including the population in the action area.

Service staff estimates that about 1,500 acres of mid- or high-function potential habitat occurs in the action area (see Figure FTL-4). An undetermined acreage of additional areas of low-function habitat for the species occurs in the action area, including within the Project site. Much of the action area (along the center of the Whitewater River) is typically not habitat for the species because these areas are part of an active high-water channel/floodway. Other areas within the historic floodplain and terraces of the Whitewater River are not habitat or are low-function habitat for the species, indirectly due to artificial constrictions of the floodplain in the action area upstream/upwind, with associated losses in fluvial and aeolian processes (Griffiths *et al.* 2002b). Substantial portions of the action area have potential to become mid- or high-function habitat for the species (with restoration/enhancement), but these areas area generally depleted of blowsand because of these modified fluvial and aeolian processes (Griffiths *et al.* 2002b).

Drought conditions in the region over last couple centuries have resulted in several extended periods (10 years or more) with relatively minor or nonexistent stormflows through the main drainages of the Valley, including the Whitewater River in the action area; during these drought periods relatively minor levels of fluvial sedimentation occurs within the various floodplains that are key to the blowsand ecosystem. With the almost constant winds in the Valley, during extended drought conditions less sand was delivered to almost all blowsand habitat in the action area than is eroded away, resulting in a net depletion (or elimination) of the blowsand deposits necessary to sustain lizard habitat across large areas (CVAG 2007). This is especially evident in the action area (including the Whitewater Floodplain Reserve and CVMSHCP Whitewater Floodplain Conservation Area), where no substantial dunes (extensive blowsand deposits) exist, and unconsolidated sand deposits are shallow and generally transitory.

Most of the Project site is not habitat or is low function habitat for the fringe-toed lizard. The channel for the Whitewater River crosses the Project site; areas that are part of the current high-water channel for River do not have substantial deposits of blowsands sufficient to support

lizards in most years. Areas of the Project site to the north of the railroad tracks also typically lack sufficient blowsands, as this area is mostly out of the sand transport/deposition zone considering prevailing winds and fluvial deposition areas upwind; as such, these areas are expected to not be occupied by lizards in most years.

The portion of the Project site north of the main River channel and south of the railroad tracks includes what is likely a relatively thin strip of high function habitat for the fringe-toed lizard. This area gets very substantial periodic inputs of blowsand, has a relatively high cover of vegetation, and is not consistently disturbed by small and medium-sized flood events.

Portions of the Project site that are south of the current channel of the Whitewater River are now largely shielded from influx of blowsands due to the percolation pond levees that are upwind (as noted above, features such as levees are very effective at blocking aeolian transport of blowsands). Additionally, the area occupied by the percolation ponds (and the southern portion of the Project site itself) used to be (until the ponds were constructed) part of the larger main fluvial deposition area for the Whitewater River (Griffiths *et al.* 2002b). Degraded habitats for both fringe toed lizards and milk vetch (stabilized shielded desert sand fields) within the Whitewater Floodplain Conservation Area occur downwind of the percolation ponds; the ponds are in the path of the fluvial flows of the Whitewater River and their presence has restricted flows to a narrower deposition area, which has affected the extent of suitable habitat for both species (CVAG 2007). The long-term persistence of stabilized shielded desert sand fields is compromised by the interruption of the sand source and sand transport system (CVAG 2007). Without periodic deposition of fluvial sediments from mid-sized flood events in the area now occupied by the percolation ponds, the portion of the Project site that is downwind of the percolation ponds has lost most of it blowsand supply (Griffiths *et al.* 2002b). As such, sand supply and transport have been substantially degraded to the southern half of the Project site, and this area now mostly consists of relatively small areas of blowsand deposits surrounded by stabilized shielded desert sand fields that are "armored." Because this portion of the Project site is in a very high wind zone and has sparse vegetation, aeolian sand transport through the Project site historically was likely (periodically) very substantial, and blowsand deposits were likely historically more extensive, quite dynamic, and closely tied to periodic influx of fluvial deposits upwind in the historic main depositional area of the Whitewater River floodplain.

The fringe-toed lizard population in the Whitewater Floodplain Reserve and surrounding Whitewater River floodplain recently dropped to what is to be likely dangerously low population census levels during a severe drought that ended in 2005. Mark-recapture monitoring methodology was used to intensively sample the Whitewater Floodplain Reserve since 1985 (Barrows *et al.* 1995; Muth and Fisher pers. comm., 1986-2005). From 1985 to 2005, the population was sampled annually within the plot, and the results progressively dropped from documenting a high density to a very low density of fringe-toed lizards. When monitoring began on the plot in 1985, over 200 adult fringe-toed lizards were detected in the 5.6-acre plot. During a drought from 1985 to 1990, the number detected dropped to 11 adults. The number detected rebounded to 143 fringe-toed lizards on the plot in 1996. Extended drought conditions from 1993 to 2005 resulted in a decrease in the number of lizards again. By 2005, only one adult fringe-toed lizard was detected on the plot (Mark Fisher, pers. comm., 2006).

Based on aerial photography, ground-truthing, and expert opinion, CFWO staff calculated that in 2005 less than 500 acres (200 hectares) of suitable habitat existed on the Whitewater Floodplain Reserve, and that roughly 1,000 acres (400 hectares) of suitable habitat existed in the Whitewater Floodplain area (including habitat areas inside and outside of the Reserve). At a density of one fringe-toed lizard per 5.6 acres (the density in 2005 in the test plot), CFWO staff estimated that approximately 90 fringe-toed lizards inhabited the Reserve and that approximately 180 fringe-toed lizards inhabited the entire Whitewater Floodplain in 2005. However, a few small patches of habitat likely supported higher densities of fringe-toed lizards than the monitored plot. Consequently, CFWO staff estimated that the entire population on the Whitewater River floodplain probably dropped below 300 fringe-toed lizards in 2005. In 2005 and 2006, habitat conditions in portions of the Whitewater River floodplain improved due to an influx of aeolian blowsand deposits (following the winter 2004-2005 flood-borne sediment deposits upwind), but the population numbers on the 5.6-acre plot increased to only six adult fringe-toed lizards in 2006.

Service staff estimate (using mark-recapture methodologies) that the entire census population on the entire Whitewater River floodplain dropped below 300 fringe-toed lizards in 2005. This low census population number translates into extremely low effective population size in the long-term (Frankham *et al.* 2005), as it is typically very close to the size of the smallest single generation effective population size, which is a fraction (often about 10 percent) of the census population size (Frankham *et al.* 2005). Thus, the long-term effective population size for the entire Whitewater River floodplain population is likely close to 30 fringe-toed lizards, and very likely less than 100 (e.g., Vecutich *et al.* 1997); this number is quite small when genetic, demographic, and environmental threats are considered (e.g., Lynch and Lande 1998). The genetic bottleneck of a single-generation effective population of only 30 fringe-toed lizards (and a census population of 300 or less individuals) in the entire Whitewater River floodplain in 2005 will likely have long-term conservation consequences.

The census population in the Whitewater River floodplain is expected to substantially increase over the next few years of because of increased blowsand inputs/improved habitat conditions following recent flood flow sediment deposition. Nevertheless, the next extended (12 years or longer) drought likely will again depopulate the Whitewater River floodplain to the brink of extirpation or cause extirpation, regardless of any genetic factors at work due to the extremely low census populations numbers that would result from loss of habitat associated with drought. The steep population increases following severe crashes seen in this species result in surprisingly minor increases in long-term effective populations size (e.g., Vucetich *et al.* 1997), and at least this and likely all of remaining fringe-toed lizard populations have effective populations substantially smaller that the minimum recommended numbers.

4.2.2 Coachella Valley Milk-vetch

No critical habitat has been designated for this species, thus none occurs within the action area.

The Coachella Valley milk-vetch is largely restricted to the Coachella Valley. Population estimates throughout the action area are not currently available because insufficient monitoring data are available. Similar to the fringe-toed lizard, Service staff estimates that about 1,500 acres of mid- or high-function potential habitat occurs in the action area (see Figure FTL-4). An undetermined acreage of low-function habitat for the species occurs in the action area, including within the Project site.

Populations of Coachella Valley milk-vetch have been altered by development of wind energy parks and degraded by OHV use (K. Barrows, pers. comm. 1996). Development has also caused direct and indirect losses of plants and habitat for the species. The downwind end of the action area is defined by a swath of dense development that has eliminated what was historically contiguous available habitat through to, and across, The Big Dune. The action area is a fragment of what was historically a much larger system of available habitat (that included The Big Dune); nevertheless, much of the action area remains relatively open from an aeolian processes perspective. Within the action area, percolation ponds, flood damage reduction structures, spoil piles, roads, wind energy structures, railroad, utilities, and tree windrows have been constructed/planted within much of the historic sand source/transport corridor. These features and their associated infrastructure modify fluvial and aeolian processes, stabilizing, confining, and/or blocking a substantial portion of the historically free moving sand downstream or downwind in the action area. This ultimately prevents or greatly reduces the continued sand replenishment to most of the historic blowsand habitat in the action area, and has likely reduced available habitat in the action area to fraction of what occurred historically.

Habitat areas and level of function throughout the Project site is likely quite similar for the milk-vetch as that noted above for the fringe-toed lizard. Because milk-vetch can occupy some areas on floodplain terraces that have minimal blowsands (where fringe-toed lizards are not expected), the overlap of habitat function within the Project site for the two species is not precise and more of the Project site may provide more medium function habitat for the milk-vetch than for fringe-toed lizards.

4.3 CVMSHCP: Whitewater Floodplain Conservation Area

The CVMSHCP Whitewater Floodplain Conservation Area, established by the CVMSHCP in 2008, includes most of the fluvial deposition area and much of the aeolian transport zone of the Whitewater River floodway and floodplain system south of Interstate-10 (Griffiths *et al.* 2002b). This Conservation Area is a zone of restricted future development and conservation planning in which a substantial amount of currently unconserved land remains. The Conservation Area includes the existing Whitewater Floodplain Reserve, and additional lands east and southeast of the existing Reserve on the west and east sides of Gene Autry Trail, south and east of CVWD's groundwater percolation ponds, the Garnet Hill area north of the Whitewater Floodplain Reserve, and CVMSHCP proposed Biological Corridor and sand transport areas south of I-10 along Mission Creek, and Willow washes, which provide connectivity for some species (though not likely fringe-toed lizards, but possibly for milk-vetch) to or from the Willow Hole Conservation Area north of I-10. To the northwest of this Conservation Area is the Whitewater Canyon

Conservation Area. To the west is the Highway 111/I-10 Conservation Area. The Whitewater Floodplain Conservation Area connects to the Snow Creek/Windy Point Conservation Area near Windy Point, where the San Gorgonio River joins the Whitewater River. The Whitewater Floodplain Conservation Area contains a total of approximately 7,370 acres.

The Conservation Area contains most of the main fluvial deposition area for Whitewater River floodplain (downstream of Windy Point), and much of the aeolian transport zone of the historic blowsand ecosystem based on the Whitewater River (CVAG 2007, Griffiths *et al.* 2002b). This Conservation Area does not (nor do any of the CVMSHCP Conservation Areas) contain any portion of the historic main aeolian deposition area for the Whitewater River, The Big Dune.

The Whitewater Floodplain Conservation Area consists of 5,586 acres of CVAG modeled habitat for the fringe-toed lizard. Of this total, about 2,500 acres (approximately 45 percent) of fringe-toed lizard modeled habitat are considered Existing Conservation Lands controlled by BLM or CVWD. Our estimates, based on field reviews and aerial photos, indicated that about 1,000 acres of habitat suitable for fringe-toed lizards in the Whitewater Floodplain Conservation Area was extant in early 2005; large areas of modeled habitat (approximately 4,500 acres) were found to be devoid of substantial blowsand deposits and were thus unsuitable at that time. Some of these areas are expected to become periodically suitable with the input of new aeolian sand in the months/years following the stormflow-generated fluvial events that deposited sands upwind during the winter of 2004/2005. Other large areas of CVAG modeled habitat are not expected to become suitable habitat in the predicted future, even following larger fluvial deposition events, as these areas are not downwind of expected fluvial deposition areas under current floodplain conditions, based on mapping by Griffiths *et al.*(2002b). Pursuant to Service field and GIS analysis (including CVAG 2007 mapping, historic and recent aerial photos, and mapping from Griffiths *et al.* 2002b), we expect that about 1,195 acres of the Whitewater Floodplain Conservation Area is potential mid- or high-function habitat for the fringe-toed lizard.

The Whitewater Floodplain Reserve contains approximately 1,230 acres of CVMSHCP-modeled habitat for the milk-vetch. An additional approximately 4,374 acres CVMSHCP-modeled habitat for the milk-vetch occurs east of the Whitewater River between Highway 10 and Highway 111 in the area north of the CVWD percolation ponds and adjacent to the southeastern corner of the Reserve, to comprise a total of approximately 5,635 acres of modeled habitat in the Whitewater Floodplain Conservation Area. The CVMSHCP will conserve approximately 5,325 acres of milk-vetch modeled habitat in the Conservation Area.

In addition to the issues noted previously, past and present OHV activity within the boundaries of the proposed Whitewater River Conservation Area likely degrades suitable habitat for the fringe-toed lizard. Within and adjacent to Section 19 and 24, T3S R4E, of the Whitewater Floodplain Conservation Area, evidence of OHV use has been observed on CVWD and BLM controlled lands (Tyler Grant, Pete Sorensen, and Jon Avery, pers. observ. 2004, 2005, 2006, 2007). OHVs have and currently gain access to proposed Conservation Area lands (including the adjacent Snow Creek Conservation Area) important to the ecosystem upon which the fringe-toed lizard and milk-vetch depend.

Of the existing conservation lands within the Conservation Area, the CVMSHCP is expected to protect these lands in perpetuity. Pursuant to the CDCA Plan Amendment and the CVMSHCP (as noted above), on BLM lands within the Conservation Area, BLM is expected to conserve approximately 99 percent of each vegetation community that supports fringe-toed lizard or milk-vetch habitats. Of the private unprotected lands in the Conservation Area, the CVMSHCP is expected to protect approximately 90 percent of the acreage of modeled habitats for fringe-toed lizard and milk-vetch.

Table W-1. CVMSHCP Whitewater Floodplain Conservation Area: Plan Specified Losses and Conservation of CVMSHCP Modeled Habitats

Species	*Total Acres of Modeled Habitat in Conservation Area*	*Acres of Disturbance of Mod. Hab. Authorized in Conservation Area*	*Acres of Mod. Hab. in Existing Conservation Lands*	*Remaining Acres of Mod. Hab. to be Conserved*	*Total Acres of Mod. Hab. to be Conserved in Whitewater Floodplain Conservation Area*
Coachella Valley Milk-vetch	5,635	318	2,535	2,859	5,325
Coachella Valley Fringe-toed Lizard	5,617	309	2,532	2,777	5,309

As noted in Table W-1 above, the CVMSHCP and our expected Section 10 permit would provide coverage to permittees for development losses of approximately 10 percent of the fringe-toed lizard and milk-vetch habitats on unconserved private lands within the Conservation Area (note: the areas of modeled habitats for fringe-toed lizard and milk-vetch largely overlap). Outside of the CVMSHCP Conservation Areas on non-federal/non-Reservation lands (in the CVMSHCP plan area), the CVMSHCP and permit provide coverage for development actions performed or approved by permitees.

The Plan provides for unspecified management measures, including potential utilization of $5 million Management Contingency Fund identified in the Plan. The Plan commits CVWD to "deposit sand removed from the groundwater recharge basins [percolation ponds] during maintenance operations in the fluvial and aeolian sand transport area on available Reserve lands in a manner that downwind habitat would receive appreciable inputs of aeolian sand from deposits..." Much of this material removed from the percolation ponds may contain sediments

other than sand. Additionally, the overall amount of sediment material is expected to be relatively small compared to the aeolian processes involved in maintaining habitats for fringe-toed lizard and milk-vetch. While this action is expected to have some minor net benefits to the fringe-toed lizard and milk-vetch, the extent of the benefit to be derived from this action has not been determined in terms of enhancements of the function or the areal extent of habitat available in this Conservation Area.

The existing protected lands and current regulatory mechanisms in the action area do not sufficiently protect the ecosystem process areas essential to maintaining (rejuvenating) the necessary potential/suitable habitat within the action area for the milk-vetch and fringe-toed lizard. Although some management and enforcement in the CVMSHCP Whitewater Floodplain Conservation Area occurs, inadequate management resources are currently available to effectively provide for necessary habitat enhancement (e.g., restore degraded fluvial deposition to portions of the Whitewater River floodplain). Some enhancement of existing habitats has occurred in the Whitewater Floodplain, including sand fencing to artificially retain additional blowsands.

4.4 Consultations in the Action Area

Several section 7 consultations with the BLM and Army Corps of Engineers that are important to fringe-toed lizards or milk-vetch were concluded over the last few decades. In 1982, BLM consulted with us on 12 wind energy development projects on public lands in the San Gorgonio Pass/Coachella Valley Wind Energy Resource Study Area (1-1-82-F-114). Per BLM's approvals under this action, thousands of wind turbines were approved for construction on leased BLM parcels. The term of these leases is 30 years; these leases run until the year 2013 (The Nature Conservancy 1985). Many of these wind turbines (and associated buildings, access roads, transmission lines) were built within sand source and/or sand transport zones important to the lizard and the ecosystem it depends upon, particularly within Whitewater River floodplain. Minimization and mitigation measures implemented by the applicants and/or BLM were limited. Notably, many of the wind turbines developed per this action on BLM lands in sections 20, 22, and 28 (in T3S, R4E) in the Whitewater River floodplain are placed on levees associated with CVWD's percolation ponds and the remaining adjacent channel of the Whitewater River. Associated additional turbines have been placed on adjacent CVWD parcels in locations having important ecosystem processes supporting fringe-toed lizard and milk-vetch habitat, particularly fluvial sediment transport and deposition and aeolian sand erosion and transport.

In 1984 BLM consulted with us on right-of-way grant request from CVWD for development of percolation ponds within the Whitewater River floodplain, between Highway 111, the Southern Pacific Railroad line, and Indian Avenue (USFWS 1984: Biological Opinion 1-1-84-F-17). The purpose of this project is to gather and spread Whitewater River stormwater flows and imported Colorado River water for groundwater recharge. The stated term of the project is 30 years (1984-2014). The project directly covered about 800-900 acres. Approximately 20 north-south dikes were ultimately constructed), each approximately 87 feet wide and 450 feet apart. A dike was also constructed along the northerly edge and east of the spreading facilities/percolations ponds

to redirect the Whitewater River into a narrow channel for flood damage reduction purposes, substantially reducing the available floodplain of the River and concentrating and increasing the velocities of flood flows thus moving sediment deposition farther downstream than occurred naturally (Griffiths *et al.* 2000b). The project utilized on-site material to construct the dikes/levees.

The Biological Opinion for the percolation ponds acknowledged that indirect effects of the down-valley transport and deposition of sand by wind and water were not fully understood: the supposition in the Biological Opinion was that the project would not affect wind transport of sand east of Indian Avenue (Service files, USFWS 1984). The Biological Opinion also acknowledged that if all floodwaters are trapped by the percolation ponds there would be an effect on water transport of sand, and that the potential indirect effects of the project "are of significance to the fringe-toed lizard because the lands lying to the east of Indian Avenue are good habitat." Our Biological Opinion did not anticipate most of the substantial fluvial changes caused by the percolation ponds (as later illustrated, for example, by Griffiths *et al.* 2002b). Nevertheless, the Biological Opinion found that the project as proposed would jeopardize the continued existence of the fringe-toed lizard, and provided a reasonable and prudent alternative that stipulated that 1,218 acres of CVWD lands immediately east of Indian Avenue to be conserved and managed for the CVFTL for the life of the project (30 years), "then reassessed" by BLM and the Service at the end of the lease in year 2014. This Biological Opinion also stipulated that illegal use of the area by off-road vehicles should not be allowed and should be controlled by the best possible means. Our Biological Opinion provided an incidental take statement that only exempted take of lizards on 236 acres of habitat to be disturbed by construction; it did not anticipate any take from harm resulting from any indirect effects, such as loss or degradation of blowsand habitat downstream/downwind of areas of reduced fluvial sediment deposition caused by the percolation pond project. Approximately 1,170-acres of CVWD lands and 24 acres of BLM lands (1,194 acres total) of the Whitewater Reserve were protected as a result of this consultation (these same lands were later incorporated into the conservation strategy under the CVFTL HCP and CVMSHCP).

In 1999 the Service provided a Biological Opinion to BLM on a proposed action "Leasing of Federal Land for the Purpose of Wind Energy Development in Coachella Valley, Riverside County" (BO ref. no. 1-6-99-F-49, September 3, 1999). This project action was never implemented; it included proposed construction of wind energy turbines on BLM lands. The proposed Project analyzed herein is a re-initiation of consultation on this former proposed action.

In 2004 the Service provided a Programmatic Biological Opinion (1-6-04-F-3282.4) to the Federal Highway Administration for specific road projects in the Coachella Valley, including the Indian Canyon Drive Widening Project (Indian Canyon Drive Project). The Indian Canyon Drive Project is located in the action area and downstream/downwind of the herein proposed Project site. The Indian Canyon Drive Project has not yet been constructed as of the date of this Biological Opinion. Indian Canyon Drive, a north-south roadway, currently exists as a two-lane roadway extending through the action area. The Indian Canyon Drive Project would widen Indian Canyon Drive to a 4-lane divided roadway segment, to provide two traffic lanes in each

direction with a 4-foot wide painted median and 8-foot wide shoulders. The project will require additional right-of-way and two culvert replacements or extensions. No curbs or berms are proposed for the roadway segment within the Whitewater River floodplain; the roadway segment would be constructed as an at-grade crossing so that flood waters can cross anywhere along the segment in the floodplain. A 1,000-foot length of concrete structural section is proposed for the roadway segment in the northern portion of the Whitewater River crossing to facilitate maintenance during periods of flooding. The remainder of the project will be constructed with an asphalt concrete pavement overlay, or new pavement section. The widening would occur entirely on BLM managed lands, to the west of the current road alignment. A tiered Biological Opinion off of the mentioned Programmatic Biological Opinion is in-process for the project.

4.5 Mining

Along the northern edge of the action area and surrounded by the CVMSHCP Whitewater River Floodplain Conservation Area, the existing Garnet Pit (Garnet Rock Pit: RCL00129; 91-33-0031) is largely within the former floodplain of the Whitewater River and is within the City of Palm Springs (sections 26 and 29, T3S R4E). This active pit is controlled/operated by Granite Construction (Riverside County 2006). The pit is directly downwind of more than a linear mile of the current channel of the Whitewater River adjacent to CVWD's percolation ponds. Because it is downwind of this channel, much of the sand that is flood-deposited in this channel stretch and is later eroded by high winds, blows into the mine site. Most of this sand likely remains onsite or is commercially transferred offsite. No appreciable amount blowsand entering the mine site is expected to reach blowsand habitat for the lizard. Thus, this mine site is a sink for an undetermined amount of blowsands of the Whitewater River.

Substantial excavation within the Garnet Pit has occurred off Granite's parcel and into the existing Whitewater Floodplain Reserve (and proposed Whitewater Floodplain Conservation Area) on lands owned by CVWD (section 26). Additional to the excavations, substantial debris/rubble piles have been created, and a levee has been constructed, within the Whitewater Floodplain Reserve and floodway of the Whitewater River. According to the State Mining Geology Board (SMGB 2003b) "Granite... indicates that excavation activities have extended southward from the Granite parcel onto the CVWD parcel...According to the April 25, 2002, letter from Coachella Valley Water District, '...[G]ranite is not permitted to excavate on district-owned land...'" On December 21, 2001, the Garnet Pit was inspected by staff under contract to the SMGB (SMGB 2003b), and according to the SMGB: "As noted at that time, the mine had been operated outside the scope of its approved reclamation plan" (SMGB 2003b). On March 14, 2002, the SMGB issued the operator a Notice to Correct (SMGB 2003b). According to the SMGB, Granite proposed in 2003 to wait until 2038 to refill the excavated portions of CVWD/Reserve lands (SMGB 2003a). The combination of excavations, debris piles, and the constructed levee are currently having substantial direct and indirect adverse effects on the blowsand ecosystem and fringe-toed lizards in Whitewater River area. The constructed levee extends approximately a half mile into the Whitewater Floodplain Reserve. These effects are most pronounced in the footprint of these features on CVWD/Reserve lands, and indirectly in the areas downstream and in the wind-shadow of the debris piles and levee. Downwind from the

levee, a significant area of potential fringe-toed lizard habitat within the Whitewater Floodplain Reserve is currently starved of blowsand as a result of the levee and debris, and thus highly degrading or eliminating it as habitat. Removal of Granite's apparently unauthorized levee on CVWD/Reserve lands would allow passive restoration of much of this degraded habitat. Granite has recently committed to fill the excavation that occurred, as well remove most of the associated debris piles and levee, on CVWD/Whitewater Floodplain Reserve land; this work is expected to be completed within the next year, after remaining permitting issues for the fill and debris/levee removal work are resolved (Service files, Catherine Vos, Granite Construction representative, pers. comm. at the CVAG Interim Project Review for the "Granite Construction/CVWD Reclamation Project", August 21, 2007; letter from Gary Johnson, Granite Construction, to Steve Robbins, CVWD, September 25, 2007).

4.6 Factors Affecting the Species' Environment within the Action Area

As stated above, the primary factors affecting the fringe-toed lizard and milk-vetch in the action area are the loss of habitat due to alteration of fluvial and aeolian sand sources, obstructions within the sand movement corridors, conversion of habitat to incompatible uses, OHV activity, and armoring of soils. These combined factors have resulted and will likely continue to cause substantial direct and indirect losses, such that only a small fraction of historically available habitat in the action area remains, little of which is functional to the extent that it is capable of supporting viable populations of this species in the long-term without increases in management, notably restoration of ecological processes.

5.0 EFFECTS OF THE ACTION

The regulations implementing the Act (50 CFR §402.02) define effects of the action as the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.

5.1 Direct Effects

The proposed Project site is approximately 1,659 acres, of which approximately 23.9 total acres (temporary plus permanent disturbance) would be directly disturbed.

The proposed Project would utilize existing 16-foot wide gravel roads totaling 17,200 linear feet, and would create and utilize 16,065 linear feet of new 16-foot wide gravel roads to connect to existing adjacent roads. Each of the new constructed wind turbines would have a 63-foot by 47-foot gravel area surrounding it, with 4 inches to 6 inches of gravel over compacted native soil. No more than 2,000 total cubic yards of cut and 2,400 total cubic yards of fill, balanced on site, would be required. An existing off-site road in Section 21 crossing private land and an existing

road along the southern boundary of Section 22 would provide access to the site. Some existing roads in Section 28 (as noted above in the Description of the Action) would be closed by the proposed Project to any traffic and allowed to passively revegetate. Other roads in Section 28 (also noted above) would continue to be utilized. The existing roads in Section 27 would not be used by or closed by the proposed Project.

Proposed construction would take up to six months. Construction would begin with clean-up of numerous existing unauthorized trash piles on the Project site. Project construction and operations would result in an incremental increase in permanent human presence in the area. Overall human activity on the Project site would decrease after construction, and would be limited to regular maintenance visits (two to six visits per day, usually a light truck with a two person crew). On-site activity would be restricted to roads and graveled areas.

Direct permanent losses for the proposed Project are estimated at 10.6 acres. Direct temporary disturbance are estimated to be 13.3 acres. A proposed temporary 4.75-acre construction staging area would be utilized only for construction and would be allowed to passively revegetate following construction. The Applicant has indicated that permanent maintenance equipment and vehicles would not be needed or utilized onsite. No landscaping or restoration is proposed for the Project site.

5.1.1 Direct Injury, Mortality, or Loss

Proposed grading and development of new roads, preparation of existing roads, grading/excavation/construction of structures, and cross-country vehicle travel would likely disturb or crush/kill fringe-toed lizards in the footprint. Because current habitat function in almost all of the Project site is low (particularly where most grading would occur), the numbers of fringe-toed lizards disturbed, directly injured, or killed is undetermined, but expected to be low. The numbers of milk-vetch plants that would be crushed or eliminated by such construction activities is undetermined, but expected to be as many as several hundred plants in Section 28 based on provided survey data, and an undetermined number within Section 22 where no survey data exist.

Vehicle road use during construction and operation of the Project would likely directly result in the crushing and killing of some fringe-toed lizards. Because roads (typically a compacted surface) and graveled areas are expected to be poor or unsuitable habitat for fringe-toed lizards, the undetermined numbers of lizards killed during construction, annually during operations, and in total are expected to be small. Because road use during operations is expected to be daily, any milk-vetch seedlings germinating in the road surface would be crushed and no milk-vetch plants are expected to become fully developed within the travelled road footprints. Some milk-vetch standing plants and fringe-toed lizards may become established in the disturbed areas directly adjacent to the traveled road surface: these individuals would likely be crushed or disturbed whenever road maintenance occurs. Mechanical road maintenance is expected to be infrequent.

5.1.2 Direct Habitat Disturbance

Direct disturbance associated with construction of structures and roads would result in the loss of 23.9 total acres (13.3 acres temporary; 10.6 acres permanent disturbance) or less, of various natural biotic communities. Most of the Project site currently consists of stabilized shielded sand fields, due to the modification of floodplain and shielding effects of upstream/upwind levee structures (noted above); historically much of this same area would likely have varied between ephemeral sand fields and active channel/floodway. Much of the remainder of the site is ephemeral sand fields. Ephemeral sand fields typically have higher function for fringe-toed lizards and milk-vetch than stabilized shielded sand fields (CVAG 2007).

Approximately 8.0 acres of temporary and permanent disturbance would occur within Section 28. Other portions of the Project site were not noted to be occupied by either milk-vetch or fringe-toed lizards in the survey reports provided, although a proposed powerline in Section 22 (south of the railroad tracks, north of the main channel of the Whitewater River) was noted in survey reports as being within suitable habitats for both species (see below). An undetermined portion of the Project site within Section 28 is where suitable fringe-toed lizard habitat and several hundred individual milk-vetch plants were detected. Because the proposed Project in Section 28 would utilize existing roads and previously disturbed wind turbine sites, and because the overall habitat function within the Project site is typically low for both species, the direct loss of habitat function, both temporal and permanent, also is relatively low. Additionally, considering the acreage involved, much of the Project is relatively open with the footprint of hard structures taking up fraction of the overall direct loss. Nevertheless, because these losses would occur within a Conservation Area (compared to an area not expected to be conserved), these direct losses are important. Also, because the losses are spread out over a large area, the direct impact to the species (e.g., number of territories affected, etc.) is likely greater than if Project footprint was consolidated.

The impacts from proposed construction of a powerline across high function habitats for fringe-toed lizards and milk-vetch north of the Whitewater River in section 22 are undetermined, but are within the overall acreage disturbance limits for the Project. This is the area with likely the highest function habitats for both species on the Project site, based on depth and area of blowsand deposits, as well Service surveys in the area. No surveys for milk-vetch were performed for the Project along the proposed powerline alignment during a season when the plant would be detectable. No fringe-toed lizards were detected in this area during directed desert tortoise surveys performed for the Project. Both species were reported by the applicant to occur offsite to the southwest of the proposed powerline alignment, and the area was considered suitable for both species in the provided assessment reports. According to the Applicant, disturbance in this area would amount to placement of two power poles and the stringing of cables on the poles. This would involve the cross-country access by trucks with augers for pole placement and the unspooling of cables across the site. Permanent disturbance would occur from the placement of poles only. Temporary disturbance would occur from vehicle access, hole augering, pole setting, and cable hanging. No grading or fill would be associated with this portion of the Project, and access to the site would be provided by dirt roads that cross to and

through the site. Post-construction operations would not involve human activity in this specific high-function habitat area, and maintenance of the powerline would be infrequent.

5.2 Indirect Effects

5.2.1 Lighting

No nighttime lighting is proposed for this Project, except for the minimum lighting required for security reasons at the proposed electrical substation (apparently required by Homeland Security). The Federal Aviation Administration requires lighting of a portion of the wind turbines with flashing red strobe lights; these lights are not expected to directly or indirectly affect either species. The proposed electrical substation is in an immediate area that is not likely habitat for either milk-vetch or fringe-toed lizards, although high function habitat for both species occurs to the south of the railroad tracks. Artificial lighting may subject fringe-toed lizards, milk-vetch, or the other species of their ecosystem with increased predation or modified foraging behavior by crepuscular and/or night-active species. Because the habitats for milk-vetch or fringe-toed lizard do not likely occur in close proximity, combined with the minimization of lighting required at the substation, it is expected that any indirect ecological effects to fringe-toed lizard or milk-vetch from any light escaping the proposed substation would be small.

5.2.2 Fencing

The main (southern) portion of the Project site would be fenced using three-strand barbed wire and lockable gates. This would provide substantial protection to this portion of the Project site by securing the area from most illegal trespass, trash dumping, and off-road vehicle traffic. This would likely reduce degradation of the biotic communities and milk-vetch and fringe-toed lizard habitats typically associated with these activities. The type of fencing utilized would allow for passage through the site by wildlife species and would not restrict fluvial or aeolian sand movement.

5.2.3 Predator Perches

Fringe-toed lizards are susceptible to a variety of predators, many of which occur at elevated levels near areas of development or infrastructure. Above-ground structures often provide artificial perches for normal bird predators of fringe-toed lizards, such as loggerhead shrikes, common ravens, and American kestrels. These features substantially increase the number and height of available predator perches suitable for detecting prey near a particular site (Kay *et al.* 1994, Reinert 1984, Askham 1990); most of the effects of these artificial perches would likely be within 100 meters of each perch. Enhanced perches are expected to result in increased bird predation pressures on fringe-toed lizards directly and on the ecosystem that milk-vetch and fringe-toed lizards depend upon.

The proposed Project would include development of substantial above ground structures. The proposed wind turbine generators are not expect to provide predator perches that would be important to the ecosystem that fringe-toed lizards or milk-vetch depend upon, due to their

monotube design, height of any horizontal perching surfaces, moving blade surfaces, and the current low/future expected moderate function of the habitats adjacent. The proposed powerlines, transformers, and fences are expected to provide enhanced bird predator perches to the Project area. Existing powerlines, fences, and older lattice-type wind turbine structures in the general Project area have already provided substantially enhanced bird predator perches, reducing the net effect of these proposed structures. The proposed powerline across some high function habitats for both species in the northern portion of the Project site is of concern, although other existing powerlines in the area already reduce the net effect of this new powerline. The net impacts to milk-vetch are expected to be very small, and on fringe-toed lizards the net impacts are expected to be small.

5.2.4 Roads

Some roads in the Project site would be closed by the Applicant. Existing roads in Section 28 that would be closed by the proposed Project to all traffic and allowed to revegetate include, beginning from the western most road in Section 28, the third, fifth, sixth, seventh, eighth, tenth, eleventh, and fourteenth north-south roads. The existing fourth, ninth, twelfth and thirteenth north-south roads would continue to be utilized, and the existing east-west roads would be utilized by the Project as well. The existing roads in Section 27 would not be used by or closed by the proposed Project. Closed roads would likely not receive any future traffic during the Project term and would be expected to passively revegetate and periodically develop fluvial and/or blowsand deposits that would remain undisturbed. Some of these areas would likely become periodically occupied by fringe-toed lizards and/or milk-vetch.

Use of new and existing roads associated with Project construction and operations would likely fragment or continue to fragment an undetermined number of territories of occupied habitat for the fringe-toed lizard.

5.2.5 Aeolian Processes

Although the Project direct permanent disturbance acreage is somewhat moderate is size, the potential for blocking the movement of windblown sand through the site is minimal. This is because the frontal area (cross-section) of the above structures proposed to be placed in the floodplain portion of the action area is small (and much smaller than the overall Project footprint), such that the potential for aeolian shielding impacts from the action are not substantial.

5.2.6 Management

Future management activities for the benefit of blowsand species covered by the CVMSHCP, including the milk-vetch and fringe-toed lizard are expected in the Project site and larger action area. As noted above, the effective population size of the fringe-toed lizards in the Whitewater River Floodplain system is likely quite low. Enhancement of habitat in the action area is necessary in order to considerably increase the viability of this fringe-toed lizard population. In

order to achieve the minimum level of viability necessary, this enhancement will probably entail restoring and enhancing areas of fluvial deposition and enhancing aeolian deposition in the action area, particularly to provide for higher habitat function during extended drought periods. This restoration and enhancement of fluvial deposition is expected to include expansion of moderate-size flood events into a larger portion of the Project site than current conditions allow. The proposed Project would potentially cause additional constraints on this future management, but the Applicant has provided considerable measures to reduce these constraints, as noted below.

Most of the proposed Project would be constructed in the 100-year floodplain of the Whitewater River, south of the current low flow channel of the Whitewater River and just downstream of CVWD's percolation ponds. The Project design incorporates flood protection measures and design that would allow for surface flow of flood waters through the site without impedance or damage to the Project facilities. The Project includes underground cables and wind turbine and transformer foundations designed to withstand scour from flowing water, at-grade roads that would not cause alteration or concentration of flow, gravel roads that can be readily repaired in the event of floods, and placement of other facilities such as the electrical substation and storage areas outside the floodplain. The electrical control systems, power management systems, safety systems, and data monitoring systems of the wind turbines would be elevated above the flood water and located and designed to make them safe from damage from flood waters during 100-year flood flows.

Pursuant to the future management referred to above, the Project is designed to allow Whitewater River small/moderate flood low flows (e.g., 25 year storm events) to be redirected across the Project site; the proposed Project facilities are designed to handle the flow provided they do not exceed the 100-year flood elevation and velocity that is currently predicted to occur at this site. According to the drainage study prepared for the proposed Project, the 100-year flow depth is 0.82 feet, and the 100-year flood velocity is 4.64 cfs/ft unit flow, and the Project is designed to handle this flow. In the event that future modification of the percolation ponds and/or associated facilities is made that would redirect flood flows, the Applicant has stated that the Project design would be able to handle future potential habitat management actions (water diversions, berms, etc) provided these flows do not exceed the 100-year flood elevation and flood velocity flows at the wind turbines, transformers, and underground facilities.

The Project also includes construction of sand fencing on the Whitewater Preserve, east of North Indian Canyon Road in Section 26. The Applicant proposes to construct 24 segments of sand fences, each segment being 25 feet in length and 3 to 4 feet high, with each segment separated by a 50 feet gap to allow movement of wildlife across the site and sand movement within the site. Total length of sand fences would be 600 feet. Each row of fences would be spaced 300 feet apart in a staggered grid so that the area for sand fence treatment would be a rectangular area 600 feet north-south by 900 feet east-west, equaling approximately 12.4 acres. This measure would enhance the habitat present on the Reserve by increasing retention of blowsands within its boundaries.

In addition to the design measures noted above, pursuant to the Project description, the proposed Project would provide or allow joint access or use of the site to otherwise ecologically manage

the site for the purposes CVMSHCP and CDCA Plan Amendment. It is expected that future potentially essential management for fringe-toed lizards and milk-vetch, including redirecting flood flows through the Project site for restoration of fluvial processes, would not be precluded by the proposed Project.

6.0 CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions, unrelated to the proposed action and not involving Federal activities, that are reasonably certain to occur in the action area considered in this Biological Opinion. An undetermined level of OHV and trash dumping activities are expected to continue in the action area. The Service is unaware of any other future activities without Federal involvement in the action area that are likely to occur.

7.0 CONCLUSION

No critical habitat for either species occurs within the action area, thus none would be affected.

After reviewing the status of the Coachella Valley fringe-toed lizard and Coachella Valley milk-vetch, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, it is the Service's biological opinion that the Mountain View IV Energy Project, as proposed, is not likely to jeopardize the continued existence of the fringe-toed lizard or milk-vetch.

The Service reached this conclusion for the following reasons:

7.1 Coachella Valley Fringe-toed Lizard

Based on the status and distribution of the fringe-toed lizard, impacts to an undetermined number of fringe-toed lizards that would be affected by the proposed action is not likely to appreciably reduce the likelihood of survival and recovery of the fringe-toed lizard by reducing the reproduction, numbers, or distribution of the species, because:

1. The Project would not preclude potentially essential ecological management activities for the species in the Project site.
2. The direct impacts to the species, including disturbance, direct injury, or mortality to an undetermined number of lizards that would occupy the Project site during the permit term is likely to be small.
3. The direct impacts to habitat are limited in extent, amounting to less than 23.9 total acres, with 13.3 acres temporary and 10.6 acres permanent disturbance (not all of the Project footprint is, or would be in the future, habitat for the species). This amount is small considering the offsetting measures provided, the acreage remaining range-wide, the type of impacts, and the low to moderate current and future function of most habitat that

would be affected. Impacts to high function habitat for the species are expected to be small and mostly temporary.

4. The indirect effects of the Project are generally small when considering the proposed design and offsetting measures of the Project.

5. The Project proposes the payment of CVMSHCP/fringe toed lizard habitat fees in the total amount of $154,137.00, which would be used for acquisition of important habitat or essential ecosystem process lands for the fringe-toed lizard.

6. The CVMSHCP provides a substantial portion of the measures needed for the conservation of the fringe-toed lizard

7.2 Coachella Valley Milk-vetch

Based on the status and distribution of the milk-vetch, impacts to undetermined number of milk-vetch plants that may be affected by the proposed action is not likely to appreciably reduce the likelihood of survival and recovery of the milk-vetch reducing the reproduction, numbers, or distribution of the species, because:

1. The Project would not preclude potentially essential ecological management activities for the species in the Project site.
2. The direct impacts to the species, including disturbance and the elimination of an undetermined number of plants that would occupy the Project site during the permit term is likely to be small.
3. The direct impacts to habitat, amounting to less than 23.9 total acres (13.3 acres temporary; 10.6 acres permanent disturbance), is small considering the offsetting measures provided, the acreage remaining for the species range-wide, that only a portion of the Project footprint is current or future habitat for the species, and the low to moderate current and future function of most habitat that would be affected. Impacts to high function habitat for the species are expected to be small and mostly temporary.
4. The indirect effects of the Project are generally small when considering the proposed design and offsetting measures of the Project.
5. The Project proposes the payment of CVMSHCP/fringe toed lizard habitat fees in the total amount of $154,137.00, to be used for acquisition of habitat or essential ecosystem process lands for the fringe-toed lizard, which would very likely protect habitat or ecosystem processes lands for the milk-vetch.
6. The CVMSHCP provides substantial portion of the measures needed for the conservation of the milk-vetch.

8.0 INCIDENTAL TAKE STATEMENT

Section 9 of the Act, and Federal regulation pursuant to section 4(d) of the Act, prohibits the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as an action that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2) of the Act, such incidental take is not considered a prohibited taking under the Act, provided that such taking is in compliance with this incidental take statement.

The measures described below are nondiscretionary and must be undertaken by the BLM and the Applicant in order for the exemption in section 7(o)(2) to apply. The BLM has a continuing duty, subject to their jurisdictional authority, to regulate the activity situated within the action area and covered by this incidental take statement. Within the action area, if the BLM (1) fails to assume and implement the terms and conditions; or, (2) fails to require the contractor to adhere to the terms and conditions through enforceable terms that are added to any lease or contract, the protective coverage of section 7(o)(2) may lapse. If the Applicant fails to assume and implement the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. To monitor the impacts of incidental take, the BLM must report the progress of the action and its impact on the species to our agency as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

8.1 Amount or Extent of Take

This Biological Opinion provides analysis pursuant to the section 7(a)(2) of the Act for the entire proposed action. This incidental take statement provides take exemption for proposed activities on BLM lands only. Pursuant to agreements regarding the CVMSHCP, the portion of the Project occurring outside of BLM lands must receive its incidental take coverage through the Section 10(a)(1)(B) permit we are issuing on the CVMSHCP from the CVMSHCP Permittee, the City of Palm Springs. The City of Palm Springs has land use jurisdiction over the Project.

The Service anticipates that an undetermined number of fringe-toed lizards would be harmed by impacts on 9.8 acres of BLM lands, limited to 2.0 acres of permanent disturbance and 7.8 acres of temporary disturbance. We anticipate that it will be difficult to quantify the exact number of fringe-toed lizards that are likely be affected by the proposed action over the Project term for the following reason:

The population size on the Project site at any time is difficult to estimate due to the dynamic conditions associated with their habitat. The reproductive success and survival of individual fringe-toed lizards is dependent on seasonal and climatic fluctuations in their habitat, such as inputs and erosion of blowsand during and between years, amount of rainfall, etc. Therefore, the population of fringe-toed lizards at a site varies dramatically between years.

Nevertheless, we anticipate that most of the fringe-toed lizards located within the Project footprint on BLM lands (9.8 acres of fringe-toed lizard habitat) will be taken in the form of direct mortality or injury, disturbance, or harm, by the Applicant's activities of grading, excavating, vehicles travel, and performing construction or operations (as noted in the Project description above) on the habitat they occupy. No coverage is provided herein for the use of any chemicals on the lands in the Project site. Should Project construction or operations impact more than 9.8 acres of fringe-toed lizard habitat on BLM lands, the BLM should cease the activity resulting in the take and reinitiate consultation with the Service.

8.2 Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the fringe-toed lizard.

9.0 REASONABLE AND PRUDENT MEASURE

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize the effect of the take of fringe-toed lizard:

9.1 The BLM and Applicant will report to the Service the footprint and acreage of areas directly affected by the Project, the number and location of any fringe-toed lizards detected on the Project site, and the lizards likely to be taken by the Project.

10.0 TERM AND CONDITION

In order to be exempt from the prohibitions of section 9 of the Act, the BLM and Applicant must comply with the following term and condition, which implements the reasonable and prudent measure described above. This term and condition is non-discretionary.

10.1 The following term and condition implements reasonable and prudent measure 9.1:

> The BLM and Applicant shall report to the Service, within one year of Project construction initiation, the actual footprint and acreage including a map of areas directly (temporarily and permanently) affected by the Project, by USGS section, and the number and location of any fringe-toed lizards detected on the Project site, including those likely to be taken by the Project.

The Service retains the right to access and inspect the Project site for compliance with the proposed Description of the Action and with the terms and conditions of this Biological Opinion. Any habitat willfully destroyed that is not in the identified Project footprint should be disclosed immediately to the Service for possible reinitiation of consultation. Compensation for such habitat loss will be requested at a minimum ratio of 5:1.

11.0 MONITORING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)3, the BLM "...must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement." The reporting requirements are established in accordance with 50 CFR 13.45 and 18.27. To receive coverage under this Biological Opinion, the BLM or the applicant must provide a monitoring report as described above in Section 10.1.

12.0 REPORTING REQUIREMENTS

The Service's Carlsbad Office is to be notified within three working days should any endangered or threatened species be found dead or injured during this Project. Notification must include the date, time, and location of the carcass, and any other pertinent information. Dead animals may be marked in an appropriate manner, photographed, and left on-site. Injured animals should be transported to a qualified veterinarian. Should any treated animals survive, the Service should be contacted regarding the final disposition of the animals. The Service contact person is Jon Avery. Mr. Avery may be contacted at the letterhead address or at (760) 431-9440.

13.0 CONSERVATION RECOMMENDATIONS

1. BLM should work with permittess to restore sites that have abandoned wind energy projects to develop and implement a plan to remove unused for underutilized turbines and restore the sites. Funds to restore sites should be included in permits with assured funding (i.e. bonds, endowments) for future implementation of the restoration.

2. BLM should work with the Service, CVWD, the US Army Corps of Engineers and others to pre-design the future percolation ponds that will reorient the ponds and provide better fluvial sand transport to the Whitewater area.

3. The BLM should reinitiate the biological opinion for the exisiting percolation ponds based on new information provided in this biological opinion.

4. The BLM should take the necessary steps to eliminate OHV use in this area by controlling access, patrolling, and using other tools available.

14.0 REINITIATION NOTICE

This concludes formal consultation on the action outlined in the Description of the Proposed Action. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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Appendix D

Airport Land Use Commission Development Review Letter

AIRPORT LAND USE COMMISSION
RIVERSIDE COUNTY

County Administrative Center
4080 Lemon St., 9th Floor.
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

May 15, 2007

Mr. Craig Ewing, Director
City of Palm Springs
3200 E. Tahquitz Canyon Way
Palm Springs, CA 92262

RE: AIRPORT LAND USE COMMISSION (ALUC) DEVELOPMENT REVIEW
File No.: ZAP1002PS07
Related File No.: CUP (Conditional Use Permit) No. 5.1081
APN: 669-220-004, 669-240-003

Dear Mr. Ewing:

On May 10, 2007, the Riverside County Airport Land Use Commission (ALUC) found the above-referenced project consistent with the 2005 Palm Springs Airport Land Use Compatibility Plan and with the Countywide Policies of the 2004 Riverside County Airport Land Use Compatibility Plan, subject to the following conditions:

CONDITIONS:

1. All WECS shall be marked in accordance with FAA Advisory Circular 70/7460-1K, Change 2, Obstruction Marking and Lighting, white paint – Chapters 12 & 13, in accordance with the Federal Aviation Administration letters dated March 26, 2007. In addition, the eleven WECS referenced in Condition No. 6 below shall be lighted in accordance with FAA Advisory Circular 70/7460-1K, Change 2, Obstruction Marking and Lighting, synchronized red lights – Chapters 4, 12, & 13.

2. Within five (5) days after the construction reaches its greatest height, FAA Form 7460-2, Notice of Actual Construction or Alteration, shall be completed by the project proponent or his/her designee and submitted to the Federal Aviation Administration Air Traffic Airspace Branch, ASW-520, 2601 Meacham Blvd., Fort Worth TX 76137-0520.

3. The specific coordinates, heights, and power shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in height shall not require further review by the Airport Land Use Commission.

4. Due to the specification of turbines to be lighted using the Red Synchronized Lighting System, any change to the development in terms of turbine height, physical layout and design of the development, or turbine obstruction lighting designation, including, but not

limited to, the deletion of any turbines included in the Red Synchronized Lighting System as referenced in Condition No. 6 below, shall require the entire development to be resubmitted to the FAA for airspace evaluation.

5. Each wind turbine shall be painted in a bright white color for daytime conspicuity.

6. The eleven wind turbines identified in FAA Aeronautical Study Numbers 2006-AWP-6343-OE, 2006-AWP-6347-OE, 2006-AWP-6348-OE, 2006-AWP-6356-OE, 2006-AWP-6357-OE, 2006-AWP-6369-OE, 2006-AWP-6370-OE, 2006-AWP-6379-OE, 2006-AWP-6380-OE, 2006-AWP-6385-OE, and 2006-AWP-6391-OE shall be obstruction lighted for nighttime conspicuity using single-fixture L-864 Red Synchronized Lighting, as outlined in the report prepared by the FAA William J. Hughes Technical Center titled "Development of Obstruction Lighting Standards for Wind Turbine Farms", or such alternative lighting as may be approved by the Federal Aviation Administration. Minimum intensities of 2,000 candelas for nighttime red flashing are required. The lighting shall be continuously monitored.

7. Light outage notification by the project sponsor and/or operator to the FAA Automated Flight Service Station (AFSS) facility is required for either light outages on any of the individual turbines and/or the failure of the synchronization system.

8. Temporary construction equipment used during actual construction of the facilities shall not exceed the height of the proposed facilities, unless separate notice is provided to the Federal Aviation Administration through the Form 7460-1 process.

9. The proposed WECS shall not generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

10. Other than FAA-approved lighting and marking as specified above, no lighting shall be installed that would direct a steady light or flashing light of red, white, green, or amber colors associated with aircraft operations toward an aircraft engaged in an initial straight climb during takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport.

11. Rotor blades shall utilize a flat or matte (non-glossy) finish so as to minimize the reflection of sunlight towards an aircraft engaged in an initial straight climb during takeoff or towards an aircraft engaged in a straight final approach toward a landing at an airport.

12. The WECS and any accessory uses shall not generate smoke or water vapor and shall be designed so as not to attract large concentrations of birds.

13. The maximum height of any WECS and tower shall not exceed 299 feet to top of blade at 12 o'clock position.

Should you have any questions regarding this action, please contact John Guerin at (951) 955-0982.

Sincerely,

RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

Ed Cooper, Interim Executive Director

Cc: ALUC Staff
Michael Azeka, Mountain View Power Partners IV
AES Corporation (Arlington VA)
Coachella Valley Water District – Attn.: Mark Johnson
U.S. Bureau of Land Management – North Palm Springs – Attn.: Claude Kirby
Richard Walsh, Palm Springs International Airport

Enclosures: FAA Notices of Not a Hazard to Air Navigation

Y:\ALUC\Palm Springs\ZAP1002PS07.LTR

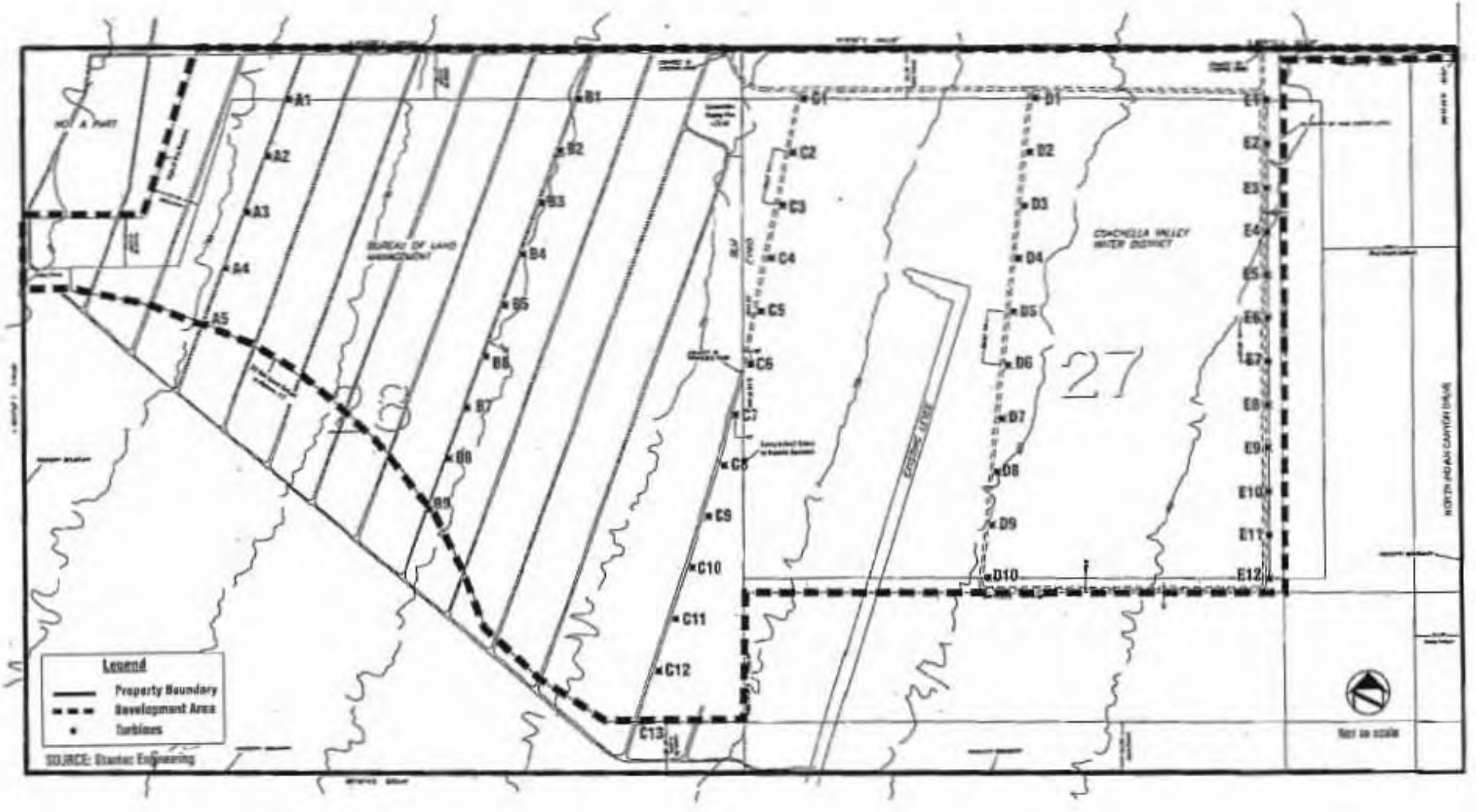
BASE MAP SOURCE AirPhoto2005

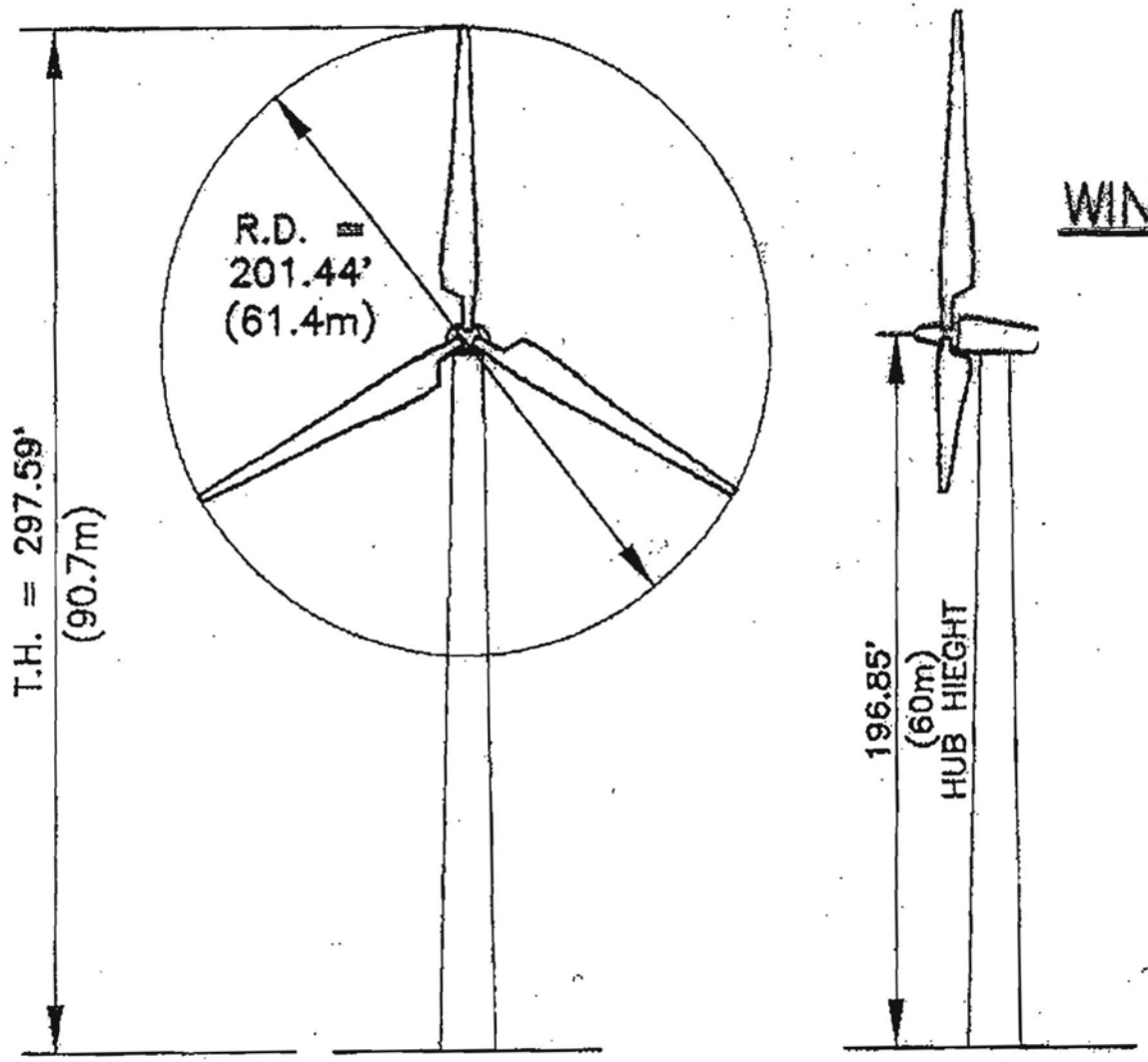
Mountain View IV Wind Energy Project EIS/EIR

FIGURE 1.2-2

Vicinity Map

SITE PLAN 49 ea – 1,000 kW Turbines





Alternative A

WIND TURBINE ELEVATION

MHI 1000A
1000kW WIND TURBINE
N.T.S.

Appendix E

Army Corps of Engineers Correspondence

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

August 5, 2008

REPLY TO
ATTENTION OF
Office of the Chief
Regulatory Division

Mike Azeka
1455 Frazee Road Fl 9
San Diego, California 92108-4301

Dear Mr. Azeka:

Reference is made to your request (File No. SPL-2008-00698-FBV) dated June 25, 2008, for a permit determination to install a wind energy generation facility in the upper Coachella Valley known as Mountain View IV Wind Energy Project near the City of Palm Springs, Riverside County, California. As part of the evaluation process, we have made the determination below.

Based on the information furnished in your original letter, revised letter dated July 21, 2008 by Natural Resources Assessment, Inc., and "Development Option A Site Plan" prepared by Stantec Engineering transmitted on July 30, 2008, we have determined that your proposed project would not discharge dredged or fill material into a water of the United States or an adjacent wetland, as long as work would be performed as indicated and cited (see attached figures). This determination is made with the understanding that no work would take place near or within Chino Creek (previously determined jurisdictional by SPL-2005-2136-DPS) or the White Water River, effectively placing the project on adjacent upland areas. It is also our understanding that the project would not drain directly to the creek or river or otherwise require any features necessitating other discharges of fill material in the water course or adjacent wetlands. Therefore, the project is not subject to our jurisdiction under Section 404 of the Clean Water Act and a Section 404 permit would not be required from our office.

Please be aware that our determination does not preclude the need to comply with Section 13260 of the California Water Code (Porter/Cologne) and we recommend that you contact the California Regional Water Quality Control Board to insure compliance with the above regulations. Furthermore, our determination does not obviate the need to obtain other Federal, state, or local authorizations required by law.

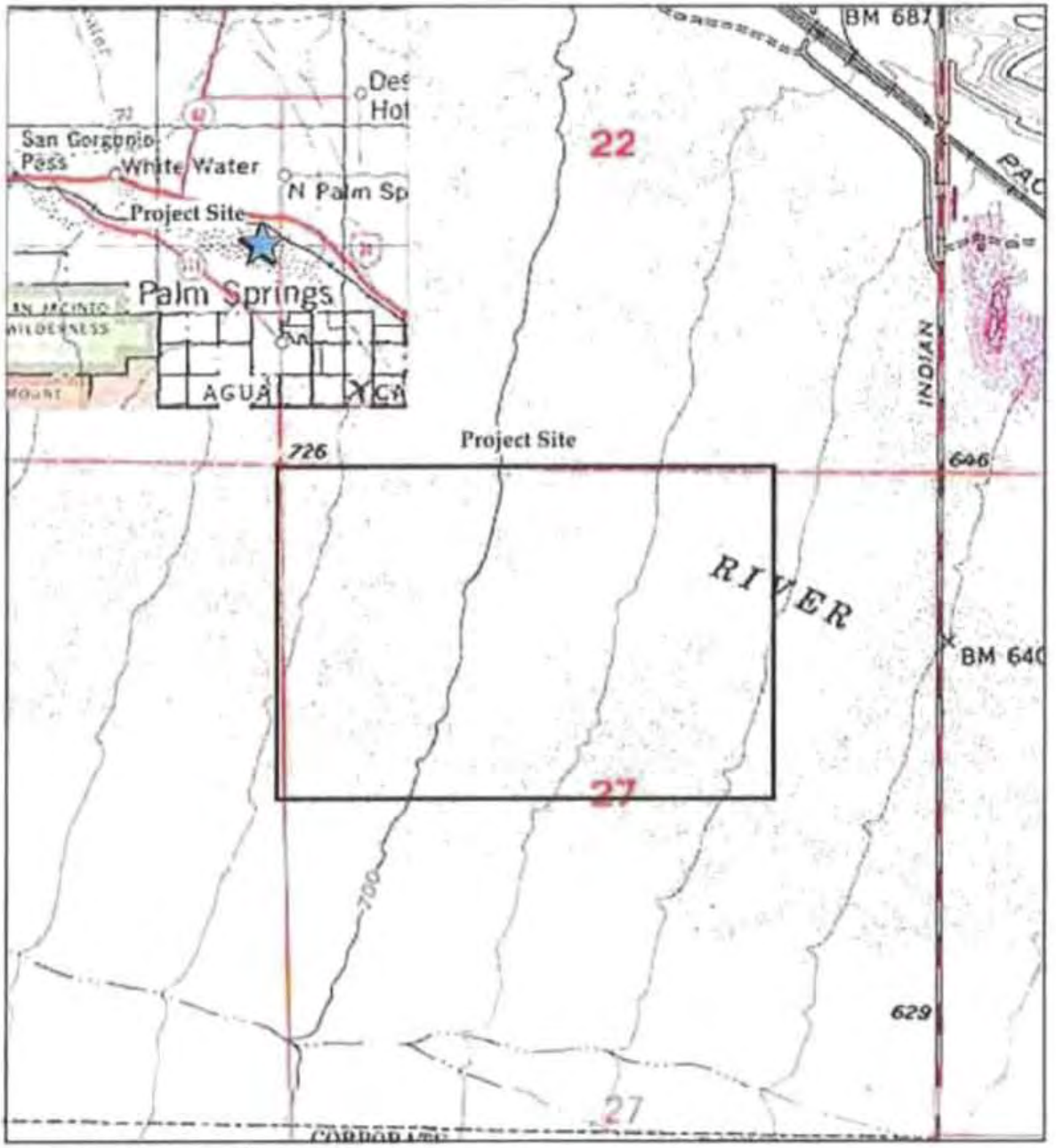
If you have any questions, please contact me at 213.452.3289 or via e-mail at Forrest.B.Vanderbilt@usace.army.mil.

Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at: http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Forrest B. Vanderbilt
Project Manager
South Coast Branch
Regulatory Division

Enclosures



Source: Desert Hot Springs (1978) 7.5 ' USGS topographic quadrangle

Figure 2. Regional Location and Project Vicinity

N

Feet
(Approximate)
0 639 1278

Wind Energy Facility
Mountain View IV
Palm Springs, California

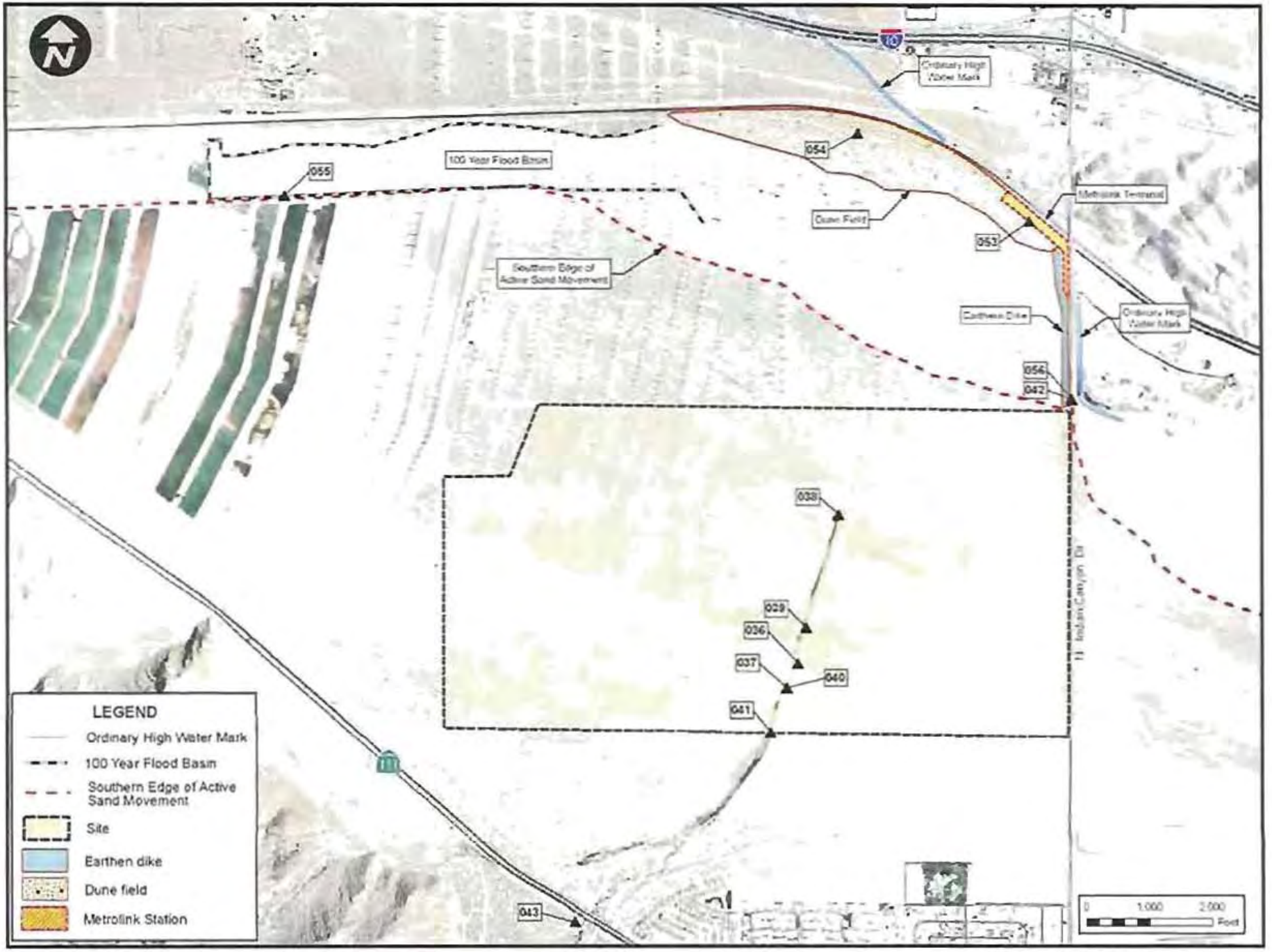
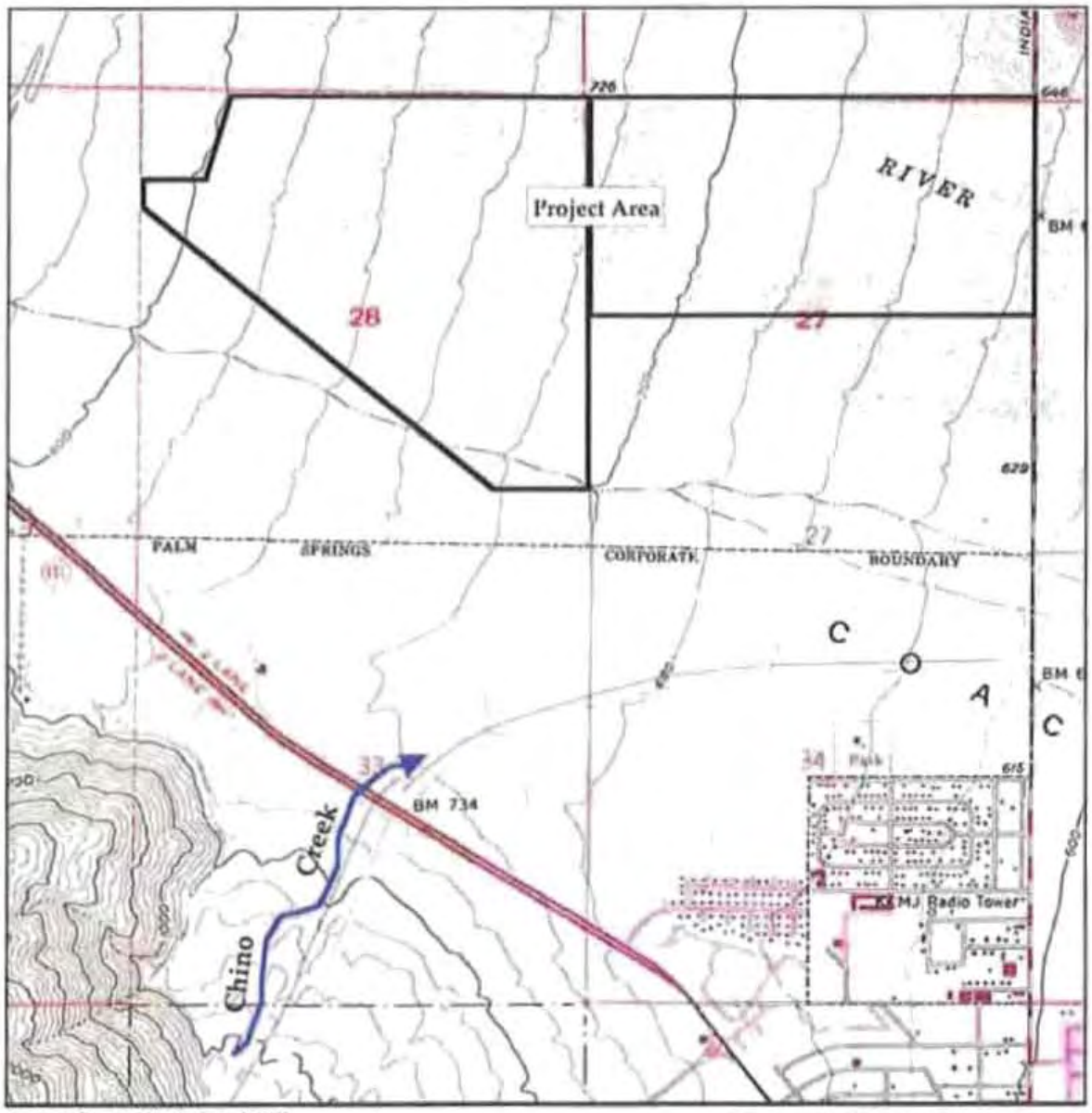


Figure 4. Ordinary High Water Mark

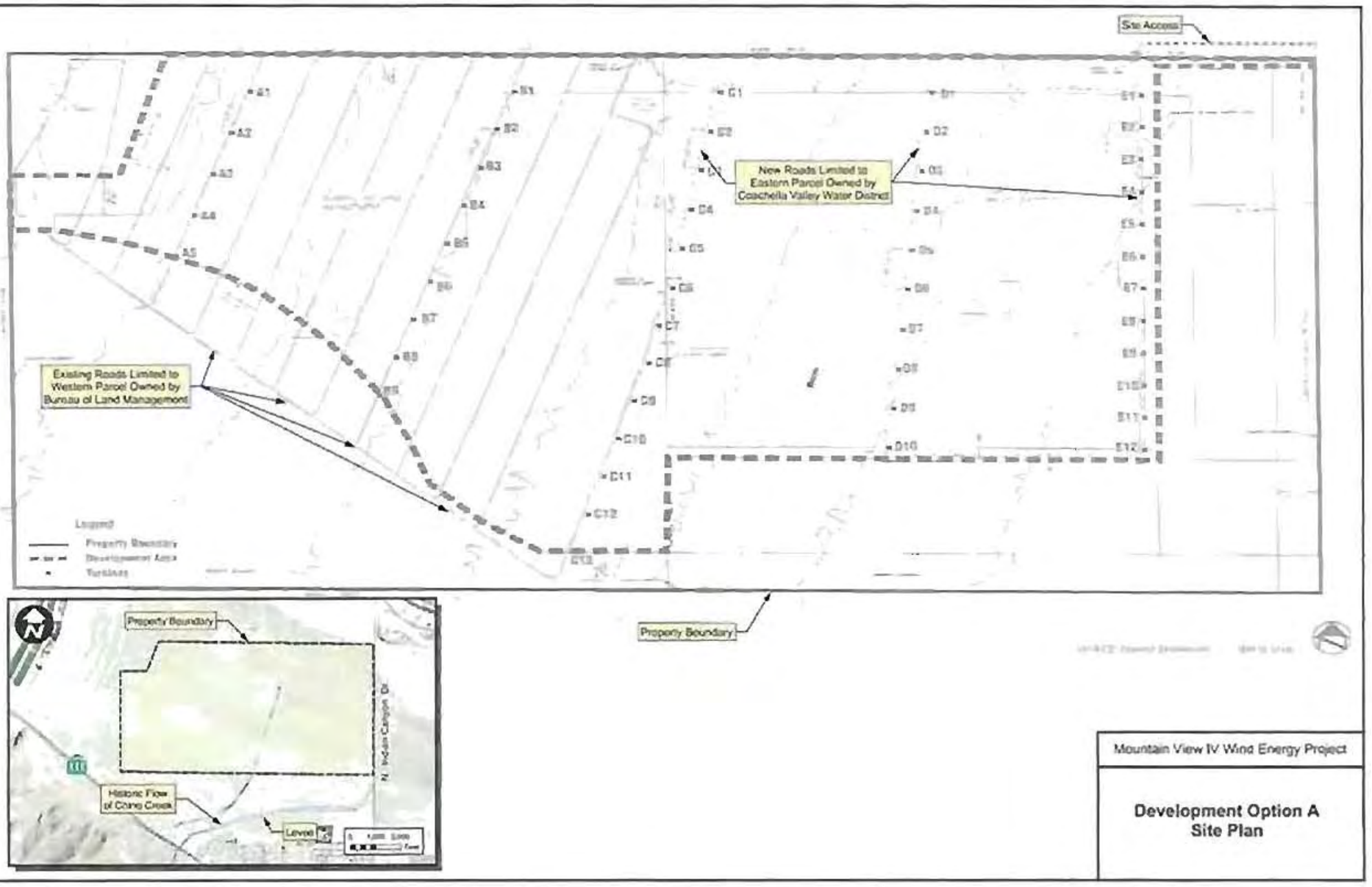


Source: Desert Hot Springs (1978)
7.5 ' USGS topographic quadrangle

Figure 5. Chino Creek Flow

Feet
(Approximate)
0 660 1320

Wind Energy Facility
Mountain View IV
Palm Springs, California



Mountain View IV Wind Energy Project

Development Option A
Site Plan

Natural Resources Assessment, Inc.

3415 Valencia Hill Drive, Riverside, California 92507
Telephone 951 686 1141 Fax 951 686 8418 E-mail nrainc@earthlink.net

July 21, 2008

Mr. Forrest B. Vanderbilt
U.S. Army Corps of Engineers
Regulatory Division
915 Wilshire Blvd.
P.O. Box 532711
Los Angeles, CA 90053-2325

Subject: Revised Jurisdictional Determination and Analysis of Impacts, Coachella Valley WECS

Dear Mr. Vanderbilt:

Natural Resources Assessment, Inc. was contracted by Mountain View Power Partners IV, LLC to conduct a general biological assessment of two adjacent sites for wind energy generation in the Coachella Valley. As part of the general biological assessment, we surveyed the two sites for jurisdictional waters of the U.S.

We previously submitted a jurisdictional analysis (dated June 22, 2008) requesting a jurisdictional determination for the two parcels. Subsequent to a review of the analysis, on July 17, you requested the following additional information:

- An aerial photograph with the project overlain on the image
- Identification and mapping of Chino Creek and its flow relative to the project boundary.
- Ground photos of the berm along the Whitewater River floodplain showing the relationship of the Ordinary High Water Mark (OWHM) to the property boundary.
- Ground photos of the berm that currently collects flow from Chino Creek.

We have attached the additional information to this letter, as well as attaching the previous letter, to provide a complete package for your review. Together, this letter serves as a notification of our findings. We request a written response in confirmation of our findings. Please call me at 951 686 1141 if you have any questions or would like additional information.

Sincerely,

Karen Kirtland
President

cc: Mr. Mike Azeka, AES Wind Generation, Inc., San Diego

Attachments: Letter dated June 25, 2008, project layout graphic, Figures 1 through 7, and project photos.

Natural Resources Assessment, Inc.

3415 Valencia Hill Drive, Riverside, California 92507
Telephone 951 686 1141 Fax 951 686 8418 E-mail nrainc@earthlink.net

June 25, 2008

Mr. Dan Swenson
U.S. Army Corps of Engineers
Regulatory Division
915 Wilshire Blvd.
P.O. Box 532711
Los Angeles, CA 90053-2325

Subject: Jurisdictional Determination and Analysis of Impacts, Coachella Valley WECS

Dear Mr. Swenson:

Natural Resources Assessment, Inc. was contracted by Mountain View Power Partners IV, LLC to conduct a general biological assessment of two adjacent sites for wind energy generation in the Coachella Valley. As part of the general biological assessment, we surveyed the two sites for jurisdictional waters of the U.S.

The two Wind Energy Conversion System (WECS) sites are located in the upper Coachella Valley, south of Interstate 10 (Figures 1 and 2). The first WECS site consists of 290± acres in Section 28, Township 3 south, Range 4 east, Desert Hot Springs 7.5' U.S. Geological Survey (USGS) topographic map (Figure 1).

The second WECS site consists of 361.5+ acres in Section 27, Township 3 south, Range 4 east, Desert Hot Springs 7.5' U.S. Geological Survey (USGS) topographic map (Figure 2).

The two WECS sites lie within the historic floodplain of the Whitewater River. The historic floodplain of the Whitewater River has been significantly altered over time, and waterflow has been virtually eliminated as a result of construction of large earthen berms by the Coachella Valley Water District that channelized the river. The WECS sites are located downstream of this levee and pond system (Figure 3).

Because the Whitewater River now flows along a defined channel, the existing OWHM lies north of the current projects (Figure 4, Photos 1 - 4). The two WECS site are outside the OHWM and therefore outside the jurisdictional waters limits.

The sites occupied by the two WECS do not have a substantial connection (significant nexus) to the current flow of the Whitewater River. Although the project lies within the Whitewater River floodplain, the actual trace of the river currently flows between 0.25 to 0.5 miles north of the two fields (Figure 4). Any water on site is mainly sheet flow from high storm events, such as the 2005 flood.

Sheet flow across Sections 28 and 27 is stopped at a long existing large earthen berm that runs roughly north northeast to south southwest on Section 27. This berm is between 10 and 14 feet in height and is approximately 1.3 miles in length. Based on our field evaluation, no water from farther northwest on the sites flows beyond this berm, and no localized flow along this drainage currently exists southeast of the berm.

The remaining issue is whether construction of the WECS will result in the deposition of dredged or fill material in jurisdictional waters. There is no doubt that past activities have resulted in deposition of material and significant changes to the Whitewater floodplain. These past activities include the construction of the levees, berms, and ponds. However, our work was focused on new construction on the WECS, rather than past activities in this area. Because it is our determination that no jurisdictional waters are present on the two WECS site, there will be no dredging or filling of jurisdictional drainages on site.

This letter serves as a notification of our findings. We request a written response in confirmation of our findings. Please call me at 951 686 1141 if you have any questions or would like additional information.

Sincerely,

Karen Kirtland
President

cc: Mr. Mike Azeka, AES Wind Generation, Inc., San Diego

Attachments: Figures 1, 2, 3 and 4. Photos 1 - 4

3995 S 700 E, Ste. 300
Salt Lake City, Utah
84107-2540
Tel. 801.261.0090
Fax. 801.266.1671
www.stantec.com

Legend

A Proposed Turbine Location

Project Boundary

100 ft Contour

10 ft Contour

Graphic Scale

0 500 1,000 Feet

1 inch equals 1,000 feet

Notes

Client/Project

AES Wind Generation, Inc.
Mountain View IV Project

City of Palm Springs
Riverton County, California

Title

SITE MAP

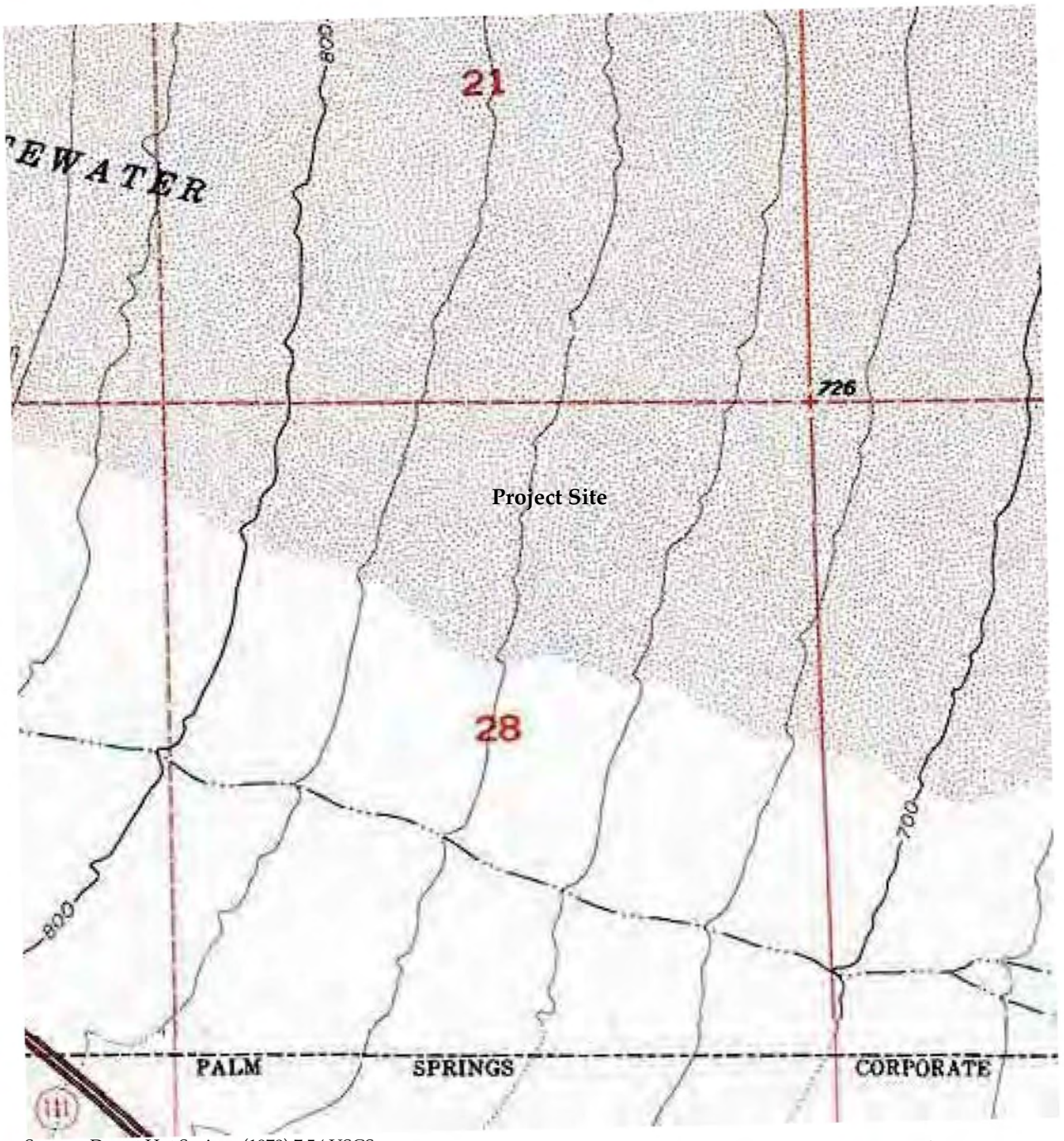
Project No. 2016096601

Scale 1 inch equals 1,000 feet

Figure. 1

Sheet

Revision 0



Source: Desert Hot Springs (1978) 7.5 ′ USGS topographic quadrangle

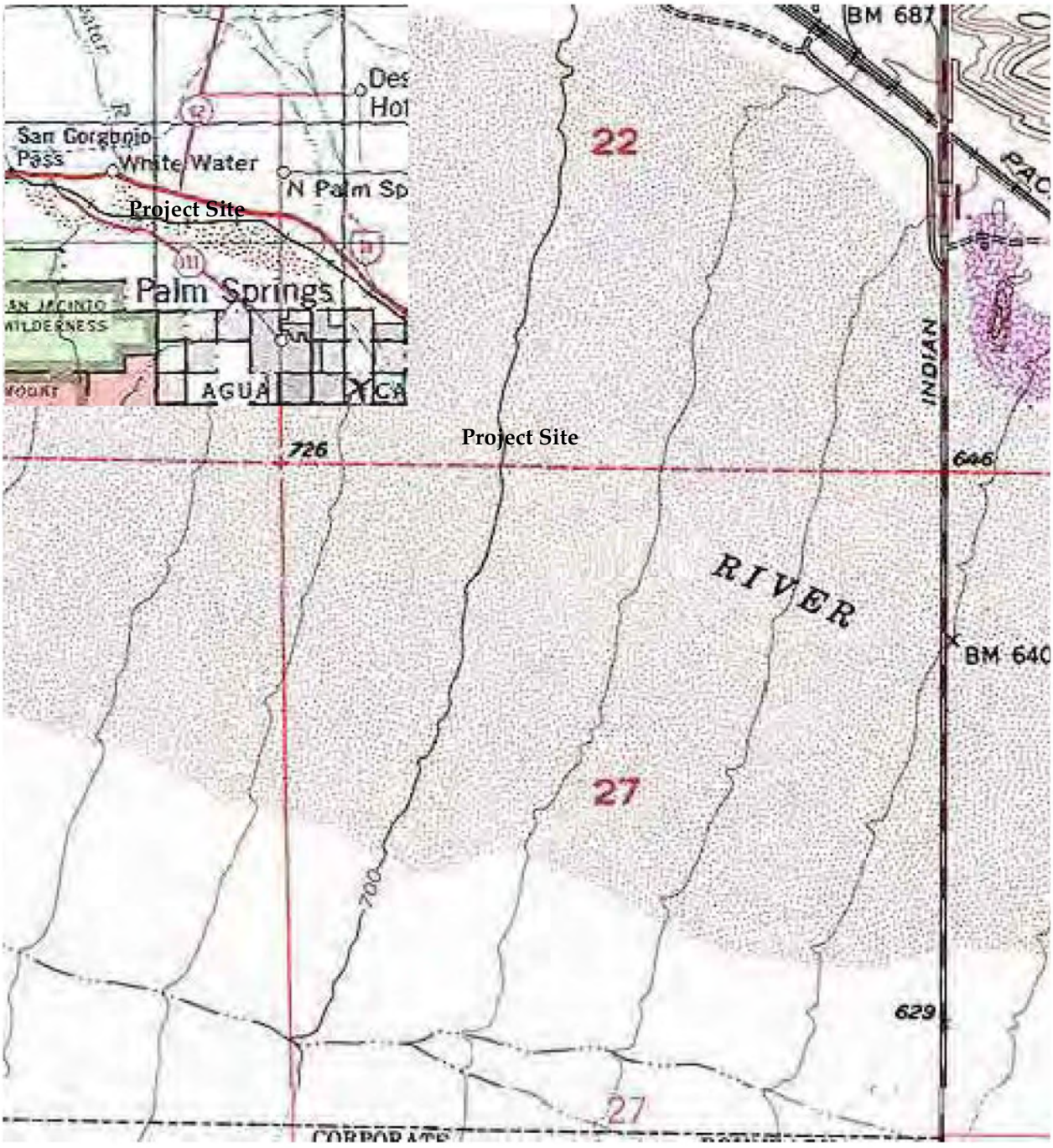
Figure 1 Regional Location and Project Vicinity

N

Feet
(Approximate)

0 639 1278

Wind Energy Facility
Mountain View IV
Palm Springs, California



Source: Desert Hot Springs (1978) 7.5 ′ USGS topographic quadrangle

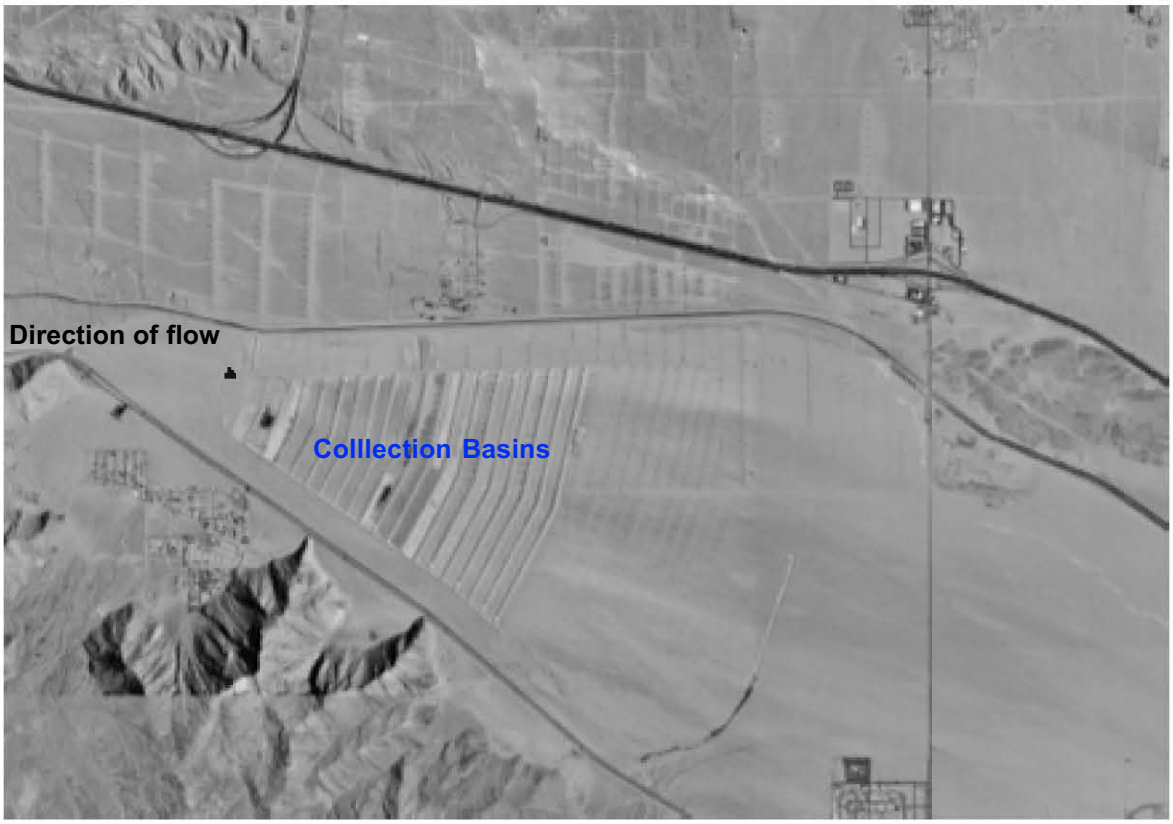
Figure 2. Regional Location and Project Vicinity

N

Feet (Approximate)

0 639 1278

Wind Energy Facility
Mountain View IV
Palm Springs, California



Source: Terra Server 2002

Figure 3. Collection Basins and Project Site

N

Feet
(Approximate)

0 2467.5 4935

Wind Energy Facility
Mountain View IV
Palm Springs, California

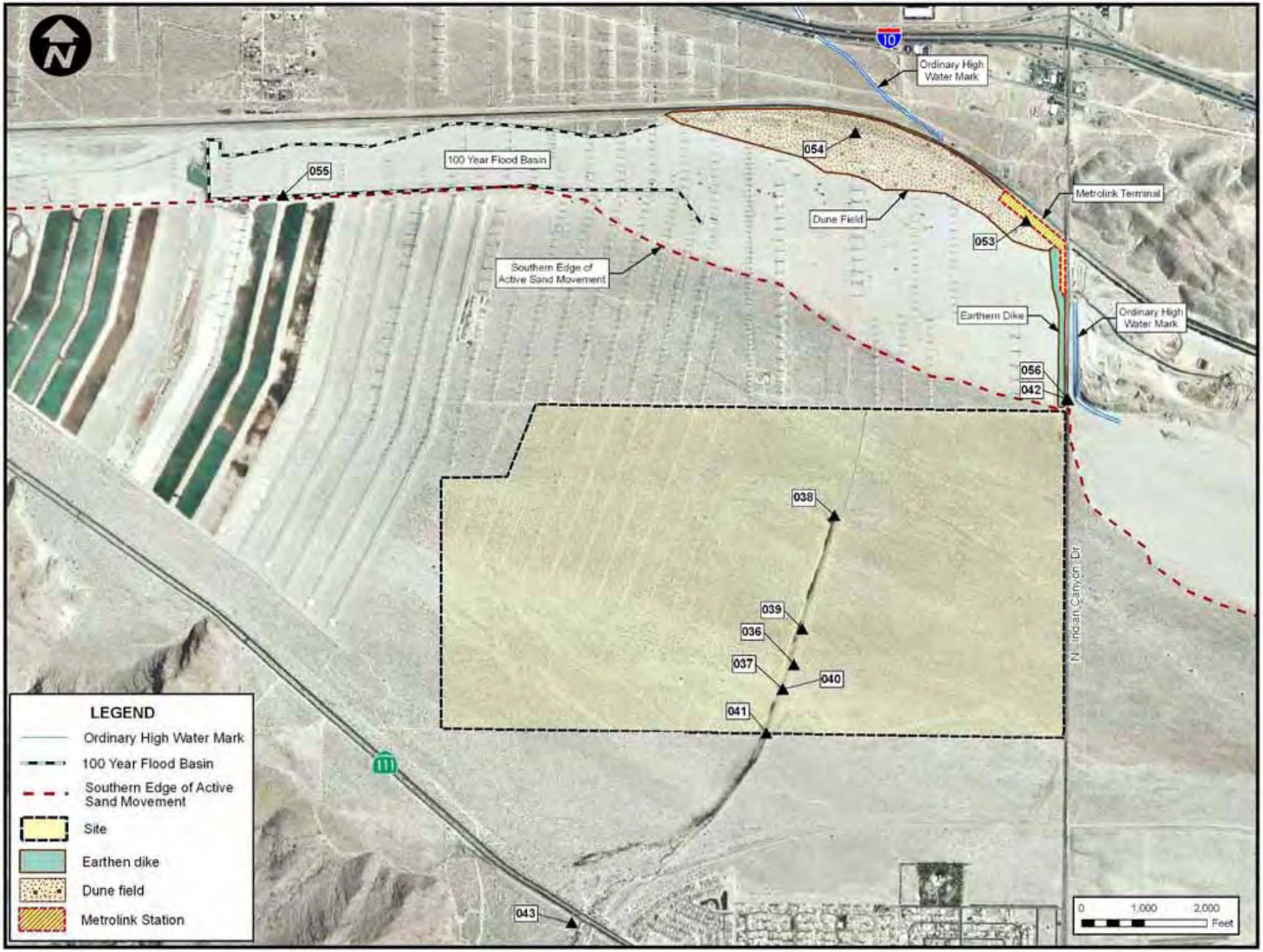
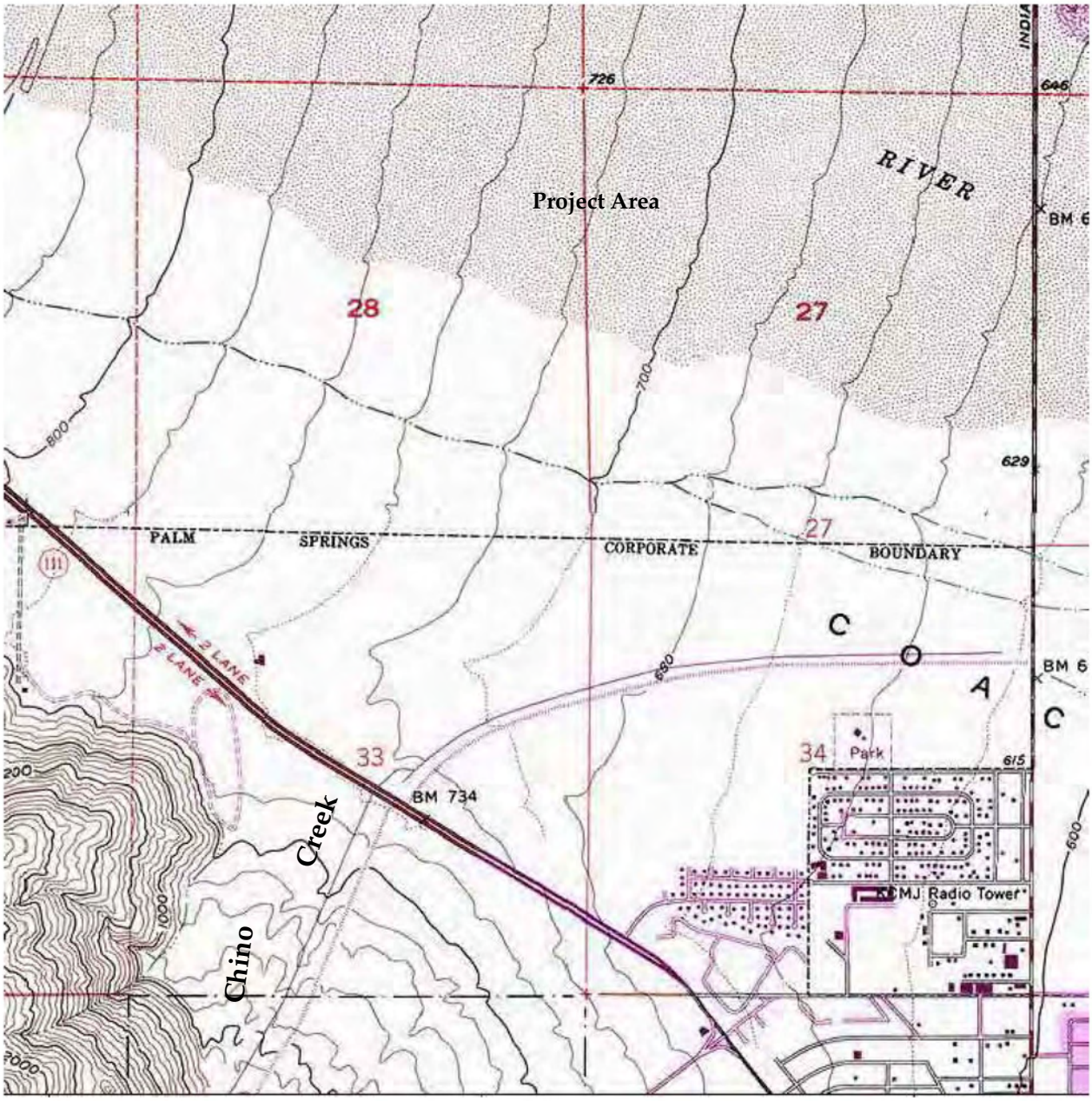


Figure 4. Ordinary High Water Mark



Source: Desert Hot Springs (1978)
7.5′ USGS topographic quadrangle

Figure 5. Chino Creek Flow

Feet
(Approximate)
0 660 1320

Wind Energy Facility
Mountain View IV
Palm Springs, California

Source: Google Earth 2008

Figure 6. View of Altered Flow

Scale Unknown

Source: Google Earth 2008

Figure 7. Close up View of Altered Flow

Scale Unknown

Wind Energy Facility
Mountain View IV
Palm Springs, California

Photo Point 043. Looking north along Chino Creek drainage and berm.

Photo Point 053. Dune fields. Looking south from the Metrolink Station.

Photo Point 054. Looking north toward the Santa Fe rail line.

Photo Point 055. 100 year Floodplain. Looking north from southern edge.

Photo Point 056. Looking southeast from North Indian Avenue down the trace of the Whitewater flow.

Photo Point 042 . Looking southeast from North Indian Avenue to southwest at the property boundary.

Current Ordinary High Water Mark along the Whitewater River floodplain

Property boundary

Photo Point 041. Looking south towards Chino Creek.

Appendix F

Addendum to Mountain View IV Drainage Study

Addendum to Drainage Study
Mountain View IV Project
Palm Springs, CA

Mountain View IV Project consists of 900+ acres utilized for a wind energy project located at the north end of Palm Springs, just west of North Indian Canyon Drive and approximately 1 mile south of I-10, Riverside County, CA.

Stantec Consulting
3995 South 700 East, Suite 300
Salt Lake City, Utah 84107

Submitted: July 8, 2008
Revised : August 27, 2008

Table of Contents

1.0 Introduction

The Mountain View IV project site is located at the north end of Palm Springs, just west of North Indian Canyon Drive, and approximately a mile south of I-10. The site lies within the flow path of the Whitewater River, see Figure 1. The purpose of this addendum is to estimate with detailed methods the 100-year water surface elevation across the project site and to estimate scour depths resulting from the 100-yr peak flow impacting the base foundations of the proposed wind turbines.

2.0 Hydrology

A literature review was conducted to determination the 1-percent annual chance flood (100-yr peak flow) for the White Water River adjacent to the Mountain View IV project site. The Flood Insurance Studies (FIS) for Riverside County and Palm Springs City Flood provided detailed hydrology information downstream of the project location.

The Mountain View IV project site is located on FEMA FIRM Panel 0602450900 D effective November 20, 1996 in an Approximate Zone A Special Flood Hazard Area (SFHA). A Zone A SFHA is an area of approximate 100-yr floodplain delineation with no base flood elevations (BFEs) determined. FIRM Panels 0602570004 D, effective July 7, 1999 and Panel 0602570003 B, effective March 2, 1983, cover the southern boundary of the project site. Both of these panels fall within the City of Palm Springs, California. FIRM Panel 0602570004 D has both A and AE (BFEs determined) zones, see Figure 2.

The FIS for the City of Palm Springs, CA, Riverside County, effective July 7, 1999 stated that the 100-year discharge for Whitewater River downstream of the Palm Canyon Wash confluence is 47,000 cfs, this flow was used in the detailed study of Whitewater River. The Palm Canyon Wash confluence is approximately 7.7 miles downstream from the project site which includes the drainage area of Chino Canyon Creek. This flow is a significantly conservative estimate of the 100-year discharge just upstream of the project site due to decreased drainage area contributing to the White Water River adjacent the Mountain View IV project area. The 100-year discharge for Whitewater River of 47,000 cfs was used within the detailed hydraulic model of the Whitewater River adjacent to the Mountain View IV project.

3.0 Hydraulics

Cross section data for the Whitewater River in the study area were obtained by field survey and from USGS 10-meter digital elevation models (DEMs). Cross sections were located at close intervals upstream and downstream of proposed wind turbine locations in order to compute scour effects at these structures. The Whitewater River near the project site is very flat, and there is no immediately influence from Chino Creek or physical constriction to cause a backwater effect at the project site location. The locations of selected cross sections used in the hydraulic analyses are shown on Figure 3.

Roughness coefficients (Manning's "n") for the computations were taken from the effective FIS for Whitewater River just downstream of the project location. Roughness coefficients of 0.030 were used for the main channel and 0.04 for the overbank areas.

Water-surface elevations for the 1% annual chance flood (100-yr flood) were developed using the US Army Corps of Engineers HEC-RAS step-backwater program. Starting elevations for the step-backwater analyses of the Whitewater River were determined by normal-depth calculations and the slope-area method.

A summary of the frequency-elevation relationships from the effective FIS for flooding source adjacent to the Mountain View IV project are presented in Table 1, "FIS Summary of Elevations".

TABLE 1 – FIS SUMMARY OF ELEVATIONS

FLOODING SOURCE AND LOCATION	100-YEAR	FLOOD DEPTH
WHITEWATER RIVER @ INDIAN AVE (FIS PROFILE 25P @ Profile Baseline)	637	~ 1'
*CHINO CREEK @ INDIAN AVE (FIS PROFILE 05P @ Profile Baseline)	621	~2.5' to 3'

* Located approximately 2,300-ft south of project improvements

A summary of the frequency-elevation relationships from the hydraulic model created in this study for flooding source adjacent to the Mountain View IV project are presented in Table 2, "Summary of Elevations", also see Figure 3 and Appendix 2 for HEC-RAS output.

TABLE 2 –SUMMARY OF ELEVATIONS

FLOODING SOURCE AND LOCATION	100-YEAR	FLOOD DEPTH
WHITEWATER RIVER @ INDIAN AVE (See Post HEC-RAS Output: STA 40+00)	645.2	~ 1' to 2'

* Located approximately 2,300-ft south of project improvements

Discrepancies in base flood elevations (BFEs) are due to different profile baseline and cross section locations and the use of different topographic elevation data. This study utilized 4 surveyed cross sections and USGS 10-meter DEMs to estimate water surface elevations. The FIS's detailed study used 4' contours of Riverside County provided by Aelytek, Inc. 1990, which are reflective of conditions at the time of the detaied FIS Study.

The difference in topographic elevation data and profile baseline and cross section locations yield different BFEs but correspond well with flood depth (+/- 2.0'). Also it would be expected that the contributing 100-yr peak flow at the project site will be less than the 47,000 cfs used in the hydraulic model, which in turn would yield a smaller flood depth at the project site. The 47,000 cfs (100-yr flow) as stated in the effective FIS includes the 9 square miles of drainage area from Chino Creek (located approximately 2,300-ft south and down slope of the project site) and contributes 4,500 cfs, which will have little to no contributing effect on flood depth at the Mountain View IV project site. Also approximately 10,000 to 20,000 cfs would be split from the main flow path around Station 235+00 and flow south of the overall project area along Highway 111, which would decrease the flow north of and through the Mountain View IV project site, in turn decreasing flow depth and velocity having an effect on the proposed wind turbines. The one- dimensional hydraulic model created for this study did not take into account flow leaving the main flow path affecting the Mountain View IV project site, resulting in a conservative estimate of flow depth and velocity.

All elevations used in this study are referenced to National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study were obtained by Riverside County Flood Control and Water Conservation District.

4.0 Scour Analysis

The computation of scour at piers, within HEC-RAS was based upon the methods outlined in Hydraulic Engineering Circular No. 18 (FHWA, 2001).

4.1 SCOUR MODELING GUIDELINES

A pier scour analysis was performed in which the wind turbine and transformer foundations are modeled as piers. This hydraulic model included several cross sections upstream and downstream of the proposed wind turbine locations to evaluate the long term effects of the turbines on the water surface profile.

Pier scour was computed by the Colorado State University (CSU) equation. The CSU equation predicts maximum pier scour depths for both live-bed and clear-water pier scour, and is shown below:

$$\frac{y_S}{y_1} = 2.0 \cdot K_1 \cdot K_2 \cdot K_3 \cdot K_4 \cdot \left(\frac{a}{y_1}\right)^{0\,65} \cdot Fr_1^{0\,43}$$

where:

Variable		Description	Correction Factors Used in HEC-RAS Model
y_S	=	Scour depth, ft	
y_1	=	Flow depth directly upstream of the pier, ft	
K_1	=	Correction factor for pier nose shape	1.0
K_2	=	Correction factor for angle of attack of flow	1.0
K_3	=	Correction factor for bed condition	1.1
K_4	=	Correction factor for armoring by bed material size	0.46
a	=	Pier width, ft	
L	=	Length of pier, ft	
Fr_1	=	Froude Number directly upstream of the pier	
V_1	=	Mean velocity of flow directly upstream of the pier, ft/s	
g	=	Acceleration of gravity (32.2 ft/s^2)	

The maximum velocity and depth for both the channel and overbank areas were used in order to account for the potential of the main channel thalweg to migrate back and forth within the piers. The migration of the main channel thalweg could cause the maximum potential scour to occur at any one of the wind turbines. Desert water course often exhibit a meandering nature, lacking a well-define stream channel. Flood flows occur in frequently shifting, braided channels.

Pier scour occurs due to the acceleration of flow around the pier and the formation of flow vortices (known as the horseshoe vortex). The horseshoe vortex removes material from the base of the pier, creating a scour hole. As the depth of scour increases, the magnitude of the horseshoe vortex decreases, thereby reducing the rate at which material is removed from the scour hole. Eventually, equilibrium between bed material inflow and outflow is reached, and the scour hole ceases to grow. The factors that affect the depth of local scour at a pier are: velocity of the flow just upstream of the pier; depth of flow; width of the pier; length of the pier if skewed to the flow; size and gradation of bed material (D_{50} = 3" and D_{95} = 6", see Appendix 3 soil data); angle of attack of approach flow; shape of the pier; bed configuration; and the formation of the debris.

4.2 SCOUR RESULTS

Wind turbine and transformer data was entered as piers into the hydraulic model. As a result of the scour analysis the wind turbines and transformers will have a scour depth of 5.5 to 9.3 feet for the 100-year scenario. The design foundation depth (30' for turbines and 10' for transformers) is larger than the scour depth for the 100-year flood. Thus the foundation design depth is adequate for 100-year flood protection against scour. See Appendix 3 for scour model results.

5.0 Recommendations

A detailed hydraulic study was performed on the Whitewater River adjacent to the Mountain View IV project site. Due to a lack of detail of the available topographic data a 2-foot deep main channel (thalweg) was artificially created to correspond to the location of the White Water River profile baseline location shown of the effective FIRM. It was determined, based on the analyses above, that the water depth in the main channel to the north of the Mountain View IV project site will be approximately 4-feet deep. The proposed wind turbines and transformers, which are located in the right overbank (floodplain), will encounter a water depth of one to two feet. Thus, in order for proposed structures to be safe from the 100-year flow, the elevations of proposed electric and control components in the wind turbines and transformers must be 3-feet (including 1-foot of freeboard) above the existing ground.

The structure (turbine and transformer) expected life is 20-years. The scour analysis of the wind turbines and transformers will have a maximum scour depth of 9.3 feet during a 100-yr flood. Thus, the wind turbines and the transformers with their foundation depths of approximately 30 ft and 10 ft respectively will be adequate to protect from scour.

6.0 References

Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, City of Palm Springs, Riverside County, California, Washington, D.C., July 7, 1999 (Flood Insurance Study); July 7, 1999 (Flood Insurance Rate Map).

Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Unincorporated Areas, Riverside County, California, Washington, D.C., August 18, 2003 (Flood Insurance Study); November 20, 1996 (Flood Insurance Rate Map).

Hydraulic Engineering Circular No. 18 (FHWA, 2001)

U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-RAS, River Analysis System, Davis, California, October 2005.

Chow, Ven Te, Open-Channel Hydraulics, New York: McGraw-Hill Book Company, Inc. 1959.

7.0 Figures 1 - 4

8.0 Appendices

8.1 APPENDIX 1: FEMA FIRM, PROFILES, AND FIS TABLES

8.2 APPENDIX 2: HEC-RAS OUTPUT (PRE, POST CONSTRUCTION)

8.3 APPENDIX 3: SCOUR ANALYSIS

Appendix G

Final Mitigation Monitoring Program

NATIONAL ENVIRONMENTAL POLICY ACT
CALIFORNIA ENVIRONMENTAL QUALITY ACT

MITIGATION MONITORING AND REPORTING PROGRAM

for the

FINAL ENVIRONMENTAL IMPACT REPORT
(SCH. No. 2006041171)
FINAL ENVIRONMENTAL IMPACT STATEMENT
(DEIS #CA-660-07-17
DES #07-11)

MOUNTAIN VIEW IV WIND ENERGY PROJECT

MITIGATION, MONITORING, AND REPORTING PROGRAM

The following environmental mitigation measures were incorporated into the Conditions of Approval for this project in order to mitigate identified environmental impacts to a less than significant level. A completed and signed checklist for each measure indicates that this measure has been complied with and implemented, and fulfills the City's monitoring requirements with respect to Assembly Bill 3180 (Public Resources Code Section 21081.6).

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
Air Quality			
Mitigation Measures			
To reduce NOx emissions, the applicant shall require (1) the maximum use of CARB-certified Tier 3 diesel engines for heavy on-site equipment, and (2) engines which utilize aqueous diesel fuel.	Construction Contractor	During construction	
To reduce PM10 or fugitive dust emissions, the applicant shall prepare an enhanced dust control program ("DCP") that exceeds the minimum dust control requirements contained in SCAQMD Rule 403. Measures that may be integrated into the DCP include but are not limited to the following: • Use of diesel particulate filters where possible • Stabilize inactive disturbed areas • Covering stockpiles with tarps • Water all haul roads at least three times daily • Enforcing reduced travel speeds (15 mph) on unpaved surfaces	Applicant/ Construction Contractor	During construction	
Biological Resources			
Mitigation Measures			
The right of way holder (ROW Holder) shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective measures for the Coachella Valley fringe-toed lizard (CVFTL) and the Coachella Valley milkvetch involved in compliance coordination with the BLM, and shall be authorized to halt any construction related actions that may be in violation of protective measures for threatened or endangered species.	Construction Contractor	During construction	
Prior to initiating any surface disturbing activities, ROW Holder shall prepare and present an	Engineering	Prior to issuance of	

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
endangered species education program to all employees/contractors involved in any construction activities. The program will be conducted using the CVFTL and CV milkvetch program already approved by the USFWS. The program will contain, at a minimum, the following topics for the Coachella Valley fringe-toed lizard and Coachella Valley milkvetch: • Distribution and occurrence • General behavior and ecology • Species sensitivity to human activities • Legal protection • Penalties for violation of State or Federal Laws • Reporting requirements • Project protection mitigation measures. Education programs previously prepared and approved by BLM and USFWS for wind energy development projects in the area may also be used without further approval, provided the program has incorporated the required topics as noted above.	Department, Construction Contractor	grading permits	
Locations of poles, guy anchors, and trenches, shall be chosen to avoid habitat suitable for CVFTL and CV milkvetch to the maximum extent possible utilizing the existing project design and layout. Work area boundaries shall be conspicuously staked, flagged or marked to minimize surface disturbance to surrounding habitat.	Engineering Department	During construction	
Poles and guy wires installed shall be completed by avoiding crushing or removing perennial vegetation to the maximum extent possible.	Construction contractor	During construction	
All vehicles shall be confined to existing access routes or previously disturbed areas to the maximum extent possible.	Construction contractor	During construction	
The ROW Holder shall hire a qualified biological monitor (as defined in the FTHL Rangewide Management Strategy) to be present during construction. The biological monitor may also function as the FCR, and shall perform the functions specified in the Flat-tailed Horned Lizard Rangewide Management Strategy (2003 Revision).	ROW holder/applicant?	During construction	
Not more than thirty days prior to construction activity in the area to be disturbed, the biological monitor/FCR shall survey the construction area for CV milkvetch. Any CV milkvetch plants present shall be marked with a flagged stake and protected from damage, by avoiding any surface impacts within five (5) meters of the plant.	Planning Department, BLM	Prior to construction	
Desert willow hummocks shall be avoided, with no disturbance to occur within five (5) meters, to the extent possible.	Construction contractor	During construction	
If any triple-ribbed milkvetch are found, the ROW Holder shall suspend operations in the vicinity, and notify BLM to determine whether the plants may be affected by the ROW Holder's actions.	Construction contractor	During construction	
The FCR/biological monitor shall maintain a record of the date, time and location of all fringe-	Planning	During	

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
toed lizards, milkvetch species, and FTHL found in the right of way. Any damage, injury or death to any of these species shall be recorded.	Department, BLM	construction	
Within 90 days of completion of the work, the FCR shall prepare and submit (to BLM and USFWS) a brief report summarizing the project. Five color photographs will be taken by the FCR or biological monitor before, during and after construction to be included in the report. The report shall include a description of the project and compliance with the biological mitigations.	Biological Monitor, BLM	After construction	
All trash and food items shall be properly contained and regularly removed from the Project site.	Construction Contractor	During construction	
No pets shall be permitted on the project site.	Construction contractor, applicant	During construction and operation	
The following two measures will apply to construction within Section 27 only as no individuals of this species were found within Sections 22 or 28. A focused survey for burrowing owl shall be conducted within Section 27 prior to project construction-related ground disturbance. The survey should be conducted according to the recommended guidelines of the Burrowing Owl Consortium (1993) and in consultation with the CDFG and the USFWS. Occupied burrows should not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFG verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.	Applicant, Project Biologist	Prior to construction	
If burrowing owls are present which could be affected by project construction, the approved biologist shall develop a program to mitigate impacts to this species either through avoidance or by passive relocation. Suggested measures for either of these methods are contained in Appendix B, Section 5.2.8 of the Section 27 Report. The program shall be developed according to the 1993 Mitigation Guidelines of the Burrowing Owl Consortium and in consultation with the CDFG and the USFWS.	Project Biologist	Prior to and during construction	
The applicant shall consult with the California Department of Fish and Game (CDFG), prior to project construction to determine whether a streambed alteration agreement is required by that agency for the smaller drainages located throughout the project site.	Construction Contractor	Prior to construction	
An additional design measure agreed to by the applicant includes construction of sand fencing on the Whitewater Preserve, east of North Indian Canyon Road in Section 26. The applicant will construct 24 segments of sand fences, each segment being 25 feet in length and 3 to 4 feet high, with each segment separated by a 50-foot gap to allow movement of wildlife across the site and sand movement within the site. Total length of the sand fences would be 600 feet. Each row of	Applicant, Project Biologist	After construction	

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
fences would be spaced 300 feet apart in a staggered grid so that the area for sand fence treatment would be a rectangular area 600 feet north-south by 900 feet east-west, equaling approximately 12.4 acres.			
The applicant is required to provide mitigation for loss of Coachella Valley fringe-toed lizard habitat through payment of mitigation fees. The amount of the mitigation fee is projected to be $95,118 on Section 27 private land, based on 16.6 acres of permanent and temporary disturbance and the Coachella Valley Multi Species Habitat Conservation Plan (CVMSHCP) fee of $5,730 per acre. The projected amount of the mitigation fee on BLM land in Section 28 is $59,019 based on a temporary and permanent disturbance area of 10.3 acres and a fee of $5,730 per acre, to be provided to BLM or the Center for Natural Lands Management for acquisition of Coachella Valley fringe-toed lizard habitat. Total mitigation fees for CVMSHCP/ fringe-toed lizard habitat is estimated to be $154,137.	Applicant	Prior to construction	
All protected cactus species to be removed by the project shall be flagged and transplanted back on site in an undisturbed area prior to construction.	Applicant, Project Biologist	Prior to construction	
The Right of Way (ROW) Holder shall conduct a post-construction avian and bat fatality survey over a 12 month post-construction period beginning with commencement of commercial operation of the turbines. The survey shall be conducted in spring, summer, fall and winter seasons, using standardized survey protocols, as appropriate for the site and any species of particular concern. The study shall establish statistical adjustments for observer bias and scavenging bias. All surveys and studies shall include a disclosure of assumptions, survey protocols and statistical methodologies in the monitoring reports. The final report shall be provided to the Bureau of Land Management.	Applicant, Project Biologist	After construction	
Cultural Resources			
Mitigation Measures			
If human remains are exposed during construction on non-federal land, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code 5097.98. Construction must halt in the area of the discovery of human remains, the area must be protected, and consultation and treatment shall occur as prescribed by law. If human remains are encountered on federal land, pursuant to the Native American Graves Protection and Repatriation Act and associated regulations, the responsible federal agency official must be notified by telephone immediately, and with written confirmation (43 CFR 10.4[c]). In addition, all ongoing activities must cease, the remains should be secured and protected, and Native American representatives should be consulted (43 CFR 10.4[d]).	Construction Contractor, Planning Department, BLM	During construction	
Any buried cultural materials unearthed during earth-moving operations associated with the undertaking should be examined and evaluated by a qualified archaeologist prior to further	Construction Contractor,	During construction	

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
disturbances.	Planning Department, BLM		
The excavation of areas greater than fifteen (15) feet shall be monitored by a qualified paleontological monitor. Monitoring shall be restricted to any undisturbed subsurface older alluvium which might be present below the surface. The monitor shall be prepared to quickly salvage fossils as they are unearthed to avoid construction delays. The monitor shall also remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have the power to temporarily halt or divert grading equipment to allow for removal of abundant or large specimens.	Construction Contractor, Planning Department, BLM	During construction	
If specimens are found when excavation exceeds fifteen (15) feet, the following steps shall be followed: • Collected samples of sediments shall be washed to recover small invertebrate and vertebrate fossils. Recovered specimens shall be prepared so that they can be identified and permanently preserved. • Specimens shall be identified, curated, and placed into a repository with permanent retrievable storage. • A report of findings, including an itemized inventory of recovered specimens, shall be prepared upon completion of the steps outlined above. The report shall include a discussion of the significance of all recovered specimens. The report and inventory, when submitted to the appropriate Lead Agency, would signify completion of the program to mitigate impacts to paleontologic resources..	Planning Department, BLM, Project paleontologist	During construction	
Geology and Soils			
Mitigation Measures			
The geotechnical engineering recommendations of the report entitled "Geotechnical Engineering Report for Mountain View IV Wind Project", and attached as *Appendix D* of this EIR shall be consulted and implemented during project design and construction.	Engineering Department	Prior to the issuance of building permits	
Permanent structures shall be designed by a professional engineer using, at a minimum, the latest seismic safety design standards outlined in the 2001 edition of the California Building Code for Seismic Zone 4.	Engineering Department	Project design, during construction	
Public Health and Safety			
Environmental Commitments			
The project is subject to the National Pollutant Discharge Elimination System (NPDES) for the protection of surface water quality. Conditions of approval for the project will require the implementation of NPDES Best Management Practices (BMP) during construction.	Engineering Department, Construction Contractor	During construction and operation	

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
The project will implement the City's and BLM's safety setbacks (except at the internal boundary between Sections 27 and 28), and employ a modern turbine structurally designed to withstand large seismic events (magnitude 8.0), high winds (up to 130 mph), and flooding.	Project engineer, Engineering Department	Project design, during construction	
Prior to the issuance of grading permits, the project proponent shall secure all appropriate amendments to right-of-ways or corresponding instruments from the Southern California Gas Company.	Applicant	Prior to the issuance of grading permits	
Contract specifications shall require the grading contractor to contact the Southern California Gas Company prior to the issuance of grading permits to ensure that pipelines are properly located, and to coordinate and cooperate with SCG on-site inspectors during the associated construction phase.	Grading contractor	Prior to the issuance of grading permits	
If the facility exceeds the 1,320 gallons threshold for petroleum products, the operator shall be required to prepare and observe a Spill Prevention Control and Counter Measure plan, under the recently revised regulations pertaining to 40 CFR 112 of the Clean Water Act.	Applicant	During operation	
Hydrology and Water Quality			
Mitigation Measures			
Prior to issuance of grading permits, the project applicant would demonstrate compliance with all applicable regulations established by the United States Environmental Protection Agency (EPA) as set forth in the NPDES permit requirements for urban runoff and storm water discharge and any regulations adopted by the City of Palm Springs pursuant to the NPDES regulations or requirements. Further, the applicant shall file an NOI with the RWQCB to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity and shall implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with the commencement of grading and construction activities. The SWPPP shall include both construction and post-construction pollution prevention and pollution control measures and shall identify funding mechanisms for post-construction control measures.	Engineering Department, Construction Contractor	Prior to the issuance of grading permits	
The project shall comply with provisions of Chapter 8.68 "Flood Damage Prevention" of the Palm Springs Municipal Code, Section 8.68.170 "Standards of Construction", section (c)(2) "Non Residential Construction". In accordance with the Code, all mechanical and electrical equipment shall be elevated a minimum of 2 feet above the base flood elevation (determined to be 2 feet), equivalent to 4 feet above natural grade. Natural grade shall be the average grade of native soils surrounding the foundation, not including gravel fill placed around the foundation	Engineering Department, Project engineer	Project design, during construction	
The project shall comply with provisions of Chapter 8.68 "Flood Damage Prevention" of the Palm Springs Municipal Code, Section 8.68.170 "Standards of Construction", section (a) "Anchoring". In accordance with the Code, all structures shall be constructed with foundations adequately anchored to withstand the maximum scour potential during the 100-year storm, determined to be 9.3 feet.	Engineering Department, Project engineer	Project design, during construction	

MITIGATION MEASURES	RESPONSIBLE PARTY	TIMING OF COMPLIANCE	SIGNATURE AND DATE OF COMPLIANCE
Noise			
Environmental Commitments			
The project will adhere to local noise ordinances during construction and project operation to keep noise levels lower than the City's 55dB noise criterion.	Engineering Department, Construction Contractor	During construction and operation	