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DOCKET
08-AFC-5
DATE MAY 10 2010
RECD. MAY 10 2010

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the matter of:	)	
	)	DOCKET NO. 08-AFC-5
APPLICATION FOR CERTIFICATION FOR	)	
THE IMPERIAL VALLEY SOLAR PROJECT0	)	
(FORMERLY SES SOLAR TWO)	)	
_____	)	

OPENING AFFIRMATIVE TESTIMONY ON ALTERNATIVE WATER SUPPLY OF WITNESS EDIE HARMON FOR INTERVENOR TOM BUDLONG

May 10, 2010

Re: Tessera/SES Solar Two/Imperial Valley Solar **Project**
Affirmative Testimony for Evidentiary Hearing re Alternative Water Supply May 24, 2010

"Imperial Valley Solar (formerly Solar Two) (08-AFC-5) Supplement to the Application for Certification URS Project No. 27657106.00806" proposed to use groundwater from well 16S/9E-36G4 in the Ocotillo/Coyote Wells Groundwater Basin, a US EPA designated Sole Source Aquifer

1. The careless inattention to detail by agency staff reviewing the SA/DEIS reveals that there is a lot of uncertainty about local geography and place names. ES-1 correctly located the proposed project in Imperial County, but then erroneously states that it is located 4 miles east of Ocotillo Wells, which is a tiny community in San Diego County east of Borrego Springs on Hwy 78. A look at a AAA map for Imperial County could have solved the problem. What this tells us is that the staff was so rushed to meet artificial deadlines set by the project proponent, that no one took time for fact checking and that if local BLM staff read the document it was only superficially and not for content!

2. Alternatives Figure 1B does not include any scale. I had tried to use a light table to superimpose map information from one alternatives map to another, only to discover that the scales on the maps were different, but more importantly that Alternatives Fig. 1B. Similarly, Soil and Water Resources Figs. 2, 4, 5, 6, 8, Noise and Vibration Fig.1 all have no scale. Again, inattention to detail, or was it just expected that no pone would actually look at the figures? Or is this the result of staff being so pressured to meet artificial deadlines that readily apparent omissions and errors were missed?

3. So, if easily corrected errors and omissions made it into the SA/DEIS, how much other information is inaccurate or uncorrected? Of special concern to me are facts and issues realted to the proposed use of potable water for industrial purposes from a basin where the nearest impacted downgradient users are those private wells using untreated water from their wells for domestic purposes.

Arbitrary deadlines

4. These errors/omissions reinforce the concerns of the public that the purposes of NEPA and CEQA are not well served by a desperate attempt to complete work by some externally imposed deadline by the applicant's need to get federal funding to make the project financially viable. And shortening the time between the deadline for submitting comments on the SA/DEIS and release of the Final SA/EIS and proposed ROD, reveals that there is no serious intent to give serious consideration to comments from the public. The public acknowledges that agency staffs are real people who occasionally do need breaks to eat and sleep and that when totally exhausted no one does his or her best work.

5. Accordingly, the rush to meet deadlines for stimulus money should not be the controlling factor in schedule setting for CEQA/NEPA reviews. A rush to a decision to obtain money could leave both the State and BLM later regretting decisions made in haste, but the damage to public lands and resources will be irreparable and likely unmitigable given the resource values at risk.

6. **Applicant's failure to submit timely documentation related to Alternative Water Supply identified in Applicant's Opening Testimony dated March 15, 2010** require additional time for public review to meet the intent for public participation in both the CEQA and NEPA processes related to the IV Solar/Solar 2 Project scheduled for Evidentiary Hearing on May 24, 2010. Public agencies cannot be blamed for delays and should not be criticized for allowing additional time for public participation as intended by applicable legislation.

7. I have lived on properties overlying different parts of the Ocotillo/Coyote Wells Groundwater Basin since 1977. I have been researching groundwater issues, legal and analyzing USGS monitoring data since the first week I moved to Ocotillo. I am a groundwater user/owner of a private well for domestic purposes in the southern part of the basin. Our well 17S/10E-11H3 (replacing well 17S/10E-11H2) has been part of the USGS groundwater monitoring program since it began and the

well is monitored for both water level (every 6 months) and for water quality (every two years). (See Exhibit 516 EH Table 10, a compilation of USGS water level and water quality data which I prepared for Sierra Club comments on the 2008 US Gypsum FEIR/S and updated for the 2010 Coyote Wells Specific Plan DEIR comments.)

8. The Ocotillo-Coyote Wells Groundwater has been acknowledged as being in a state of local overdraft since the USGS report in 1977, a study cited in CEQA and NEPA documents for projects seeking to use groundwater from this groundwater basin. Evidence of local conditions of overdraft exists in monitored wells which reveal continuing declining water levels even though there have been three years (1976, 1977, and 1981) where there were "100 year storms" that caused considerable flood damage in communities overlying the groundwater basin, and even though there was standing water in sinks that remained for weeks. (Personal observations of flooding and standing water following heavy rains.)

9. The decades of local concerns about groundwater export activities and declining water levels are reflected repeatedly throughout the text of the Ocotillo Nomirage Community Area Plan (ONCAP) adopted by the Imperial County Board of Supervisors in April 1994 as a part of the Land Use Element of the County's General Plan. (See Exhibit 517 full text of ONCAP)

10. Not only has County of Imperial been a party to what County Counsel Fries once said was at least 8 lawsuits related to export of groundwater by old tanker trucks from the Ocotillo and Yuha areas, but there have been legal challenges to the decisions of the County Board of Supervisors to approve agricultural (El Remate project at Sunrise Butte) and industrial use (US Gypsum factory) of large quantities of potable groundwater from wells where a review of the monitoring data and underlying geology indicated that large scale pumping (by basin standards) would cause or are already associated with large cones of depression that have the potential to create serious adverse impacts on domestic users with small capacity domestic wells. Litigation related to the County's 1998 a failure to require preparation of an EIR for the increased pumping of portable groundwater for industrial purposes is has not yet been resolved.

11. Exhibit will be provided for Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) Text of the Court decision relates to groundwater studies relied on my several projects and the Court's analysis is instructive, and cited herein.

12. In light of the history of decades of zoning restrictions and litigation related to groundwater use issues, it is not surprising that the February 2010 SA/DEIS for the IV Solar/Solar 2 Project (at p. C.7-3) sought to avoid conflicts related to groundwater uses when very clearly states that **"NO GROUNDWATER WOULD BE USED BY THE PROJECT** and the effect on groundwater infiltration would be negligible." (Emphasis added.) This very unambiguous statement was reassuring to concerned residents of the groundwater basin, especially those downgradient residents in Nomirage.

13. Does the Applicant's Supplement May 5, 2010 to the Application for Certification for 08-AFC-5 not docketed until May 10, 2010 which leaves less than 3 weeks before the end of the SA/DEIS comment period meet the procedural requirements of both CEQA and NEPA?

14. The shortened time for review and detailed analysis of all the cumulative impacts of additional proposed groundwater use at the well identified raises serious concerns. There must be an analysis of both the existing pumping, permitted pumping, projects approved but not yet constructed, development projects proposing additional groundwater use, gravel operations groundwater use, and the proposed and foreseeable future groundwater proposals related to other industrial scale energy development projects both close in and those with wells several miles away.

15. The Comment period for the Supplement to the Application for Certification should be extended and evidentiary hearing testimony related to hydrology rescheduled or continued to afford responsible State and Federal agencies an opportunity to review and comment on the Alternative Water Supply. Agencies which should review and comment include US EPA because it was the EPA that designated the Ocotillo Coyote Wells Groundwater Basin as a Sole Source Aquifer in 1996. (Exhibit 515).

16. USGS Water Resources Center in San Diego has been monitoring the water levels and water quality of wells in the Ocotillo/Coyote Wells Groundwater basin since the early 1970s when County of Imperial became involved in litigation efforts to stop the export of groundwater from wells on three properties in different parts of the groundwater basin.. It is USGS water level and water quality monitoring data that has been the basis for almost all, if not all of the reports on the groundwater basin used for CEQA and NEPA project reviews and in litigation in both State and Federal courts since 1972. How USGS data is analyzed, the accuracy of representing locations and interpretations of water quality data from USGS monitoring has been a subject of controversy in CEQA reviews for several projects. (See Exhibit 516 EH Table 10, a compilation of USGS water level and water quality data which I prepared for Sierra Club comments on the 2008 US Gypsum FEIR/S and updated for the 2010 Coyote Wells Specific Plan DEIR comments.)

17. Both US EPA and USGS submitted substantive comments and concerns about the 2008 US Gypsum FEIS, which unfortunately was not made available for their review prior to the decision by the County to certify the EIR and grant approvals prior to federal distribution of the joint EIR/EIS to federal agencies. Although made public after the County decision, these letters reveal the ongoing and continual nature of concern a bout impacts to the groundwater basin. (See Exhibit 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project. Exhibit 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project.)

18. The ongoing concerns of US EPA related to uses in the groundwater basin are also noted in the letter from EPA related to the NOP for the Coyote Wells Specific Plan project in February 2009. (Exhibit 520.)

19. Nowhere are the problems of foreshortening the opportunities for public review and review by responsible state and federal agencies more glaring than in the applicant's changing the source of water for the construction and maintenance of the project of greater significance than in the assertion that the applicant now intends to use groundwater to be exported by tank trucks from former WestWind Water company now the Dan Boyer Well 16S/9E-34G4 which is close to the US Gypsum export wells. The location of this well and its pumping activities in the 1970s made it a major historic contributor to the large cone of depression associated with the even greater pumpage from three nearby wells owned by US Gypsum in the Ocotillo-Coyote Wells Groundwater Basin. (See 1977 USGS Report on the groundwater basin, and water level contour figures in EIRs based on USGS water level monitoring and maps depicting locations of wells for which monitoring data is available. See URS Supplement to Application for Certification Fig 1-4, Well location map p. 1-8. For additional information about well locations and water quality monitoring information see Exhibits 521, 522, 523 which are maps and a table from the 2008 US Gypsum Final EIR/EIS.

20. Said proposal "Supplement to Application for Certification" was submitted to CEC by cover letter dated May 5, 2010, **but not available on the /CEC website as of 5-10-2010 early in the morning.** The May 5, 2010 cover letter from URS for this change in water source is part of what the applicant identifies as "Imperial Valley Solar (formerly Solar Two) (08-AFC-5) Supplement to the Application for Certification URS Project No. 27657106.00806". Said 5 part documents were not posted at the CEC site when I called the Public Advisor Jennifer Jennings on May 6th 2010. She forwarded all 5 parts of the Supplement to the Application which included the proposed change to use groundwater from Ocotillo. The documents were docketed today, May 10, 2010.

21. However, I was not been able to find any computer or printer which is able to print out the Supplement to the Application part 2 of 5. Part 2 of 5 was readable as sent for a very brief time and could be opened but not printed until May 10, 2010. The text appeared to possibly be a portion of the 2006 Draft EIR/EIS for the US Gypsum Modernization and Expansion Project which was prepared following the 2001decision of the Court of Appeal in Sierra Club v. County of Imperial, US Gypsum, Real Party in interest. Indeed, the 2006 USG DEIR contains USGS monitoring data through 2001 and is therefore outdated and does not reflect the continuing decline in water levels.

22. I am very concerned that US EPA which had made the Sole Source Aquifer determination of the Ocotillo-Coyote Wells Basin in 1996 should be notified and groundwater experts have an opportunity to review the proposal together with a cumulative impacts analysis for all existing and proposed groundwater uses in the basin. Should I contact US EPA myself or does the CEC or BLM notify responsible agencies of the changed project description?. I have not had internet access or cell phone capability (ATT is increasingly unreliable and cutting off service) or time to do so since getting the portions of the Applicant's supplemental documents in the early morning hours of May 7th, 2010.

23. Is it the responsibility of the concerned public to notify federal agencies that a project with just 3 weeks left in the formal CEQA/NEPA review has changed a major component of the project description- WATER source Alternative Supply and request federal agency review., hoping that the agency is not currently already overwhelmed with document review for other projects??

24. Should Icontact USGS hydrologists to alert USGS (the source of groundwater monitoring data for the basin) that the water source for the proposed solar project has changed and ask for their review. Please note that the applicant's consultant URS does not include 2010 USGS water level monitoring data or the most recent USGS water quality data for wells in the Ocotillo-Coyote Wells Groundwater Basin which can be obtained at the USGS websites. Alternatively if 2010 data has been included, I have not yet discovered it in the documents from the Applicant.

Evidentiary hearings on hydrology issues should be rescheduled to allow public and agency review of groundwater issues which are not publicly available on the CEC project site until May 10, 2010

25. There should be no evidentiary hearings until the review of the whole of the project and all of its components is complete and the public and hydrology experts from responsible agencies such as US EPA and USGS have an opportunity to review the changed proposed source of water for the project and have had an opportunity to compare information and analyses from one section to another and from other recent and past EIR/EIS documents related to groundwater uses from the Ocotillo-Coyote Wells Groundwater Basin.

26. Has the CEC staff considered the groundwater issue and evaluated the impacts, and/or will staff make such an analysis available for public review and comment?

27. It appears that is no assured water supply for the IV Solar/Solar 2 project that will not have potentially serious adverse environmental impacts or cumulative impacts on downgradient biological resources (humans in the case of groundwater.). There are problems associated with the earlier stated intent to use water from the Seeley Wastewater Treatment facility. And there are very different problems and impacts associated with a proposal to use potable groundwater for construction and mirror washing miles to the east of the water well and from a well upgradient of the scores of small private wells that supply each private parcel in the Nomirage subdivision..

28. As Judge Judith McConnell wrote in her August 31, 2000 Statement of Decision in Case No. 676630 (Save Our forests and Ranchlands v. County of San Diego), "an environmental review deferred is an environmental review denied." She found that the decision-makers (San Diego County Board of Supervisors) had been deprived of the information it needed about potential environmental impacts, including possible contamination and depletion of groundwater resources, when it approved a General Plan Amendment amending the General Plan's Land Use Element. Judge McConnell noted that:

"Drafting an EIR or preparing a negative declaration necessarily involves some degree of forecasting. **While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.**" (Emphasis added.) Guidelines, Cal. Code of Regs., Tit. 14, Sec. 15144.

Where, as here, important, detailed and relevant information is missing, it precludes informed decision making and a prejudicial abuse of discretion results. Kings County Farm Bureau v. City of Hanford (1990) 221 Cal. App. 3d.692.

(Judge McConnell's language in SOFAR 8/31/00 Statement of Decision at pp. 7,

There can be no surplus groundwater for export in an overdrafted basin

29. **California Constitution Article X, Section 2, Water** states that:

"It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use be prevented, and that the conservation of such waters is to be exercised with a view to reasonable and beneficial use thereof in the interest of the people and for the public welfare.. The right to water or to the use or flow of water ... in this State is and shall be limited to such water as shall be reasonably required for beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water."

30. Court decisions related to groundwater use have "established that groundwater may be appropriated by others and pumped and transported to land that does not overlie the aquifer, **after the needs of overlying property owners are satisfied, that is when there is a surplus.**" (Crother An undated (1996?) paper entitled "Groundwater Rights in California" by Christie Moon Crother, Senior Water Resources Planning Analyst for the Eastern Municipal Water District, San Jacinto, CA. at p.1.)

31. Katz v. Walkinshaw , overlying owners correlative rights and Imperial County's legal efforts to stop export of groundwater to Mexico from the Ocotillo-Coyote Wells Groundwater Basin.

32. However, the use by overlying users has been considered as paramount in case law. Katz v. Walkinshaw (1902) 141 Cal. 116 established the concept of overlying water rights in which all property owners above a common groundwater basin or aquifer have a right to use the groundwater underlying their property and to make reasonable use of the groundwater on their land above the groundwater. The rights of overlying property owners to use the groundwater was determined to be "correlative", or to be shared on a pro rata basis in times of shortage. The correlative rights prevent unlimited use of the groundwater by a single person or property owner. **The Court found that the right to pump groundwater for use on lands not overlying the basin are subordinate to the correlative rights of overlying users .**

33. In the situation for IV Solar, the thousands of acres of public lands managed by BLM are not on the parcel from which the well intends to pump, therefore the correlative rights of the existing overlying domestic users should be considered superior to the use of water to be transported outside of the potable groundwater basin as defined by US EPA's designation of the Sole Source Aquifer. Please note that County of Imperial has chosen a political boundary for the groundwater basin in order to include the industrial uses by the US Gypsum factory which overlies highly saline water to the east of the Elsinore and Laguna Salada Faults, but closer to the Westside Main Canal from which Imperial Irrigation District has agreed to provide up to 1000 AF/Y Colorado River water to alleviate the impacts on the potable groundwater basin from which US Gypsum has a gravity flow pipeline. (IID documents related to this approval will be provided as Exhibits.)

34. It was this Katz v. Walkinshaw case that was repeatedly cited and relied upon in Imperial County's proceedings to shut down the export of groundwater from the Clifford-McDougal well in Ocotillo and

the McDougal well in Yuha Estates, where both wells overlie the Ocotillo-Coyote Wells Basin. The Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest did not forget the numerous cases before that same Appellate Court when Imperial County vigorously defended its authority to stop the export of groundwater from the basin in order to protect the uses of property owners overlying the basin and using water on the parcels overlying the basin.

35. A California Supreme Court decision determined that it was not necessary to adjudicate a groundwater basin to stop the export of groundwater. Corona Foothill Lemon Co. v. Lillibridge (1937) 8Cal 2d 522 found that the **fact that groundwater levels were dropping is sufficient top show that there is no surplus water.**

36. For US Gypsum's proposed project to increase its groundwater export for use on parcels many miles distant from the overlying parcels, the USG USG DEIR/EIS 4/06/EIS Vol II the Hydrology technical appendices and text, and the text, figures and tables of the USG USG DEIR/EIS 4/06/EIS reveal:

(a) that groundwater levels are and have been dropping (DEIR hydrology impacts discussion at 3.3-66 through 3.3-81) (thus, there is no surplus water) and

(b) that USG attempted to assert a right to 767 AF/Y of groundwater purportedly pumped when production levels did not support that figure reported by USG to USGS.(See USG DEIR/EIS 4/06 text at p. 3.3-29, Table 3.3-4 at p. 3.3-28, and Table 3.3-8 at p.3.3-70)

> Both of these conclusions support the conclusion of the Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) **Furthermore, such a USG inflated claim of groundwater pumpage above production requirements clearly represents an unreasonable use or unreasonable method of use of groundwater or a waste of water prohibited by the California Constitution. And which cannot be upheld as being reasonable for inclusion into any County Ordinances or planning documents.**

37. The following USG DEIR/EIS 4/06 discussion of water levels in the basin, confirms the lack of "surplus" groundwater available for use on parcels other than the overlying property from which it is pumped. USG DEIR/EIS 4/06 text at 3.3-49 referencing Fig. 3.3-9 at p. 3.3-47 notes that the:

> "hydrographs for all of the wells shown in Fig. 3.3-9 indicates that the static (non-pumping_) water levels in the Ocotillo/Nomirage area have steadily declined over the last 30 years. .... The hydrographs for several of the wells, but most notably 16S/9E-36D2, indicate that the decline has been very consistent over this time period. This is somewhat surprising because the rate of rainfall in the basin from 1976 to 1993 was generally above average (see Figure 3.3-2) and the rate of water production from the basin from 1979 to 1996 decreased by almost 45 percent (see Figure 3.3-8). (USG DEIR/EIS 4/06 at 3.3-49.)

38. Additionally, **California Water Codes at Section 106** states that "It is hereby declared to be the established policy of this State that the **use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation."** Therefore, regardless of the USG DEIR/EIS 4/06 suggestion that the industrial uses at Plaster City and the most economical source for obtaining water for industrial purposes is a need which should trump overlying domestic needs, case law and Water Code Section 106 do not support USG's DEIR assertions or a conclusion that IV Solar's use of potable water for construction, dust suppression and mirror washing could trump domestic use is unsupportable..

39. **10/26/00 Appellate Court Decision D0D034281** (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial (re USG increased groundwater use without environmental review) in Sierra Club's favor, contains extensive discussion of groundwater issues and reversed the trial court decision. In March 2001, the Trial Court then entered Judgement consistent with the Appellate Court decision and required preparation of an environmental impact report and rescinded permits based on the required

environmental review for the already constructed factory at Plaster City.

40. Furthermore, based on the above cited text of the Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) decision the County's 2006 decision to approve US Gypsum's purported "historic use" of 767 AF/Y is contrary to the clear language of the decision which stated that such use could not be substantiated. If it could not be substantiated, by what authority could the County award such a grant of special privilege? Litigation on this case continues, and the question remains, will the Court have the final say about the groundwater export by US Gypsum? What about IV Solar's variable use needs ranging from 45.000to 90,000 gpd according to two sworn testimonies?

41. **"U.S. Gypsum Variance"** The **"US Gypsum variance"** refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975 and is acknowledged in the USG DEIR/EIS. This text should make anyone concerned about accepting glowing assurances that large-scale pumping will not have adverse impacts. , because no one really knows how much water was pumped. For use at the factory. Specifically:

> "For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports "Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled." Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the "U.S. Gypsum Variance" on Figure 3.3-8, Annual Water Production."
>
> Since 1981, the groundwater extraction rate has reportedly been measured at each well by USG. Thus, these data are considered the most reliable. (Draft Environmental Impact Report for US Gypsum Expansion/Modernization Vol. I at p. 3.3-29.) (See also Exhibit 524 Bookman -Edmonston 2004 Table 4-2 Historical US Gypsum Well Production.)

ONCAP: **overwhelming concern about groundwater quality and quantity issues are central to plan**.

42. There is no source of surplus groundwater in the Ocotillo-Coyote Wells Groundwater basin for export to the Solar 2 project site, although there might be sites further from the center of the cone of depression that would have less adverse impacts on down-gradient domestic well owners. The basin was designated as a "Sole Source Aquifer" by EPA in 1996, and because of that designation, any project for which there is any federal money to be spent would require a serious study by US EPA and USGS to determine impacts and mitigation for impacts on the SSA. (Exhibit 515.)

43. The Ocotillo-No mirage Community Area Plan (ONCAP) was adopted as a part of the County's Land Use Element of the General Plan in 1994. (Exhibit 517) The ONCAP specifically requires a site-specific geohydrology study for any project or property intending ro use 5 acre/feet/year.

44. While the Coyote Wells Specific Plan Draft EIR was being reviewed, I can assure you that even with weeks of searching, we have not located any recent USGS groundwater monitoring data for either water level or water quality in the area where pumping is concentrated. Without such information it would not be possible to conclude that there would be less than significant impacts to the existing residential users and future property owners downgradient. This information is necessary not only for the Boyer well, but for the US Gypsum wells also if one is to understand the potential for cumulative impacts..

Any IV Solar/Solar 2 applicant reliance on historic analysis/studies done by the Bookman-Edmonston

Company for US Gypsum is flawed because USG pumping data could not be verified by the Court

45. Scoping comments requested the 2006 USG DEIR/EIS to present in table format the **annual groundwater usage** at the Plaster City factory since operations began. What is the source of this data? Is it flowmeter readings? If so, when were flowmeters installed for each operational well and what is the amount of water pumped from each operational USG well annually? How does water usage correlate with factory output? If there is any discrepancy, what is the explanation? Such information was not found in the USG Draft EIR/EIS 4/06 or its accompanying appendices.

46. What is the explanation for discrepancies between asserted water usage and production output noted by the USG Bookman-Edmonston (BE) study, USG DEIR Table 3.3-4 at p. 3.3-28, and the Appellate Court Decision? How much water is used for processing? The USG DEIR Table 3.3-4 data reported to USGS for years 1970-1975 appear inflated and to represent an unreasonable and therefore non-beneficial use of groundwater from a basin with declining water levels.

47. USG has increased its water use from 400 AF/Y reported in the USG DEIR/EIS 4/06 and is currently pumping 550 AF/Y from the Ocotillo -Coyote Wells Basin according to representatives of USG. USG DRAFT EIR/EIS 4/06 at 2.0-17 and 2.0-32 describes a "gravity feed pipeline" from the Ocotillo area as providing "approximately 400 AF/Y" of groundwater. However, during a 5/18/06 meeting with representatives of and attorneys for USG, the Harmons and Julie Hamilton were told that USG is using 550 AF/Y now. **Why does the USG DRAFT EIR/EIS 4/06 state one figure for groundwater use as of the DEIR which was released for public review in April 2006 when USG employees and attorneys verbally state a figure more than 25% higher for 2006 usage?** Such an increase in groundwater usage appears to violate both CEQA and the intent of the Court when permits were revoked and preparation of an EIR required. The outdated information and a changes source of water certainly points out the necessity for a revised SA/DEIS at the very minimum. Exhibit 524, the Bookman-Edmonston 2004 Table 4-2 provides only pumping information through 2002, some eight (8) years ago. What has the pumpage for each of the 3 USG wells ben from 2003 through 2010? Has this information been provided by the IV Solar Applicant?

48. USG DRAFT EIR/EIS 4/06 at 2.0-18 and elsewhere asserts a "recorded high [water usage] of 767 acre-feet per year". However, the **Appellate Court concluded that USG asserts a level of pumpage for which it has no data.** Having reviewed no evidence to contradict the Appellate Court's reasoning, we, therefore, conclude that the 4/06 USG USG DRAFT EIR/EIS 4/06 assertion of a high water use is erroneous. As noted herein, there are a number of submissions by on behalf of USG, including DEIR Table 3.3-4 at p. 3.3-28 which confirm the Court's conclusions.

49. The USG commissioned Bookman-Edmonston (BE 96) study both in text at p. 6-2 and in Table 6-2 at p. 6-3 reveal no pumpage in excess of the highest estimated water use of 600 AF/Y in 1975 by USG at the Plaster City operations. The USG commissioned BE 96 study noted that:

> In addition, water use estimates for years 1970 through 1980 were made by U.S. Gypsum based on production records. Beginning in 1981, water use has been measured at each well. Table 6-2 presents a summary of U.S. Gypsum well production for the years 1976 through 1994. Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). This difference could not be reconciled. (BE 96 at p. 6-2.)

50. BE 04 updates BE 96 Table 6-2, but BE 04 omits information that is related to how accurate or reliable the data might be and fails to provide any reasoning that would contradict why the Appellate Court did not accept USG's assertion of a high level of pumpage (767 AF/Y) to which USG repeatedly references as some purported "right" which we believe would not be consistent with the language of the California Constitution Article X, Section 2. It is important that the CEC and BLM understand the real reliability or lack thereof with respect to numerical data in past hydrology studies for US Gypsum EIR/EISs.

51. The above BE 96 statement suggests that, according to BE 96 report, the highest recorded USG

pumpage is more likely well below the now asserted 767 AF/Y. See also USG DEIR Table 3.3-4 at p. 3.3-28 for the historic USG water use at the Plaster City factory. This also raises questions about the reasons for what appears to be incorrect information provided by the USG company to USGS, the federal agency doing the groundwater study on the sole source basin from which USG was and is the largest pumper and exporter of groundwater. It should also be remembered that USG provided housing for company employees at Plaster City [population of about 65] until approximately 1987. However, it is highly unlikely that such a small population could use a quantity of groundwater so large as to account for the 70 percent discrepancy.

52. It is of interest to note that the company failed to record its water usage at that time to the appropriate State agency to establish its water usage in excess of 25 feet/year as required for users in other counties with even larger groundwater basins. Absent some verifiable data indicating that higher level of pumpage and explaining why pumpage, was so high for that year, the public has good reason to challenge the 1972 pumpage as having established any pre-existing rights and thereby justifying the elimination of a requirement for Draft EIR for the proposed increased groundwater pumpage up-gradient of the nearby residential subdivision of Nomirage.

53. Indeed, the Appellate Court decision, in text and footnotes, also recites the problems with USG's asserted levels of past pumpage for export to the Plaster City factory. In footnote 2, the Court noted that:

> 2 Bookman-Edmonston could not reconcile USG's water use calculated from USG's production reports with the water use USG reported to the United States Geological Survey, which showed levels 70 percent greater than production use levels. Further, USG admits "[t]he data used to determine these older water use levels [1966-1975] have not been located." Therefore, USG's claimed use of 767 AF in 1972 cannot be verified. (Appellate Decision D0D034281, fn 2 at p.8.)

54. In discussing its concerns about Imperial County's Groundwater Management Ordinance and the County's determination that USG has a priority use for 767 AF/Y as a "historical user", the Court stated:

> **... However, USG has admitted that it has no data to back up this use, which occurred in 1972. More troubling is that Bookman-Edmonston, USG's own experts, could not reconcile USG's reported water use to USG's production records for the years 1970 to 1975, which are the years in which USG reported its highest water use. (Fn 4) Bookman-Edmonston found the amounts USG reported were 70 percent greater than the amounts calculated from the production reports. If we reduce USG's 1972 water use by 70 percent, it would have a priority of only 451 AF as an historical user.** (Emphasis added.)

> 4 **USG's reported use of water in the years from 1970 to 1975 is, in order: 668, 575, 767, 638, 691, 614 AF. The next highest year is 1969, during which USG reported using 560 AF. USG's average use of water during those five years is 659 AF. If we reduce that average by 70 percent, as suggested by Bookman-Edmonston, the average becomes 338 AF, an amount almost equal to its 1996 use of 367 AF.** (Emphasis added.) (Appellate Decision D0D034281, text and footnote 4 at p.. 15.)

55. The conclusion of the Court is further supported by the footnote on a table submitted by USG and appended to a 1/9/97 letter from USG Plaster City's Plan Engineering Manager and included for public distribution in an "EEC Original Pkg" for USG plant expansion preliminary environmental review by the County. That table is entitled "United States Gypsum Company Plaster City Plant Historical County Water Use Records" from 1966 to 1996. This table contains the following footnote:

From 1996 to 1982 the water use figures are based upon flow meter readings. The water use figures from 1981 to 1976 are estimated values based upon several variables including plant board production records. The water use figures from 1975 to 1996 were based ib current data and were reported to the United States Geological Service. **The data used to determine these older water use levels have not been located.** (Emphasis added.) (USG table in EEC Original Pkg with fax notation at top of page 10/10/98 09:19 Fax 213-623-0824 McClintock/Westin.)

56. Therefore, no significance should be accorded to the BE06 and BE 04 reports references to 767 AF/Y" or the USG USG DRAFT EIR/EIS 4/06 repeated references to some purported "recorded high of 767 acre-feet per year" (USG DRAFT EIR/EIS 4/06 at 2.0-18, 2.0-32, 2.0-69, 3.3-38) Does the public think this is a big issue? No doubt about it! When there is such well documented controversy about data supplied by US Gypsum, any reliance by a project applicant on some of the numerical information in a draft EIR/EIS for the US Gypsum project without major updates of data seems ill advised as a basis for decision-making. I share this information in the spirit of full disclosure related to USG hydrology..

57. How convenient that the old data for water usage could not be found in 1998 and apparently has not been "found" yet. (USG DEIR Table 3.3-4 at p. 3.3-28) Or by 2010. The USG company offers no explanation for why it pumped almost 200 acre-feet per year more in 1972 that it did in 1971 or how it has been able to maintain its level of production without using that quantity of water either before or since 1972. From the perspective of the public and groundwater users in the Ocotillo/Coyote Wells groundwater basin, one must question whether this level of pumpage was fact or whether it was the number used by the company to assert a high-level of usage and presumably assert some sort of pre-existing rights.

58. The USG DRAFT EIR/EIS 4/06 states that: "The Proposed Action anticipates increasing groundwater pumping from the existing wells up to a maximum of 767 AF/Y (the amount reported by USG in 1972)." (USG DRAFT EIR/EIS 4/06 at 3.3-1.) (To what agency was this purported usage reported and when?) Since USG provided no written justification for the increase in purported estimated water usage of 575 AF/Y in 1971 to 767 AF/Y in 1972 that it reported to USGS or why the numbers it reported to USGS did not match production data. That plus the fact that USG never recorded its water usage with the State or County in the manner required by law, there can be no assertion that 767 AF/Y represents any rights to export groundwater from the overlying parcels on which it is pumped . Such unnecessary pumpage of any quantity in such excess is detriment of the correlative rights of nearby overlying domestic users and nearby undeveloped parcels zoned for residential usage.

59. Citing the Appellate Court Fn 4 at p. 15**: "If we reduce that average by 70 percent, as suggested by Bookman-Edmonston, the average becomes 338 AF, an amount almost equal to its 1996 use of 367 AF.**" Interestingly this is 400 AF/Y less than the amount of groundwater anticipated by the Proposed Action subject of the USG DRAFT EIR/EIS 4/06!

Downgradient portions of the Ocotillo-Coyote Wells SSA are more sensitive to pumping and respond differently than the upgradient wells according to the 2008 USG FEIR/S. The groundwater basin is complex and predictions are difficult and often projected lack of impacts prove incorrect

Yuha Estates

60. "Yuha Estates is located approximately three to four miles southeast and downgradient of the Ocotillo/ Nomirage area. The recent literature research and field observations conducted by Bookman-Edmonston (2003) indicate that the geologic conditions in the Yuha Estates area are markedly different than those in the Ocotillo/Nomirage area. The Yuha Estates area sits on both a topographic and structural ridge trending northeastsouthwest across the Ocotillo/Coyote Wells Groundwater Basin. The structural ridge is formed by a concave down curvature of the sedimentary beds referred to as an anticline. The combination of the topographic and structural ridges means that the Tertiary sediments occur at a much higher elevation in the Yuha Estates

area than in the Ocotillo/Nomirage area. Bookman-Edmonston (2003) indicates that water from some of the deeper wells in the Yuha Estates area comes, at least partially, from the Tertiary sediments underlying the alluvial material.

61. "Most of the pumping in Yuha Estates is for local domestic use. From 1978 to 1982, water was pumped from one well (17S/10E-11G1) for export to Mexico at a reported rate of approximately 143 AF/yr. Figure 3.3-10, Yuha Estates Area Hydrograph, is a hydrograph of the water level data from the Yuha Estates area. A hydrograph shows the water level data as it changes over time. The wells within the Yuha Estates area for which adequate data exists include:

    17S/10E-11H1
    17S/10E-11H2
    17S/10E-11H3 *[EH well]*
    17S/10E-11G1 (McDougal Water Co.)
    17S/10E-11G2
    17S/10E-11G4
    17S/10E-11B1

62. "Information regarding well construction and sampling history are presented in Table 3.3-5. The hydrograph (Figure 3.3-10) for the Yuha Estates area is dominated by the pumping of well 17S/10E-11G1. Pumping of this well at 143 AF/yr from 1978 to 1982 resulted in a drawdown, or decline in water levels, of almost 70 feet. Drawdown was also observed in all of the other wells in the Yuha Estates area. The magnitude of drawdown in other wells ranged from approximately 8 feet to over 60 feet.

63. "Pumping of well 17S/10E-11G1 ceased 20 years ago. [*Export pumping ceased at the end of August 1982 per observations of adjacent property owners including Harmon.*.] Water levels, however, have still not recovered to their pre-pumping levels. The water levels in the Yuha Estates area are approximately five to 10 feet below the levels recorded in the early 1970s. As shown in Figure 3.3-10, the rate of recharge has been very slow. The water levels in several of the wells appear to have stabilized and suggest that Yuha Estates is experiencing the same long-term decline in water levels as that observed in the Ocotillo/Nomirage area. As discussed above, this decline has occurred despite periods of above-average precipitation and a significant reduction in the rate of pumping over the same time period." (USG 2006 DEIR/S at 3.3-49 to 3.3-50.)

64. The 2008 USG Final EIR/EIS confirms that the basin is complex when it states that::

    65. "Significant differences have been noted in the hydrogeologic properties, water levels, and water quality between the area near the community of Ocotillo and the area to the east. Near Ocotillo, transmissivities (aquifer properties describing the ease with which groundwater flows through the aquifer) have been noted as significantly higher than those to the east. Transmissivities have been measured in the range of 5,800 to 6,700 square feet per day (ft2/day) near Ocotillo, whereas transmissivities of 34 to 957 ft_2/day have been noted in the eastern region." (USG 2008 FEIS at 4.0-24.)

66. See Exhibit 516 for the details of groundwater level monitoring in the Yuha Estates area and how domestic wells in 17S/10E exhibited water level declines in response to pumping about 100-143 AF/Y from well 17S/10E-11G1.

67. However, some of the additional analyses of the groundwater basin and changed analyses of the 2004 Bookman-Edmonston study as described in the 2008 USG FEIR/S because the locations and quality of water in wells located in Yuha Estates does not accurately reflect the location and water quality as measured as part of the USGS groundwater monitoring program.

68. How do I know? Because the greatest errors of location and water quality are associated with Harmon's well 17S/10E-11H3. (Contrast locations of wells on USG 2008 FEIR/S Fig. 11, Calibration targets at 4.0-43 and on USG 2008 FEIR/S Fig. 4 "Wells with Water Quality Data (USGS NWIS) at 4.0-32; and on USG 2008 FEIR/S Fig. 7 Wells with Water Level data at 4.0-38; Table 4.0-3 Wells Monitored by USGS since 2002 at 4.0-36 , (Exhibits 521, 522, 523) This conclusion was confirmed in phone discussions with USGS Water Resources Center staff, Dr. John Izbicki and Peter Martin prior to the public hearing conducted by the Imperial County Board of Supervisors meeting in 2008.

69. Please note that the County Supervisors certified the USG EIR and approved the project BEFORE any federal agency was provided its copy of the FEIS for review. The County refused to delay its hearing until after Federal agencies had the document and could comment, even after written requests from Congressman Filner.

Solar 2/IV Solar Alternative Water Supply and Groundwater issue re well 16S/9E-36G4 WestWind/Boyer well

70. Solar 2/now Imperial Valley Solar, Stirling/ SES/now Tessera 30,000 unit is proposed solar project on about 6,500 acres of land originally identified as the Plaster City ACEC to protect cultural resources, scared sites and cremation sites in the BLM 1980 Draft EIS for the CDCA Plan. The CEC held an all day workshop on the project in El Centro on Monday March 23, 2010, but very little information about this proposal was disclosed. Difficulty in being able to get print copies of documents mean that detailed analysis of the Applicant's documents will have to wait..

71. Nevertheless, my affirmative testimony is that the cumulative impacts of all the existing, approved and known probable requests to pump more than 5 AF/Y of groundwater from a single well in the area which appears to be the center of the cone of depression have the potential to contribute to ever increasing water level declines, and that these cumulative impacts myst be analyzed for public review.

72. Why is this important? Because at present I know of no person downgradient in the cone of depression treating , boiling or distilling well water prior to drinking it. The water in the groundwater basin overlies more highly saline water and if water levels decline, residents and I are concerned that water quality in domestic wells may degrade just as it did in the Yuha Estates area before export pumping ceased (Testimony of Dr. David Huntley in Superior Court) if upwelling or upconing occurs

73. Earlier, the water for the IV Solar/Solar 2 project was to have come from the Imperial Irrigation District's WestSide Main Canal . However, that would likely have been illegal because, even though Congress extended the IID boundary to be able to supply Colorado River water from the Canal in 1981 to get US Gypsum off groundwater from the Ocotillo-Coyote Wells Sola Source Aquifer, said boundary extension was for the sole purpose identified as serving those industrial activities then identified in 1981. It is my understanding that IID cannot by law serve users outside their water boundaries without extraordinary hurdles.

74. Thus, the next proposed water source was going to be the Seeley WasteWater Treatment Plant facility (SWWTP) 150,000 to 200,000 gal of reclaimed water per day (2010 Solar 2 SA/DEIS ES-4) with clean up and use of RO to reduce solids and TDS so be able to use the water for washing mirrors, and was to have been a source of water for concrete for construction also. The project needs water for Solar 2 SA/DEIS ES-4 washing mirrors and dust suppression and would use about 33,550 gallons/day for those purposes (Solar 2 2010 SA/DEIS c.7-2. The SA/DEIR (at C.7-3) goes on to state that "Potable water would be supplied by a local supplier yet to be determined. Section 2.7-2 is emphatic that **"No groundwater would be used by the project and the effect on groundwater infiltration would be negligible**." (Emphasis added.) Solar 2 SA/DEIS ES-4(February 2010 Solar 2 SA/DEIS at C.7-3)

75. The February 2010 Solar 2 SA/DEIS ES-4 also noted that potable water would be delivered to the site and stored in a 5,000 gal tank, but did not identify the source.

76. Writing for the Sierra Club I was among those who raised concerns about the impacts of diverting treated wastewater from the wetlands with listed species without doing more analysis. State and Federal agencies also had concerns, Thus, the SWWTP decided that it was necessary to do a full EIR rather than approve the upgrades and water transfer by using a mitigated Neg Dec. So, oops, suddenly there was not going to be any ready source of water supply available for construction even if CEC and BLM approved the project.

77. So on March 11, 2010 the applicant asked (through a filing on March 15, 2010, that the commission approve "a back-up/temporary supply of water for project construction and operation." Their "preferred back-up/temporary source of water is from a well they claim to have been supplying water "in the region since the 1950s" to construction companies. Maximum permitted quantity was stated to be 40 AF/Y. There has been a very contentious history associated with the well including past litigation related to export from the County, high fluoride levels causing mottling of the teeth of consistent users.

78. The property has been red-tagged several times and there has been a long history of"bickering" (being polite) between former owners and County Planning Dept as can be seen from Condition T-9 which states that "all previous and existing Land-Use violations on the property of water well #16S/9E-36G4 must be abated." There is another Condition T-7 relating to use of water for domestic purposes to meet CA Safe Drinking Water Standards if water is to be used for domestic purposes. There is the hot spot. Regardless of water quality, I have been informed that a number of households in West Texas and Painted Gorge purchase water for domestic purposes from this well. (Conversations with Tom Hembree, several times spring 2010.)

79. Last time I have data for the fluoride level was 2.7 mg/l in 1975 (or almost double the 1.4 gg/l Maximum Contaminant Level according to the National Drinking Water Standards) and this matches the water quality information provided by the applicant in May 2010.. High fluoride levels in drinking water can leach calcium from bones and causes mottling of teeth, thus the stopping of export from the well to Mexico several decades ago. There has been no regular water quality monitoring of this well by USGS since 1975 (just double checked the info at the USGS websites listed in my Exhibit 19 table of info on wells in the groundwater basin.). Fluoride levels of 2.7 mg/l would require treatment if to be used for drinking and cooking.

80. If water quality issues are brought up and domestic users (not for drinking) end up being shut off by County, there will be many homes and families without any water. It was the County that issued building permits for homes in locations which the County full well understood did NOT have potable water at the location of the home. Therefore, the County should not be permitted to deny the Other than 2 small mutual water companies in Ocotillo proper, all other residences have private wells where water is potable, or was originally thought to be potable. Where water was known to be highly saline, many owners most never wasted the money to put in wells to pump poor quality water.

81. If water goes to Solar 2 then all other existing users would be cut off because of pumping limits.. Several decades ago when the well was exporting water to Mexico, the well was most likely a significant part of the problem with the very large cone of depression created by US Gypsum's export pumping. Closest wells to the 36 G4 are US Gypsum wells, probably not much more than 500 to 1,000 ft away.

Inconsistent estimated of water needs/water uses by Project Applicant and consultants

82. The Applicant's "Prepared direct testimony from Marc Van Patten" (3/11/2010) related to the Dan Boyer Water Company in Ocotillo re well 16S/9E-36G4 and Testimony from Moore #8 stating

construction demands of 45,000 gpd with a peak of 90,000 gpd don't quite match up with what I learned from the Imperial County Environmental Health Dept. (Exhibit 526) Van Patten and the documentation from county states a "delivery limit of 40 AF/Y". The County documentation states a daily limit of 41,775 gallons/day/250,654/week, 6 days/week coming to 40 AF/Y. (Condition T-2) (See Exhibit 527) Why is the Applicant asserting that it has needs and will use more than what it acknowledges to be the permitted amount in the "Specific Terms for the Groundwater Registration?

83. By contrast in the Applicant's opening testimony Moore states in Response to Q8 to describe the temporary/back-up water source, the Applicant states that "Construction water demand will be 45,000 gallons/day with a peak of 90,000 gallons/day....with water demand during operation requiring less than 6-7 trucks/day." 90,000 gal/day x 30 days/mo equals 8.29 AF/month or about 99 AF/Y. If only 6 days/week then 7.18 AF/month or 86.1 AF/Y. Specifically Moore's testimony states that:

> "The Applicant is currently negotiating an agreement with the water purveyor. Construction water demand will be approximately 45,000 gallons per day with a peak of 90,000 gallons per day. This equates to approximately 6 to 7 trucks (7,000 gallon trucks) per day on average during construction and up to 13 water trucks per day during construction at peak demand. Water demand during operation is anticipated to be lower, requiring less than 6 -7 trucks per day." (Testimony of Matthew Moore #8, 3/15/2010) (Exhibit 528)

84. These numbers exceed the allowable pumpage for the well in question according to a copy of the Specific Terms presented by the Applicant at the March CEC workshop.. If permitted by the County it would be a real exacerbation of the adverse impacts of US Gypsum's nearby wells.

85. Isn't to great to have sworn testimony of two individuals a few pages apart that present such different info and potentially different magnitude of adverse impacts?!?!?!

86. The May 2010 Supplemental Project Description for Supplement to Application for Certification refers to a "current permitted pumping of 40 acre feet per year (afy)" (URS 5/5/2010 Supplement at 1-2.)

87. Applicants Comments on SA/DEIS (dated 3/12/2010) (p.70) and (SA/DEIS C.7-2) suggests the Applicant expects to get up to 200,000 gallons/day x 365 days = 224.03 Acre feet/year proposed from Seeley Waste Water Treatment Facility for project needs. But this sentence follows the project might only need 32.7 AF/Y for mirror washing and dust suppression. This is almost a 7 fold difference in the estimated water usage! Why?

88. I was told by staff at the County Environmental Health Department that the well 36G4 is not an active water system monitored by county health dept. That may mean that domestic users might get cut off. I have already gotten a phone call of concern about what would happen if domestic users lose their water supply if the County tried to change the California priorities of water use and make industrial use of potable groundwater a higher use than domestic use.

Groundwater data for the Boyer well? Where is it?

89. The well in question is 16S/9E-36G4, very close to one of the US Gypsum pumping wells. It is currently supplying domestic users in the Painted Gorge and West Texas areas north of Interstate 8 and just west of the Solar 2 project. (See 2006 USG DEIR/S Fig. 3.3-3 Generalized Geology which depicts the location of West Texas and Painted Gorge north of Hwy 80 to the west of Plaster City and East of Coyote Wells. This figure is included in the Applicant's Appendix C which includes a portion of the 2006 Draft EIR/S which includes USGS water quality monitoring data through March 2002 (2006 USG DEIR/S Fig 3.3-12, 13, 14 in Applicant's Hydrology Appendix C) and water level data through 2001 (2006 USG DEIR/S 3.3-49, and 2006 USG DEIR/S Table 3.3-5 "Summary of Well Data through 2001 at p. 3.3-33 in Applicant's Hydrology Appendix C).

90. The list of wells for which there was monitoring data through 2001 for the 2006 USG DEIR/S can be found at Table 3.3-10 "List of Current and Proposed monitoring wells in the Ocotillo/Coyote Wells Groundwater Basin at 2006 USG DEIR/S p. 3.3-85 of Applicant's Appendix C.)

91. The Applicant's documents assert that the Boyer well at one time pumped a much larger quantity of water for export, but provides no water sales history for the WestWind water company other than from 3 months in 1990 through June 2004 in URS Appendix B.. Why? If water was sold, surely there must have been some records either earlier or more recently .

92. Why does the Applicant's Appendix D, a 2010 Groundwater Evaluation include an Appendix D which is a USGS hydrogrraph for well 16S/9E-36G4 which includes no data any more recent than possibly 2003. Why has there been no more recent monitoring of water levels when this well is proposed as a source of water? Surely it would have been appropriate to request that this well be monitored in spring 2010 when other wells in the Groundwater basin were measures by USGS? Exhibit 516 includes water level data from USGS that is more recent than the hydrograph. I will double check to be certain that EH Table 10 does not contain errors.

Cumulative impacts related to groundwater pumping

93. The Ocotillo Express Wind Facility 2009 Draft Plan of Development (Exhibit 525 and 529) provides information on the location and magnitude of the wind energy project. BLM has expressed concern to me about what would be the source for water for all these renewable energy projects and transmission towers where groundwater is so limited and the situation for domestic users vulnerable to down-gradient impacts related to both water levels and water quality. Exhibit 525 indicates that this project would require 61.4 AF for construction. (OEW p.7)

94. The 2010 Wind Zero Coyote Wells Specific Plan (CWSP) DEIR Sec. 4.14 Utilities Impact 4.14.1.4 also refers to the "six year groundwater study agreement" and states that:

95. "There is a potential for the proposed project to further reduce groundwater supply in the cumulative project vicinity. Due to the potential for the proposed project further exacerbate groundwater supply resources in the project area, the proposed project's applicant will be required to implement a six year ground water study agreement to monitor the condition of the basin and impacts from the proposed project site. <u>If it is determined by Imperial County the project is causing the basin to go into further overdraft, use of basin water in the project area will stopped and alternative water supplies must be used.</u>" (Sec 4.14 Utilities Cumulative Groundwater Impacts, Impact 4.14.1,4 at 2010 CWSP DEIR 4.14-10)

96. How can the Planning Director suggest that the IV Solar project proposal might be able to pump for export almost five times as much water as stated is allowable in the Terms for the well 16S/9E-36G4? What would be the cumulative impacts from such a well so close to the US Gypsum Wells for which pumping quantity is unknown? How would this pumpage combined with other industrial pumpage and the Wind Zero proposed pumping impact water levels and water quality for the down-gradient private well owners of Nomirage?

97. CWSP, CWSP DEIR, and CWSP DEIR Hydrology Appendix provide inconsistent information about amount of water to be pumped. CWSP DEIR Hydrology Appendix (Leighton 2020, at p. 23) (36appg-hydrology p. 26) cite annual water demand as "67 ac-ft annually" .

98. However, CWSP DEIR Hydrology Appendix Leighton (P. 33) following the incomplete Table 10 for estimated water usage, cites the information in the CWSP at p.67 (CWSP DEIR Hydro 36appg at p36). . CWSP Updated Dec 2009 estimates water consumption as **87.8 (high) ac-ft** per year: (CWSP at p. 67).

99. Harmon's calculations for the totals for the same table 10 suggest annual pumpage for the proposed CWSP project about 126 acre feet/year. Recalculated CWSP Table #10 is appended as Exhibit to CWSP comments. .

100. CWSP DEIR Hydrology Leighton Appendix Sec. 3.2.2 Groundwater Qaulity information is **not** included in Hydrology section of DEIR. Why was this discussion omitted? Leighton's text follows:

101. "3.2.2 Groundwater Quality The proposed project potentially would generate wastewater from runoff of hardscape and structures, which may contain pollutants that could impact the groundwater or surface water resources in the area. The potential of groundwater degradation due to saline water encroachment has been associated with production of groundwater in selected locations within the basin. As such, the proposed project would need to specifically address the potential of groundwater degradation due to its production of groundwater." (Emphasis added.) (CWSP DEIR Hydrology Appendix Leighton at p. 24; DEIR 36appg-hydrology p. 27.)

102. CWSP DEIR and Appendices give the public inconsistent information about pumpage and fails to identify existing industrial export of groundwater for the US Gypsum Plaster City factory and cites 1992 pumpage as 379 AF/Y rather than the 533 AF/Y in the BE 2004 Table 4-2 **(Exhibit 35)**.. Add to this the new information about proposal to export groundwater from a private well near to the US Gypsum well for IV Solar Project , in addition to the pumping for the proposed CWSP project and there is a very serious potential for exacerbated degradation of the groundwater in the Nomirage area of the basin as noted in Leighton 2010 at p. 24. (CWSP DEIR 36appg-hydrology p. 27.)

103. Leighton was very specific that for those reasons " the proposed project would need to specifically address the potential of groundwater degradation due to its production of groundwater." (CWSP DEIR 36appg-hydrology p. 27.) Why isn't this issue addressed in the Section of the SA/DEIS forIV Solar Hydrology and water quality? The SA/DEIS must provide information and be recirculated for public comment.

104. Although the term "Overdraft" is mentioned (CWSP DEIR 4.7-10) and attributed to Leighton, and in discussion of utilities (CWSP DEIR4.14-2, 4.14-6), why is there no serious discussion of the implication of overdraft and the effects of even more pumping within the large cone of depression.?

105. Discussion of the project setting in the chapter on Hydrology and water quality states that: "Under the existing conditions at the project site, there is little to no potential for water quality issues to occur." (CWSP DEIR 4.7-11) This seems to be a complete contradiction to the text in Leighton at p. 27 and renders the hydrology and water quality analysis incomplete and inadequate. A discussion of the potential impacts on groundwater quality of nearby domestic wells in Nomirage and downgradient wells in Yuha must be included in a revised and recirculated DEIR for CWSP, and SA/DEIS for IV Solar..

106. So what is it with regard to water use for the IV Solar project? Most certainly water for construction, mirror washing and construction should not come from a potable groundwater well located near the center of the large cone of depression in a Sole Source Aquifer. What the Bound comments on the SA/DEIS says is a water need more than 5 times what is permitted at the intended groundwater well and puts it in the same excessive category as US Gypsum's industrial export of water from the potable portion of the groundwater basin and all without any geohydrology studies, discussion of cumulative impacts and no requirements for monitoring or mitigation. Cumulative effects of increased concentration of pumping are a really a big issue in light of the status of the US Gypsum ongoing litigation because wells are so incredibly close. And water levels are continuing to decline in downgradient domestic wells. There has been no geohydrology study that considers the cumulative impacts of increased removal of potable water for distant industrial uses. Pumping is concentrated because there is relatively little private land.

107. Water resource issues are complicated and the public deserves to be afforded a longer comment period if consideration of the proposed solar project continues to seek groundwater. The Applicant's failure to provide the promised Alternative Water Supply documents and assessment should not be permitted to translate into a foreshortening opportunity for meaningful public comment. It is doubtful that those who received print copies or CDs from the CEC/BLM are or were aware that the proposed water supply for the project has changed just today.

108. Thank you for your consideration of these groundwater concerns.

References cited

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices

Ocotillo Express Wind Facility 2009 Draft Plan of Development

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a "Sole Source Aquifer" 61 FR 47752, Sept 10, 1996)

US Gypsum Expansion and Modernization 2006 DEIR/EIS

US Gypsum Expansion and Modernization 2008 FEIR/EIS

Exhibits for Solar 2 groundwater issues

515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a "Sole Source Aquifer" 61 FR 47752, Sept 10, 1996)

516 "EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA" Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.

517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project

519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project

520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area

521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS

522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data

523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data

524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S

525 Ocotillo Express Wind Draft Plan of Development 2009

526 SES Applicant's Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4

527 Terms for Well 16S/9E-436G4

528 Moore in SES Applicant's submittal of Opening Testimony re well 16S/9E-36G4

529 Ocotillo Express Wind Facility 4 pgs

530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210

531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant's Appendix C for hydrology

Declaration of Edie Harmon

Re: Testimony on groundwater issues related to the proposed Alternative Water Supply for the Imperial Valley Solar Project/Solar 2 DOCKET NO. 08-AFC-5

I, Edie Harmon, declare as follows:

I prepared the testimony submitted herein. These comments have also incorporated and/or included comments and analysis I have prepared and previously submitted as comments on Draft and Final EIR/EIS documents for the US Gypsum Expansion and Modernization Project in 2006 and 2008, and comments and analysis related to groundwater issues for the 2010 DEIR for the proposed Wind Zero/Coyote Wells Specific Plan Project. The Wind Zero project overlies the Ocotillo Coyote Wells Groundwater Basin with proposed wells just a few miles downgradient to the east of the Applicant's well and west of the Imperial Valley Solar Project..

My relevant experience and qualifications are set forth in the Resume which follows. I believe that this testimony is true and correct. I am personally familiar with the facts and conclusions included in the attached testimony. If called as a witness, I could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foegoing is true and correct to the best of my knowledge.

Dated: May 10, 2010 ____s/ EdieHarmon_____

At: San Diego California Edie Harmon

Resume for Edie Harmon

Macalester College BA cum laude geography 1966. Distinguished citizen award 199? for work with Native Americans related to cultural resources, sacred sites and mining in Imperial County CA.

Peace Corps Volunteer 1966-1969 Uganda teaching biology and art at Ndejje Senior Secondary School and running the school clinic. Was at the school when we transitioned from carrying buckets of water from a swamp to getting a small well that pumped muddy water to the school.

Peace Corps Volunteer secondary school teacher in Botswana with trip into the Central Kalahari to supply ranger with water in an area where the groundwater levels have declined more than 650 feet since the British began building boreholes to bring up water for cattle. What made the biggest impression was to understand that the name of the community meant "land of the reed swamp" when David Livingstone visited the area in 1872. Knowledge of that overwhelming decline in groundwater levels near the Okavango changed how I have looked at water and deserts in the past almost 40 years.

Graduate work and research on physiological and behavorial adaptations of bats and small mammals to harsh environments, 1971-1978 in Idaho, CA and Botswana. Did not complete writing for graduate degree because I was too involved with legal and technical research related to groundwater export from the Ocotillo-Coyote Wells Groundwater Basin after I moved to Ocotillo in fall of 1977.

2005 appointed by Governor Schwarzenegger to environmental seat on the State Mining and Geology Board, because of my interest in groundwater issues related to mining and resource extraction operations. I was not able to serve because I was sole 24 hour nurse/caregiver for my husband who was diagnosed with Parkinson's disease the same day as the appointment was made.

2010 accepted invitation from Imperial Irrigation District to be a stakeholder for the development of the Imperial County/Imperial Irrigation District Water Management Plan, with special concerns about groundwater.

Experience related to groundwater issues

Since 1997 I have been analyzing USGS monitoring data and information on wells in the Ocotillo-Coyote Wells Groundwater Basin. In the past I have repeatedly discussed issues with David Huntley PhD, now emeritus professor of groundwater geology at San Diego State University, and John Izbicki PhD at the USGS Water Resources Center in San Diego, CA. In 2008 and 2009, I have also discussed concerns about potential impacts of proposed withdrawals of water in excess of 5 AF/Y fro man individual well and interpretations of USGS data for this basin with Peter Martin, Director of USGS Water Resources Center and John Ungvarski PhD with US EPA Region IX and with the USGS technicians that do the water level and water quality monitoring in Imperial County. The very large cone of depression is apparently centered in the vicinity of the 3 US Gypsum wells and the well proposed to be used for the Solar 2 project. Before speaking at public hearings I usually try to check with a groundwater expert to be sure my conclusions are not incorrect.

I was listed as a witness for several of the Imperial County lawsuits (both state and federal) related to export of groundwater and testified in court for one lawsuit in Superior Court. Addressed Planning Commission and Board of Supervisors on groundwater impacts and management issues more times than I can count since moving to Ocotillo in 1977.

In 1987 County Counsel Tom Fries asked me and my husband to volunteer to help with research related to the two Appellate Court briefs related to groundwater export/ nuisance and zoning. In that capacity, I reviewed all the technical materials that could be located and county documents related to the history of groundwater use in the basin. I was taught by a staff attorney how to do the writing for a legal brief for County Counsel to consider. Both Appellate Court decisions were in County's favor. Export from both wells in question had ceased prior to Appellate Court decisions. I also did research to distinguish between correlative groundwater rights and prescriptive rights for County Counsel.

1988 was asked by County Counsel to consider drafting language for a County Groundwater Management

Ordinance. I did prepare suggestions, but US Gypsum, the largest groundwater user/exporter in the County objected and ultimately County adopted an ordinance (seemingly authored by a USG attorney) that granted what appeared to be extraordinary privileges only to US Gypsum and no other users. T o the best of my knowledge from a former commission member, the Groundwater Management Ctte has met apparently only twice in 15 years and has never had a groundwater user on the committee. I actively argued, (essentially unsuccessfully) for changes in Groundwater nManagement Ordinance to eliminate special protections for largest user.

Over the past 30 years I have commented on groundwater issues associated with mining, landfills, peak energy projects, sewage sludge and sand and gravel operations in Imperial County, San Diego and Riverside counties and submitted written comments for several different organizations and community groups..

I have reviewed USGS monitoring data and provided written materials on groundwater issues for attorneys for at least six different lawsuits related to groundwater issues in Imperial County since 1997.

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SUMMARY: Pursuant to the Federal Advisory Committee Act, Public Law 92–463, notice is hereby given that the Automobile Manufacturing Sector Subcommittee of the Common Sense Initiative Council will hold an open meeting via conference call on September 26, 1996.

OPEN MEETING NOTICE: Notice is hereby given that the Environmental Protection Agency is holding an open meeting via conference call of the Automobile Manufacturing Sector Subcommittee of the Common Sense Initiative Council on September 26, 1996. The meeting will begin at 10:00 a.m. EDT and run until 2:00 p.m. EDT.

This meeting will be a follow-up to previous discussions regarding regulatory projects to be addressed by the CSIC–AMS. The CSIC–AMS is planning to decide whether or not there are regulatory issues they would like to address for the automobile manufacturing industry in this forum. The CSIC–AMS will also receive brief updates from the Life-Cycle Management/Supplier Partnership Project Team and Alternative Sector Regulatory System/Community Technical Assistance Project Team.

A limited number of lines have been reserved for public participation. Lines will be made available through reservations on a first come, first serve basis. Advance registration is required to obtain a reservation. Any person or organization interested in participating in the meeting should contact Keith Mason, Alternate Designated Federal Officer, no later than September 23, 1996, at (202) 260–1360. Each individual or group wishing to make oral presentations will be allowed a total of three minutes. For further information concerning this meeting, contact Keith Mason, Alternate DFO on (202) 260–1360, Julie Lynch, Alternate DFO on (202) 260–4000, or Carol Kemker, DFO, on (404) 347–3555, extension 4222.

INSPECTION OF CSIC DOCUMENTS: After the meeting, documents relating to this meeting, together with the official minutes, will be available for public inspection in Room 2821 Mall of EPA Headquarters, Common Sense Initiative Program Staff, 401 M Street, SW., Washington, DC 20460, phone (202) 260–7417. CSIC information can be accessed electronically through contacting Katherine Brown at: brown.katherines@epamail.epa.gov.

Dated: September 4, 1996.

Robert English,

Acting Designated Federal Officer.

[FR Doc. 96–23064 Filed 9–9–96; 8:45 am]

BILLING CODE 6560–50–P

[OPPTS–44630; FRL–5392–4]

TSCA Chemical Testing; Receipt of Test Data

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces the receipt of test data on refractory ceramic fibers (RCFs) (CAS No. 142844–00–6), submitted pursuant to a Testing Consent Order under the Toxic Substances Control Act (TSCA). Publication of this notice is in compliance with section 4(d) of TSCA.

FOR FURTHER INFORMATION CONTACT: Susan B. Hazen, Director, Environmental Assistance Division (7408), Office of Pollution Prevention and Toxics, Environmental Protection Agency, Rm. E–541A, 401 M St., SW., Washington, DC 20460, (202) 554–1404, TDD (202) 554–0551; E-mail: TSCA-Hotline@epamail.epa.gov.

SUPPLEMENTARY INFORMATION: Section 4(d) of TSCA requires EPA to publish a notice in the **Federal Register** reporting the receipt of test data submitted pursuant to test rules promulgated under section 4(a) within 15 days after it is received. Under 40 CFR 790.60, all results of testing conducted pursuant to a consent order must be announced to the public in accordance with the procedures specified in section 4(d) of TSCA.

I. Test Data Submissions

Test data for refractory ceramic fibers were submitted by three member companies of the Refractory Ceramic Fiber Coalition (Carborundum Company, Premier Refractories and Chemicals, Incorporated, and Thermal Ceramics, Incorporated) pursuant to a Testing Consent Order at 40 CFR 799.5000. They were received by EPA on June 23, 1996. The submission describes workplace exposure monitoring data from RCFC company facilities, as well as from their customers' facilities. The customers selected include those chosen at random and those who specifically requested monitoring. Air monitoring samples were collected from employees engaged in RCF fiber production and processing, or use in functional categories such as forming, finishing, and installation.

RCFs are used as insulation for industrial insulation applications such as high temperature furnaces, heaters, and kilns. RCFs are also used in automotive applications, aerospace uses, and in certain commercial appliances such as self-cleaning ovens.

EPA has initiated its review and evaluation process for these data submissions. At this time, the Agency is unable to provide any determination as to the completeness of the submissions.

II. Public Record

EPA has established a public record for this TSCA section 4(d) receipt of data notice (docket number OPPTS–44630). This record includes copies of all data reported in this notice. The record is available for inspection from 12 noon to 4 p.m., Monday through Friday, except legal holidays, in the TSCA Nonconfidential Information Center (NCIC) (also known as the TSCA Public Docket Office), Rm. NE–B607, 401 M St., SW., Washington, DC 20460.

Authority: 15 U.S.C. 2603.

List of Subjects

Environmental protection, Test data.

Dated: August 28, 1996.

Williams H. Sanders III,

Director, Office of Pollution Prevention and Toxics.

[FR Doc. 96–22966 Filed 9–9–96; 8:45 am]

BILLING CODE 6560–50–F

[FRL–5560–8]

Ocotillo-Coyote Wells Aquifer in Imperial County, California; Sole Source Aquifer Final Determination

AGENCY: Environmental Protection Agency.

ACTION: Notice.

SUMMARY: Notice is hearby given that, pursuant to Section 1424(e) of the Safe Drinking Water Act, the Regional Administrator of the Environmental Protection Agency (EPA) has determined that the Ocotillo-Coyote Wells Aquifer, underlying portions of Imperial County, California, is the sole or principal source of drinking water for Ocotillo, Nomirage, Yuha Estates, and Coyote Wells and that this aquifer, if contaminated, would create a significant hazard to public health. As a result of this action, all Federal financially assisted projects constructed in the Ocotillo-Coyote Wells area and its streamflow source zones will be subject to EPA review to ensure that these projects are designed and constructed such that they do not create a significant hazard to public health.

DATES: This determination shall be promulgated for purposes of judicial review at 1:00 P.M. Eastern time on September 24, 1996.

ADDRESSES: The data on which these findings are based are available to the public and may be inspected during normal business hours at the U.S.

Environmental Protection Agency, Region 9, Ground Water Protection Section, 75 Hawthorne Street, San Francisco, California 94105.

FOR FURTHER INFORMATION CONTACT: Wendy L. Melgin, Hydrogeologist, Ground Water Protection Section, U.S. EPA Region 9, at 415–744–1831.

SUPPLEMENTARY INFORMATION:

I. Background

Section 1424(e) of the Safe Drinking Water Act (42 U.S.C., 300f, 300h-3(e), P.L. 93–523) states:

(e) If the Administrator determines on his own initiative or upon petition, that an area has an aquifer which is the sole or principle drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

On May 2, 1994, EPA received a petition from "The Ocotillo Club", which petitioned EPA to designate the Ocotillo-Coyote Wells Aquifer as a sole source aquifer. A public hearing was conducted on September 21, 1995 in Ocotillo, California, and the public was permitted to submit comments and information on the petition until March 25, 1996.

II. Basis for Determination

The factors to be considered by the Administrator in connection with the designation of an area under Section 1424(e) are: (1) Whether the Ocotillo-Coyote Wells Aquifer is the area's sole or principle source of drinking water and (2) whether contamination of the aquifer would create a significant hazard to public health.

On the basis of technical information available to this Agency, the Administrator has made the following findings, which are the bases for the determination noted above:

1. The Ocotillo-Coyote Wells Aquifer currently serves as the "sole source" of drinking water for the residents of Ocotillo, Coyote Wells, Yuha Estates and Nomirage.

2. Contamination of the aquifer would create a significant hazard to public health. There is no economically feasible alternative drinking water source near the designated area.

3. The determination of the boundary of the Sole Source Aquifer is consistent with EPA's Sole Source Aquifer designation Decision Process: Petition Review Guidance (Office of Ground Water Protection, 1987).

III. Description of the Ocotillo-Coyote Wells Sole Source Aquifer

The Ocotillo-Coyote Wells Sole Source Aquifer underlies an 87-square mile area in the southwestern corner of Imperial County, near Ocotillo, California. Ocotillo is approximately 25 miles west of El Centro and 90 east of San Diego. Ground water is found primarily in the saturated Quaternary-age alluvial valley-fill deposits, which are derived from the surrounding mountains and consist of fine sand and gravel interspersed with silts and clays of varying thickness and extent.

The designated area includes the surface area above the alluvial unconfined aquifer and the surrounding recharge areas located in the Jacumba and Coyote Mountains. The boundaries of the sole source aquifer are largely topographically defined along major surface watershed boundaries in the Jacumba and Coyote Mountains, with the exception of the Elsinore Fault boundary and the boundary with the U.S.-Mexican border. The Elsinore fault was chosen as a boundary because it separates the sole source aquifer area, which contains high quality, potable water, from high saline, non-potable water to the east of the fault.

IV. Information Utilized in Determination

The information utilized in this determination includes the petition, written and verbal comments submitted by the public and various technical publications. The above data are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region IX, Ground Water Protection Section, 75 Hawthorne Street, San Francisco, California 94105.

V. Project Review

EPA Region IX will work with the Federal agencies that may in the future provide financial assistance to projects within the boundaries of the Ocotillo-Coyote Wells Sole Source Aquifer. EPA will seek to develop agreements with other Federal Agencies whereby EPA will be notified of proposed commitments of Federal financial assistance for projects which could contaminate the aquifer. In the event that a Federal financially assisted project could contaminate the Ocotillo-Coyote Wells Sole Source Aquifer through its recharge zone so as to create a hazard to public health, no commitment of Federal financial assistance will be made. However, a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to insure it will not contaminate the aquifer.

Although the project review process cannot be delegated, EPA will consider, to the maximum extent possible, any existing or future state, tribal, and local control mechanisms in protecting the ground water quality of the aquifer.

VI. Summary of Public Comments

The public hearing, held in Ocotillo, California on September 21, 1995, was attended by 28 people, with 9 people speaking. Of those who expressed an opinion, four supported the designation of a Sole Source Aquifer. Of those who submitted comments, fifteen opposed the designation and 29 supported the designation. The public's written and oral comments are fully addressed in EPA's Responsiveness Summary which is available to the public during normal business hours at the U.S. Environmental Protection Agency, Region IX, Ground Water Protection Section, 75 Hawthorne Street, San Francisco, California 94105.

Dated: August 14, 1996.

Alexis Strauss,

Acting Regional Administrator.

[FR Doc. 96–23066 Filed 9–9–96; 8:45 am]

BILLING CODE 6560–50–P

FARM CREDIT ADMINISTRATION

Farm Credit Administration Board; Regular Sunshine Meeting

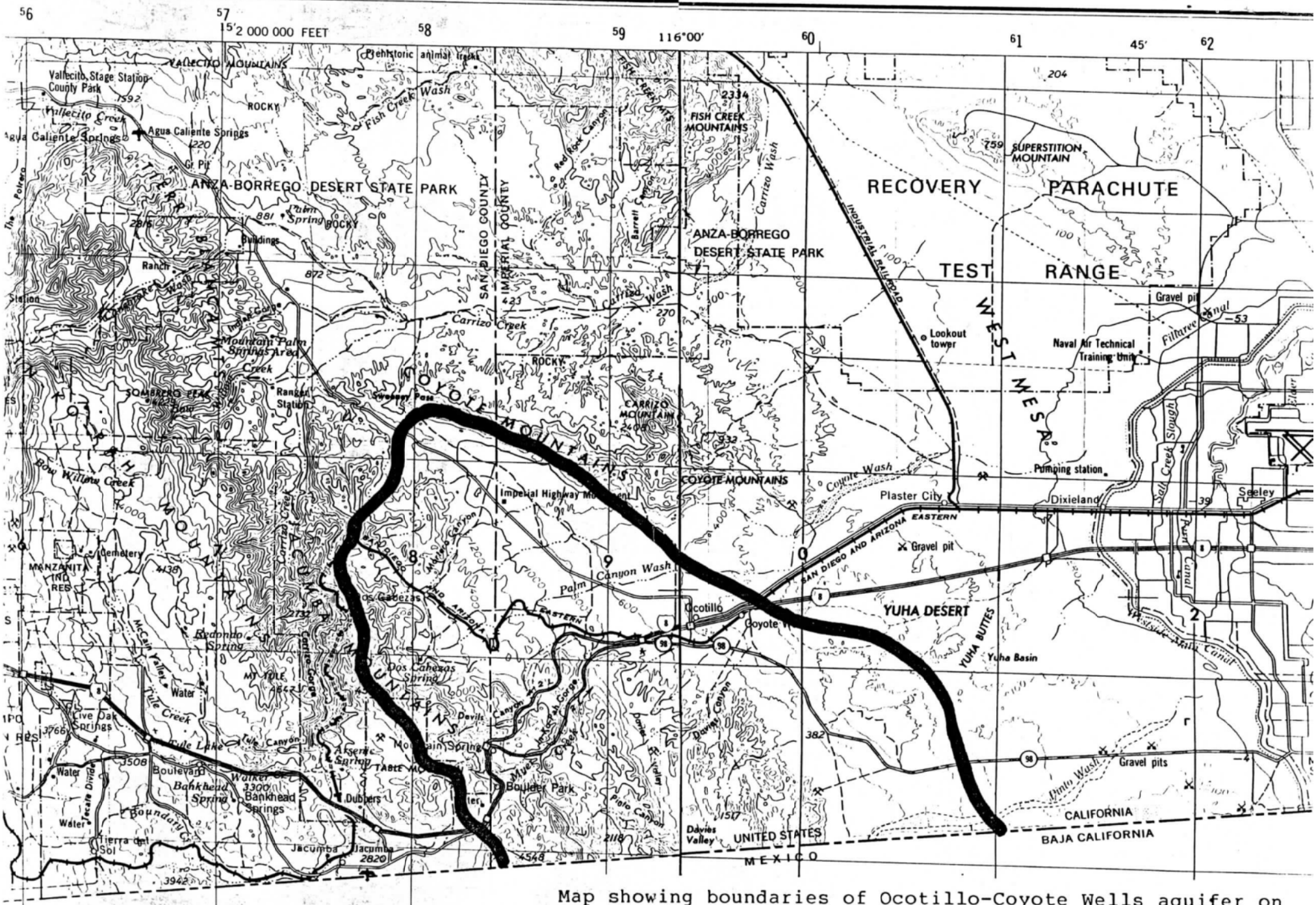
AGENCY: Farm Credit Administration.

SUMMARY: Notice is hereby given, pursuant to the Government in the Sunshine Act (5 U.S.C. 552b(e)(3)), of the forthcoming regular meeting of the Farm Credit Administration Board (Board).

DATE AND TIME: The regular meeting of the Board will be held at the offices of the Farm Credit Administration in McLean, Virginia, on September 12, 1996, from 10:00 a.m. until such time as the Board concludes its business.

FOR FURTHER INFORMATION CONTACT: Floyd Fithian, Secretary to the Farm Credit Administration Board, (703) 883–4025, TDD (703) 883–4444.

ADDRESSES: Farm Credit Administration, 1501 Farm Credit Drive, McLean, Virginia 22102–5090.



Map showing boundaries of Ocotillo-Coyote Wells aquifer on U.S.G.S. topographic maps, Western United States 1:250,000 series, San Diego (NI 11-11) and El Centro (NI 11-12) quadrangles.

FACT SHEET: The EPA's Sole Source Aquifer Program

The U.S. EPA's Sole Source Aquifer Program was established under Section 1424(e) of the Safe Drinking Water Act (SDWA). Since 1977, it has been used to help prevent contamination of ground water by federally-funded projects and to increase public awareness of ground water resources.

How Did This Program Start?

SDWA regulations implementing the sole source aquifer (SSA) statute were first proposed in 1977 for the Edwards Underground Reservoir in San Antonio, Texas. These regulations guided the EPA in the subsequent designation of 64 SSAs across America.

What Does the Sole Source Aquifer Program Do?

The SSA program provides for EPA review of projects that are financially assisted through federal grants or loan guarantees. These projects are evaluated to determine whether they have the potential to contaminate a SSA. If there is such a potential, the projects must be modified, or federal funding can be denied. This does not mean that the SSA Program can delay or stop development of landfills, publicly owned treatment works, or other publicly or privately owned facilities. Nor can it impact any direct federal environmental regulatory or remedial programs, such as permit decisions. Its review authority extends only to projects funded with federal assistance that are to be implemented in designated SSA areas.

Typical projects reviewed by EPA include housing projects funded by U.S. Housing and Urban Development, and highway construction and expansion projects funded by the Federal Highway Administration.

How do you Designate a Source of Drinking Water as "Sole Source"?

As the name implies, only a "sole source" aquifer can qualify for the program. To be a SSA, the aquifer must meet two EPA criteria:

- It must supply more than 50% of a communities drinking water.
- It must be the *only* available local or regional source of drinking water.

Any individual, corporation, association, or federal, state, or local agency may petition EPA for SSA designation, provided that the petition satisfies certain hydrogeological information. *The Sole Source Aquifer Designation Petitioner Guidance* document provides more information about preparing and submitting a petition, and is available from EPA Regional Offices.

What About Boundaries?

Determination of SSA boundaries is a difficult aspect of the designation process since the "designated area includes the surface area above the aquifer and its recharge area". Thus, some SSAs extend across state boundaries, such as the 10,000 sq.mile Eastern Snake River Aquifer, which includes portions of Idaho, Nevada, Utah, and Wyoming

Where are the Sole Source Aquifers?

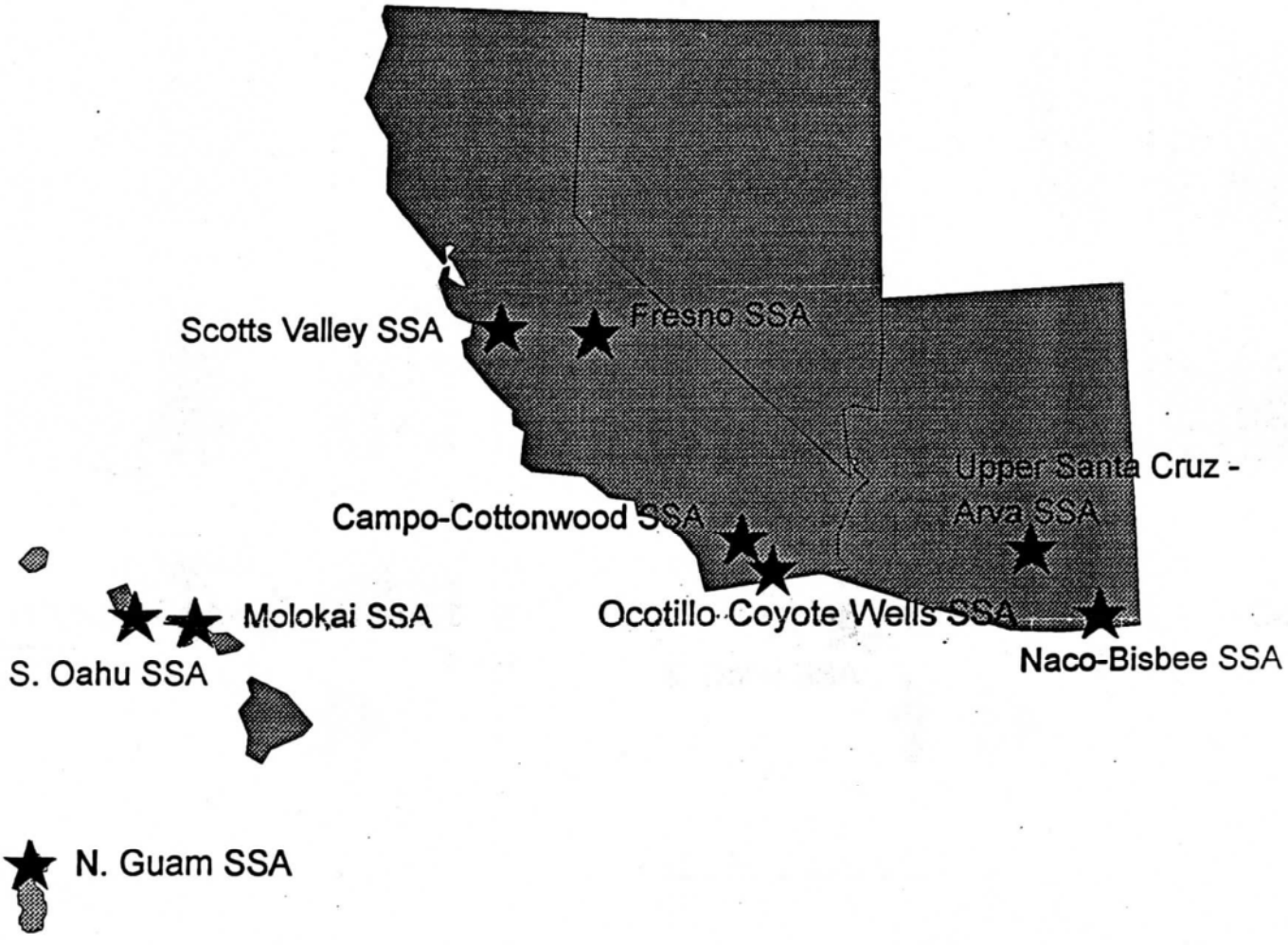
To date, EPA Region 9 has designated nine SSAs:

- Upper Santa Cruz and Avra Basin Aquifer - Arizona
- Naco-Bisbee Aquifer - Arizona
- Fresno Aquifer - California
- Scotts Valley Aquifer - California
- Campo- Cottonwood Aquifer - California
- Ocotillo-Coyote Wells - California
- Southern Oahu Aquifer - Hawaii
- Molokai Aquifer - Hawaii
- Northern Guam Aquifer

Further Information

For more information on how the Sole Source Aquifer Program can benefit your community, please contact Wendy Melgin, Hydrogeologist at (415) 744-1831 or Elizabeth Janes, Public Outreach Coordinator at (415) 744-1834, Source Water Protection Section (W-6-3), U.S. EPA Region IX, 75 Hawthorne, San Francisco, CA 94105.

Locations of EPA Region 9 Sole Source Aquifers



August, 1996

Exhibit 19 EH Table 10 Water well information, water quality, and groundwater elevations
Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA
(USG 2006 EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman- Edmonston 3/96 (BE96) and BE 1/2004 (BE04) cited in Coyote Wells Specific Plan 1/2010 DEIR)
Not all data are shown for all wells, and not all wells monitored only once are included.
Water level measurements are fall data where possible and water quality is when monitored. Update 2010-03

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/9E-24B1 (E of fault) ID 324608115593501	128.5	385	256.5	105.35 107.75 108.44 109.35 109.45 109.58	269.65 277.71 276.56 275.65 275.55 275.42	1976 1995 2001 2007-10 2008-10 2009-10	1270 1230 1240 1300 1240 1200 1210	1977 1995 2001 2004 2007 2008 2009
16S/9E-24D1 (W of fault) ID 32455811559201	149	382	233	103.86 108.13 BE 107.13 USGS 107.89 108.98 109.16 109.21	278.14 276.44 274.87 274.11 273.02 272.84 272.79	1977 1995 1995 2001 2007 2008-10 2009-10	476 468 470 486 481 497	1980 1995 2001 2007 2008 2009
16S/9E-24N1	118	380	262	98.00	282	1975 - 5	477	1975
16S/9E-24R1	101.5	335	233.5	58.00 60.33	277 274.67	1976 1989	357 410	1977 1989
16S/9E-25K1	247	362	115	84.00 89.09 90.46	287.00 272.91 271.54	1958 - 11 1974 - 12 1980	340	1972
16S/9E-25K2 MC ID 324939115593401	372 depth of hole 4000	364	-8	99.70 93.99 94.06 95.08 94.61 96.51 Pumping	264.3 270.01 269.94 268.92 269.39 267.41	1975 1980 1987 1993 1996 1997	245 303 305 590 405 393 337 338 342 313 360 319 327 351 357 364 342 333 342	1974 1977 1980 1982 1988 1989 1994 1996 1997 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009
16S/9E-25K4							394	1985
16S/9E-25M1 OM	262	410	148	140	270	1974	378 316 334	1962 1967 1993

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/9E-25M2 OM ID 324446115595901	336	410	74	137.69 137.42 138.39 140.71 141.06 141.96 142.17 141.35 141.08	272.31 272.58 271.61 269.29 268.94 268.04 267.83 268.65 268.92	1991 - 10 1995 - 10 2000 - 10 2004 - 3 2005 - 10 2006 - 10 2007 - 10 2008-10 2009-10	437	1971
16S/9E-25Q1	128.5	372	243.5	104.24 107.27	267.76 264.73	1974 1991 2001	322	1974
16S/9E-26F1	38.7	250	211.3	22.20 26.95	227.8 223.05	1975 2001		
16S/9E-26F1 (a) ID 324455116003801	300	430	130	195.01 196.86 197.08 197.19	234.99 233.14 231.92 232.81	1998 2007 2008-10 2009-10		
16S/9E-26G1		440		165.32	274.68	1995		
16S/9E-26H2	278	418	140				259 302	1970 1993
16S/9E-34B1 RH ID 324424116012301	410	580	170	324.57 325.36 325.90 326.41 326.64 326.79	255.43 254.64 254.10 253.59 253.36 253.21	1997 1998 - 3 2003 - 10 2005 - 10 2007 - 10 2008 - 10 2009 - 10	309 309 349 303 304 310 308 309 302	1997 1998 1999 2001 2003 2005 2007 2008 2009
16S/9E-35A1	227	472	245				923	1975
16S/9E-35B1		476		216	260	1975 - 6		
16S/9E-35N1	500	600					338	1963
16S/9E-35N2 ID 3243116005501		600		317 315.57 316.41	283 284.43 283.59	1975 2000 2007		
16S/9E-35M1 MG ID 324345116010001	495 depth of hole 535	616	151	321 323.16 323.89 324.87 326.01 323.29 321.3 324.42 325.34 322.43 No data	295 292.84 292.11 291.13 289.99 292.57 294.70 291.58 290.66 293.57	1967 - 3 1975 - 6 1980 - 9 1985 -10 1989 - 3 1995 - 10 1999 -10 2006 - 10 2007 - 10 2008 - 10 2009 - 10	334	1975

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/9E-36B1 USG USG #6	460	350	-110	90.75	258.60	1995	306 406	1963 1966
16S/9E-36C1	157	382	225				292 315 326	1952 1953 1956 1962
16S/9E-36C2 CV ID 324416115594101	303	384	81	125	259	1975 - 6	299 367 368 354 346 355 346 364 348 354 350 359	1961 1991 1993 1995 1998 2000 2001 2003 2005 2007 2008 2009
16S/9E-36C3 CV ID 32441615594102	312	384	72	110.00 178.47 129.31 Pumping	274 205.53 254.69	1975 2001 2002 2006	**314**	1971
16S/9E-36D1	333	452	81				365	1975
16S/9E-36D2 ID 32442211600301	200	433	233	157.90 158.46 160.56 161.30 161.85 162.57 163.14 163.45 163.83 164.14 164.82 165.02 165.31 165.28 164.81	275.10 274.54 272.44 271.70 271.15 270.43 269.86 269.55 269.17 268.86 268.18 267.98 267.69 267.72 286.19	1975 - 6 1980 - 9 1985 - 10 1990 - 10 1995 - 10 2000 - 10 2001 - 10 2002 - 10 2003 - 10 2004 - 11 2005 - 10 2006 - 10 2007 - 10 2008 - 10 2009 - 10	356 347	1975 1990
16S/9E-36D3 ID 324415116000501	333	450	117				365 372 360 350 358 356 357 361 357 365	1975 1992 1995 1998 2000 2003 2005 2007 2008 2009
16S/9E-36F3 USG #3	658	432	-226				595	1950

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/9E-36G1 WW	214	385	171				357 341 356 428 635	1951 1958 1962 1973 1975
16S/9E-36G3 USG	450	354.49	-97	103.17	252.32	1995	333	1963
16S/9E-36H1 USG USG #5 about 1,700 ft. S of 36B1 ID 324407115590901	380 410	337.72 BE 342 USGS	-42 -68	68.50 80.07 82.67 84.08 84.07 82.60 83.36 85.13 85.54 86.72 88.07 88.75 90.08 90.72 91.05 88.67 85.31	269.22 257.65 255.05 253.64 253.65 255.12 254.36 252.59 252.18 251.00 249.65 248.97 247.64 247.00 246.67 249.05 252.41	1954 - 3 1974 - 11 1980 - 9 1985 - 10 1990 - 10 1995 - 10 1998 - 10 2000 - 10 2001 - 10 2002 - 10 2003 - 10 2004 - 11 2005 - 10 2006 - 10 2007 - 10 2008 - 10 2009 - 10	288 312 300 305 299 297 300 321 295 299 294 298 303 301 301 300 305	1963 1977 1980 1985 1991 1995 1998 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009
16S/9E-36G4 WW ID 324401115593201	560	382	-178	136.47 126.53 122.63 123.97 132.60 132.39	245.53 255.47 259.37 258.03 249.40 249.61	1975 1980 - 9 1985 - 10 1995 2000 - 10 2007 -10	310 353	1974 1975
16S/9E-36L1 USG	372	427	55				407	1958
16S/9E-36L2	600	410	-190	152	258	1975 - 6	293 300	1969 1975
16S/9E-36R1	394 hol	430	44	163	267.0	197 - 12		
16S/10E-14N1	118.5	225	106.5	92.37 95.33	132.63 129.67	1975 1988		
16S/10E-16B1	104	215	111 hole				24000	1968
16S/10E-16B2		210		23	187	1975 - 6		
16S/10E-16D1 1.5 mi N USG-PC	152	65	-87	52.09 45.55	12.91 19.45	1974 2001	15200	1975
16S/10E-16Q1		218		20	198	1975 - 2		
16S/10E-18P1 hurricane effect	300	340	40	70.00 Dry	230 Dry	1975 1985	15700	1975
16S/10E-20R3	79	260	181	33	227	1975		

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/10E-24R1	101.5	335	233.5	58.00 59.36 59.89 60.33	277 275.64 275.11 274.67	1976 - 11 1980 - 9 1985 - 10 1898 - 3		
16S/10E-27R1 324430115555501	104	300	196	98.97 95.53 98.49 98.38 98.38 98.28	201.25 204.47 201.54 201.62 201.62 201.72	1975 1995 BE 2001 2007 2008 2009	3770	1975
16S/10E-28D1		253.33	200	29.94 29.72 29.76 29.46	223.39 223.61 223.57 223.87	1995 2007 2008 2009	8600	1948
16S/10E-29K1	39	255	216				2590	1975
16S/10E-29L1	48.45	280	231.55	23.32 29.68	256.68 250.32	1976 1988	713 660 670	1977 1983 1988
16S/10E-29H1 ID 324458115570301	35.5	251.23	215.73	22.20 22.24 23.43 25.58 26.55 27.17 27.12 27.12 27.10 27.34 27.34 26.98	220.03 221.55 227.8 225.65 224.68 224.06 224.11 224.11 224.13 223.89 223.89 224.25	1975 1980 - 9 1985 - 10 1990 - 10 1995 - 10 2000 - 10 2003 - 10 2005 - 10 2006 - 10 2007 - 10 2008 - 10 2009 - 10	54200	1975
16S/10E-29R2 ID 324428115570701	30	258	228	9.74 13.49 16.24 dry	248.26 244.51 241.76	1973 - 5 1980 - 9 1984 - 10 1985 - 10		
16S/10E-30R2	30	258	228	9.74 13.49 16.24	248.26 244.51 241.76	1973 - 5 1980 - 9 1984 - 10	1300	1958
CONTINUED								

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/10E-30R1 ID 324428115581601	75	290	215				527 479 579 560 579 609 654 757 766 **801** 671 644 657 582 548 533 566 535 535 517	1957 1975 1980 1984 1985 1986 1987 1988 1989 **1990** 1993 1994 1995 1996 2000 2003 2005 2007 2008 2009
16S/10E-31B1 ID 324417115582401	255	293.01	38.01	45.22 45.56 46.80 48.98 49.40 49.46 49.15	247.79 247.45 246.19 243.39 243.55 243.86	1993 1995 2001 2006 2007 2008 2009		
16S/10E-31D1		320		61.44	258.56	192 - 4		
16S/10E-31D2		269		19	250	1975 - 5		
16S/10E-32L2	100	280	180				320	1975
16S/10E-32F1	210	275	65				593	1975
16S/10E-32P1 ID 324342115574301		281.58		40.16 41.35 42.77 42.52 43.29 43.51 43.49 43.70 43.85 44.02 44.27 44.28	241.42 240.23 238.81 239.06 238.29 238.07 238.09 237.88 237.73 237.56 237.31 237.3	1992 - 10 1995 - 10 2000 - 10 2001 - 10 2002 - 10 2003 - 10 2004 - 11 2005 - 10 2006 - 10 2007 - 10 2008 - 10 2009 - 10		
16S/10E-33E1	24	265	241	17	148	197 - 5	6910	1975
16S/10E-34N1	119	320	101	77	243.0	1975 - 5	1610	1975

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/10E-35N2 ID 324343116005501		600		317.00 315.43 315.79 316.23 316.41 no data	283 284.57 284.21 283.77 283.59	1975 2001 20-03 2005 2007 2008		
16S/10E-40F1		286		49	237	1974 - 10		
16S/10E-41D1		324					742	1963
16S/10E-41D2		320					454	1962
16S/10E-41G1	65	284	219				1970	1975
16S/10E-41M1	150	340	190	71	269	1971 - 10	2300	1975
16S/10E-41Q1	47	300	253				2190	1975
16S/10E-42A1	130	334	204	87.72 88.22	246.28 245.78	1995 - 10 1996 - 10	464	1974
16S/10E-42A2		336		73.21 76.33 80.59	26279 259.67 255.41	1974 1984 1994	537	1974
16S/10E-42A3	146	330	184				392	1974
16S/10E-42A4		330		73.00	257.0	1974 - 12	554	1995
16S/10E-42A5 ID 324329115580501		328		73.21 74.96 76.20 79.04 80.59	254.79 253.04 251.80 248.96 247.41	1974 - 12 1980 - 9 1983 - 10 1989 - 10 1994 - 3	415 418 463 455 410	1974 1979 1983 1989 1994
16S/10E-42A7	93	318	225				583	1975
16S/10E-42A8 ID 324323115580001	112	325	213				886 906 951 964 851 891 958 868 935 901	1994 1996 1999 2001 2003 2005 2006 2007 2008 2009
16S/10E-42C1	330	380	50				4420	1975
16S/10E-42H1	350	362	12	109 173.20 172.36 172.42 171.29 170.95	253 188.8 189.64 189.58 190.71 191.05	1971 - 10 2001 - 10 2003 - 10 2004 - 11 2005 - 10 2006 - 10	668	1975
16S/10E-42H2		342		84	258	1975 - 6		

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
16S/10E-42H3	167	345	178					
16S/11E-23B1 3.5 mi SE USGPC ID 324603115480501	123	30	-93	39.35 44.62 50.82 51.44 51.27 51.65 51.35	-9.35 -14.62 -20.82 -21.44 -21.27 -21.65 -21.35	1974 1995 2001 2006 2007 2008 2009		
16S/11E-29L1	114	210	96	111.00 112.65 Dry from '76-'80	99 97.35 why dry?	1975 1976 - 1		
16S/11E-27F1 ID 324500115492101	135	100	-35	98.90 99.78 100.12 99.80 100.09 100.09	1.10 0.22 -0.12 0.20 -0.09 -0.09	1975 - 6 1995 2000 - 10 2007 - 10 2008 2009		
16S/11E-42L1 E of LS fault ID 32451115522201	143.5	194.69	51.2	44.77 14.04 el Nino 15.99 21.20 29.27 30.45 31.42	149.92 180.65 178.70 173.49 165.42 164.24 163.27	1975 1993 1995 2001 2007 2008 2009	38400	1975
16S/11E-42M1 ID 324258115523501	7	220	113	7.5 4.7 Dry	212.5 215.3	1949 1975 1983		
16S/11E-42M4							805	1975
16S/11E-42M5 W of LS fault ID 324258115524101	9.3	215.54	206.24	4.3 5.52	211.24 210.02	1949 1995		
17S/10E-11A1	330	382	52				446	1975
17S/10E-11A2 NE of 11G1	360	373.96	13.96	166.67	207.29	1995	350 331	1972 1975
17S/10E-11G2 affected by export from well 11G1 N of 11G1	315	375	60	158.00 164.00 164.45 165.09 166.84 168.93 172.38 178.03	217 211 210.55 209.91 208.16 206.07 202.62 196.97	1971 - 11 1975 - 6 1977 - 10 1978 - 7 1979 - 9 1980 - 9 1981 - 11 1982 - 10	335 363 369 370 377 377 392	1972 1977 1978 1979 1980 1981 1982

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
17S/10E-11G1MY export starts 9/1/77 lawsuits export stops 9/1/82 also a few months of export pumping in 1972, stopped by court ID 324123115552901	300	380.14	80.14	170 164.94 165.11 195.58 225.68 232.60 221.20 195.86 187.63 185.31 182.68 182.48 180.50 179.45 177.59 178.03 178.89 177.15 176.52 176.35 175.20 174.59 174.03 173.20 172.36 172.42 171.29 170.95 171.21 No data No data	210.14 202.99 215.03 184.56 154.46 147.54 158.94 184.28 192.51 194.83 197.46 197.66 199.64 200.69 202.55 202.11 201.25 202.88 203.62 203.79 204.94 205.55 206.1 206.94 207.78 207.72 208.85 209.18 208.93	1967 - 4 1975 - 6 1976 -1 1978 - 7 1980 - 9 1981 - 11 1982 - 10 1983 - 10 1984 - 10 1985 - 10 1986 - 10 1987 - 10 1988 - 10 1990 - 10 1991 - 10 1992 - 10 1993 - 10 1995 - 10 1996 - 10 1997 - 10 1998 - 10 1999 - 10 2000 - 10 2001 - 10 2003 - 10 2004 - 11 2005 - 10 2006 - 10 2007 - 3 2008 2009		
17S/10E-11B1 affected by export from well 11G1 NE of 11G1 ID 324138115552901	301	376	75	156.80 157.90 159.53 161.06 162.47 163.03 163.49 163.30 164.05 163.72 163.87 163.62 162.53 160,82 160.28 159.99 159.54 159.21 158.61	219.2 218.1 216.47 214.94 213.53 212.97 212.51 212.7 211.95 212.28 212.13 212.38 213.47 215.18 215.72 216.01 216.46 216.79 217.39	1975 - 6 1978 - 6 1979 - 9 1980 - 9 1981 - 11 1982 - 10 1984 - 10 1986 - 10 1988 - 10 1990 - 10 1993 - 10 1996 - 10 1999 - 10 2004 - 11 2005 - 10 2006 - 10 2007 - 10 2008 - 01 2009 - 10		

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
17S/10E-11H1 affected by export pumping of 11H1 S of 11G1	329.9	380	50.1	158.27 164.2 166.05 170.46 173.35 180.35 174.33 171.69	221.73 215.80 213.95 209.54 206.65 199.65 205.67 208.31	1964 - 6 1978 - 6 1979 - 9 1980 - 9 1981 - 11 1982 - 10 1983 - 10 1985 - 10		
17S/10E-11H2 affected by export from well 11G1 SE of 11G1 well failed 4/87	344	376	32	165.00 169.40 176.29 180.36 184.43 189.87 187.34 186.75 190.27 187.41	211 206.6 199.71 195.64 191.57 186.13 188.66 189.25 185.73 188.59	1973 1978 - 6 1979 - 9 1980 - 10 1981 - 10 1982 - 10 1983 - 10 1984 - 10 1985 - 10 1986 - 10	 300 291 297 293	 1983 1984 1985 1986
17S/10E-11H3 SE of 11G1 replacement domestic for 11H2 affected by export from well 11G1, shows recovery ID 324117115552001	348	380	32	179.29 180.11 179.08 178.57 178.32 176.89 174.26 175.64 172.88 171.69 170.99 171.38	200.71 199.89 200.92 201.43 201.68 203.11 205.74 204.36 207.12 208.31 209.01 208.62	1987 - 10 1988 - 10 1989 - 10 1990 - 10 1995 - 10 1997 - 10 2001 - 10 2003 - 10 2005 - 10 2007 - 10 2008 - 10 2009 - 10	313 311 319 316 312 309 280 307 311 313 289 289	1987 1988 1989 1991 1995 1997 2001 2003 2005 2007 2008 2009
17S/10E-18K1	150	341.6	192	136.7 136.2 135.7 135.57	204.90 205.4 205.9 206.04	1975 - 12 1980 - 9 1985 - 10 1989 - 3	431	1975
17S/10E-19F1		120		346.05	-226.05	1974 - 10		
17S/11E-22E2 ID 3239234115804701	119.6	303.9	184.3	102.48 97.38 97.51 97.16	201.42 206.52 206.39 206.74	1975 2007 2008 2009		
17S/11E-16J1 ID 324013115511101	366	298.7		 96.63 96.06 95.44 95.0 94.53 93.76 91.93 91.68 91.44 91.17	 202.07 202.64 203.26 203.7 204.17 204.94 206.77 207.02 207.26 207.53	1972 1974 1980 1985 1991 1995 2000 2006 2007 2008 2009		

Well USGS ID (T/R-S) USGS Site ID #	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level	Static water level below ground surface ft.	Groundwater elevation ft. above mean SL = AMSL	Elev. AMSL Year	mg/l Total Dissolved Solids	TDS Year
17S/10E-11G4 MM unused well affected by export from well 11G1 unused 100+ft W of export well 11G1 ID 324119115553201	500	382.14	-118	193.35 199.37 206.21 199.31 193.25 189.71 187.22 185.92 184.26 183.47 182.14 180.70 180.08 180.10 179.58 178.46 178.0 177.34 176.3 175.66 174.94 173.87 173.21 172.95 172.62 171.94 171.13 170.89 170.50 169.92	188.79 182.77 175.93 182.83 188.89 192.43 194.92 196.22 197.88 198.67 200.00 201.44 202.06 202.04 202.56 203.95 204.14 204.80 205.84 206.48 207.20 208.27 208.93 209.19 209.52 210.20 211.01 211.25 211.64 212.22	1978 - 8 1981 - 2 1982 - 10 1983 - 10 1984 - 10 1985 - 10 1986 - 10 1987 - 10 1988 - 10 1989 - 10 1990 - 10 1991 - 10 1992 - 10 1993 - 10 1994 - 10 1995 - 10 1996 - 10 1997 - 10 1998 - 10 1999 - 10 2000 - 10 2001 - 10 2002 - 10 2003 - 10 2004 - 11 2005 - 10 2006 - 10 2007 - 10 2008 - 10 2009 - 10		

NOTES:
* TDS Total dissolved solids in mg/L
(a) All 2010 water level data is Information from USGS Water Resources website: http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels
AMSL Above Mean Sea Level static water level as feet above mean sea level measures groundwater level without confusing information about topography such as slopes or depressions
(b) Water quality data are from USGS Water Resources website at http://waterdata.usgs.gov/ca/nwis/qwdata
(c) USGS well location maps & data for Imperial County, links to individual wells
http://groundwaterwatch.usgs.gov/countymaps/CA_025.html
USGS 1980 Groundwater Quality Data Ocotillo-Coyote Wells Area, BE96 Appendix E, USG DEIR Appendix B-1 BE = Bookman-Edmonston groundwater study prepared for US Gypsum
BE96 Appendix E, BE2004 revised BE study for USGypsum DEIR 2006
CV Coyote Valley Mutual Water Co. Serves residential subdivision Ocotillo Unit 2
MC McDougal/Clifford export well also served Ocotillo Unit 3 until 1984 when it stopped exporting groundwater
MY McDougal Yuha well, exported water for a few months in 1972 and from 1977 - 1982, domestic only since that time
MM McDougal unused well, drilled to depth but did not get potable water
MG Miller's Garage N of I-8 just E of jct w Hwy 98
OM Ocotillo Mutual Water Co. Serves residential subdivision Ocotillo Unit 1
RH Hamilton 1.25 mi W of CV Mutual Water Co. Furthest west well in the USGS monitoring program.
USG US Gypsum wells export water to Plaster City factory
WW Westwind Water Co A private water co provides water by truck to residences in West Texas and Painted Gorge
USGS Hydrologic Unit Code 18100200

OCOTILLO/NOMIRAGE COMMUNITY AREA PLAN

Prepared by:

County of Imperial
Planning/Building Department
939 West Main Street
El Centro, California 92243-2875

Approved By:

Board of Supervisors
April 26, 1994

OCOTILLO/NOMIRAGE COMMUNITY AREA PLAN
TABLE OF CONTENTS

LIST OF FIGURES

I. INTRODUCTION

A. Preface

The Land Use Element of the Imperial County General Plan designates the townsite of Ocotillo, and communities of Nomirage, Painted Gorge, Yuha Estates, and the surrounding area generally bounded by the Jacumba Mountains and the San Diego County line on the west, Coyote Mountains on the north, Elsinore Fault/Laguna Salada Fault on the east, and the U.S./Mexico international boundary on the south as the Ocotillo/Nomirage Community Area.

This document, known as the "Ocotillo/Nomirage Community Area Plan" supersedes and replaces the "Current Land Use Plan for the Yuha Desert Planning Unit" adopted March 20, 1973, by the Imperial County Board of Supervisors. It is incorporated into the Land Use Element of the County of Imperial General Plan and shall serve as a guide to the decision makers, staff and the public to address the distribution, general location and extent of uses of land for housing, commerce, industry, open space and public facilities.

The Ocotillo/Nomirage Community Area Plan describes existing land uses with the planning area and the facilities and services which provide public infrastructure to support these uses. Also stated are goals and objectives for future growth, and environmental resource protection and constraints; and, policies and programs necessary to guide future growth.

B. Purpose of the Community Plan

The primary purpose of the Ocotillo/Nomirage Community Area Plan is to identify the goals, policies, and standards that will guide the physical growth of the planning area. It is prepared pursuant to California Government Code Section 65300 et seq.

The Ocotillo/Nomirage Community Area Plan designates the proposed distribution and general location and extent of the uses of land for housing, business, industry, open space, including natural resources, recreation and enjoyment of scenic beauty, education, public buildings and grounds, solid waste disposal facilities and other categories of public and private uses of land. The Ocotillo/Nomirage Community Area Plan includes a statement of the standards of population density and building intensity for the various land use categories covered by the plan. The Ocotillo/Nomirage Community Area Plan also identifies the areas which are subject to flooding.

The Ocotillo/Nomirage Community Area Plan shows in a very general way, a range of uses for land within the planning area, without projecting when or how a use will be developed. The Ocotillo/Nomirage Community Area Plan is based in part on the five basic goals adopted by the Board of Supervisors on January 2, 1973. The purpose of this plan is to help citizens to secure a better life than would be possible without the efforts of government in their behalf.

The five basic concepts adopted by the Board in support of the Ocotillo/Nomirage Community Area Plan are:

1. Safety for people and property.
2. Wide selection of social and economic opportunities.
3. Efficient use of natural, human and financial resources.
4. Clean air, water and land.
5 Quiet, beautiful communities and rural areas.

The intent of the California legislature was and is to provide effective and efficient land uses in an orderly and well planned manner. In keeping with this intent, the County shall use this plan to guide its development and to plan for necessary improvements for public facilities and services.

The intent of Imperial County in preparing the Ocotillo/Nomirage Community Area Plan is to maintain and protect the existing rural character of the area and to preserve its natural resources.

II. EXISTING CONDITIONS AND TRENDS

A. Preface

Knowledge, experience and reasoned expectations of future conditions determines the scope of the issues that the Ocotillo/Nomirage Community Area Plan must address. This chapter includes a generalized description of existing physical, cultural and land use features within the planning area, from both a historic and expected future perspective.

B. Land Use

The Ocotillo/Nomirage Community Area Plan comprises approximately 108,000 acres of land under the jurisdiction of Bureau of Land Management, state land, and private land. The planning area includes the townsite of Ocotillo, and the communities of Nomirage, Painted Gorge and Yuha Estates. Within the townsite of Ocotillo, the existing land use consist primarily of single family homes, including a significant number of mobile homes on individual lots. There are 366 dwelling units in the Ocotillo/Nomirage Community Area (based on 1990 Census figures).

Three RV parks are located in Ocotillo: Jackson's Hide-A-Way Adult RV Park located at the southwest corner of Via de Coyote and Shell Canyon Road with 18 spaces; Ocotillo Trailer and RV Park with 12 spaces; and, Ocotillo Motel and RV Park has 16 spaces and four motel rooms.

There are approximately 50 lots within the townsite of Ocotillo zoned C-2, General Commercial, not including the 34.86 acres east of the townsite along Old Highway 80 in Tract 63. Several of these commercial lots are used exclusively for residential purposes. It is recommended that commercial lots used for residential purposes be rezoned to R-1, Single Family Zone. At the northeast corner of Imperial Highway and Smoketree Avenue are 14 lots zoned C-1, Neighborhood Commercial. In the Inkopah area, the Desert Tower is situated on a 27.12 acre parcel zoned C-2. Two other surrounding properties totaling 66 acres, are also zoned C-2. Ocotillo appears to have sufficient commercial zones to meet the needs of the local population and travelers on Interstate 8 and S-2.

North of I-8, west of Imperial Highway, along Old Highway 80 are two lots known as Lots 17 and 18 Block 12, zoned M-1. In the Inkopah area, south of the Desert Tower, a portion of Tract 42, containing approximately 29.79 acres are presently zoned M-1. These are the only existing parcels zoned for light industrial uses in the Ocotillo/Nomirage Community Area. Just south of Tract 42, in Tract 43, lies 6.05 acres zoned "S" Open Space presently under consideration for a change of zone to M-1.

Presently, a large number of parcels within the planning area are zoned A-2, General Agricultural and A-1, Light Agricultural. The A-2 and A-1 Zones are not compatible with the Ocotillo/Nomirage Community Area Plan due to the area's dependence on groundwater. All parcels zoned A-1 or A-2 shall be rezoned to be compatible with the plan.

All parcels currently zoned R-1-T within the planning area shall be rezoned R-1. Due to their substandard size, all parcels presently zoned R-2 within the Ocotillo townsite are considered nonconforming. These parcels shall be rezoned R-1. All parcels currently zoned R-1 shall be maintained.

There are presently eight lots zoned R-4-T, Mobile Home Park Zone totaling approximately 60 acres within the Ocotillo area. Except for the three lots (Jackson's RV Park) located at the southwest corner of Shell Canyon Road and Via de Coyote, these lots are all located within the existing flood hazard area and therefore will be considered to be nonconforming.

The Bureau of Land Management administers approximately 93,000 acres of public lands within the planning area. Approximately 15,000 acres are privately owned. The townsite of Ocotillo contains approximately 575 acres; Nomirage contains approximately 225 acres.

C. Population

According to the 1990 census, the Ocotillo/Nomirage Community Area had a population of 460 people. This number includes residents in the townsite of Ocotillo, Nomirage, Painted Gorge and Yuha Estates. Historically, the population of the area has been older retired and semi-retired persons, and seasonal residents. Recently, there has been a gradual influx of permanent younger residents, probably influenced by the close proximity of the area to the Imperial Valley South State Prison. Due to water constraints, it is not anticipated the Ocotillo/Nomirage Community Area will experience a significant amount of population growth.

D. Water/Sewer

The entire planning area is dependent on groundwater. Historically, water has been of good quality. Recently, however, data seems to indicate a possible decline in water quality in some areas of the basin.

The community of Nomirage, Yuha Estates, and Unit 3 in Ocotillo are serviced by individual water wells. Four private water companies service the remainder of the townsite: Coyote Valley Mutual Water Company, has 125 meters; Ocotillo Water Company No. 1, 80 meters; Shell Canyon Water Company with 16 meters; and West Wind Water Company (Elfring) which supplies Painted Gorge residents. An acre-foot of water supplies a family of five per year.

Other water users include: Val-Rock six (6) acre-feet; Farmers Land Leveling (Idgit Corporation) eight (8) acre-feet; and, U.S. Gypsum approximately 379 acre-feet per year (1992).

Preservation and conservation of groundwater is one of the major concerns of the Ocotillo/Nomirage Community Area Plan. Water use, quality, quantity and protection are key issues in planning for the area. All land use proposals shall be reviewed to determine their impacts on groundwater quantity and quality.

The area is not served by a sanitation district or sewer treatment facility. Instead, the area relies on individual septic systems for each household, business and RV park.

E. Solid Waste Facilities

The Imperial County Department of Public Works operates a Class III landfill to serve the planning area. The landfill accepts non-hazardous waste only. The facility is located on property under Bureau of Land Management administration and is located approximately 1 1/2 miles north of Imperial Highway on Shell Canyon Road. The disposal capacity of the existing facility is considered to be sufficient until the year 2003.

F. Schools

The Ocotillo/Nomirage Community Area is served by the Imperial Unified School District in the City of Imperial, approximately a distance of 30 miles. As of December 1992, there were 19 elementary school students and 17 high school students from this area.

G. Natural Resources

Sand and gravel is one of the most important natural resource within the Ocotillo/Nomirage Community Area. The resource is not only important to the area but, also to the construction industry of the County. Sand and gravel are the raw products used in the construction industry for the maintenance of State highways, County roads and city streets. The Ocotillo/Nomirage Community Area will continue for the foreseeable continue to be an important source of sand and gravel for the County.

The Coyote Mountains located north of Ocotillo are an important source of sand and gravel. Several operators including Caltrans, the County Department of Public Works, Granite Construction Company, Farmers Land Leveling and Val-Rock currently have material sites within this area. Other sand and gravel material sites within the planning area include: Painted Gorge (Public Works); Coyote II (Public Works); and Yuha (Caltrans).

The location of sand and gravel pits north of the townsite of Ocotillo has sometimes created a land use conflict between surface mining operators and townsite residents. Trucks transporting the material typically travel along Shell Canyon Road, Imperial Highway and I-8. Townsite residents frequently complain of the traffic, noise, dust and exhaust emissions associated with the trucks. Residents of Ocotillo have also raised concerns regarding the use of groundwater for dust control by the surface mining operators and possible contaminate of groundwater by surface mining related activities.

H. Housing

There are a total of 366 housing units within the planning area. The average number of persons per household is approximately 1.3. Overall, the condition of most housing units in the townsite of Ocotillo range from fair to good. Most housing units in the townsite are either single-family homes or mobile homes. Overcrowding is not perceived to be a problem. The community of Nomirage has several pre-existing travel trailers that are considered nonconforming uses. Painted Gorge, due to its remoteness, has several substandard housing units ranging from poor to fair condition.

Due to the lack of sewer facilities and water constraints, it is not expected that large residential subdivisions or multiple-family housing units will be developed within the planning area. In general, the Ocotillo/Nomirage Community Area has a sufficient amount of land zoned for residential uses to accommodate future growth and housing needs.

I. Circulation

Interstate 8, State Highway 98, Evan Hewes Highway (Old Highway 80), and Imperial Highway (S2) are the major transportation routes that serve the area. Traffic volumes on I-8 at the junction with Highway 98 are presently 8,600 average daily traffic (ADT) and predicted to increase to 18,300 ADT by the year 2015. Highway 98 is primarily a two lane east/west route separating from I-8 near Ocotillo. Daily traffic volumes on the route average 1,800 ADT at the western junction of I-8 and Imperial Highway. Traffic volumes on this facility are projected to increase to 6,100 ADT by the year 2015. Evan Hewes Highway east of Imperial Highway presently has traffic volumes of 300 ADT and it is projected that this figure will increase to 400 ADT by the year 2015. Traffic volumes through the townsite of Ocotillo along Imperial Highway are currently 1000 ADT and are expected to increase to 1500 by the year 2015. At the intersection of Shell Canyon Road and S-2, traffic volumes are approximately 400 ADT and expected to increase to 600 ADT by the year 2015.

J. Seismic and Public Safety

This section of the Ocotillo/Nomirage Community Area Plan identifies potential hazards in order to minimize the risks associated with hazards. Potential hazards must be addressed in the planning process to avoid dangerous situations. For example, the risk associated with dangerous flooding can be avoided by not allowing development in flood hazard areas.

The main purpose of this section of the plan is to reduce the loss of life, injury and property damage that might result from a disaster or accident.

1. Earthquakes

The Elsinore-Laguna Salada Faults form the north and eastern boundary of the Ocotillo/Nomirage Community Area. The Alquist-Priolo Special Study Zone Act is enforced by the Planning/Building Department to ensure that homes, offices, hospitals, public buildings and other structures for human occupancy which are built on or near active faults, or if built within special study areas, are designed and constructed in compliance with the Division 7, Geologic Hazards, Imperial County Codified Ordinance and the Uniform Building Code. Fortunately, the existing earthquake faults in the Ocotillo/Nomirage Community Area are located in remote and unpopulated areas. The official Earthquake Fault Zones as delineated by the State Geologist are available for public review Imperial County Planning/Building Department or Imperial County Public Works Department.

2. Flooding

Several areas of the Ocotillo/Nomirage Community Area are subject to flash floods. Flash floods are not unusual in desert and mountainous areas. These type of floods occur when sudden downpours over the mountains and/or desert create high peak flows that follow normally dry streambeds and mountain washes.

The townsite of Ocotillo and to a lesser degree the community of Nomirage are at risk due to their location at the base of an alluvial fan originating at the base of Myer Creek. Myer Creek is located in the southwestern portion of Imperial County and flows in a northeasterly direction through the townsite of Ocotillo, draining over 21.8 square miles.

Floodway management is the key component to effective flood control within Imperial County. The Federal Insurance Administration delineates areas of special flood hazards; the risk premium zones, and floodways in its Flood Insurance Rate Maps (FIRM). The FIRM form the basis for the County's Flood Damage Prevention Ordinance which is applied to those subject to periodic flooding. Official FIRM are available for public review at the Planning/Building Department.

K. Public Facilities

Public services and facilities located in the Ocotillo/Nomirage Community Area include the following:

- o fire station operated by the Ocotillo Fire Department, comprised of a salaried fire chief and a team of volunteer fire fighters;
- o County Sheriff deputy substation;
- o U.S. Post Office;
- o County library;
- o community center operated by the Ocotillo Community Council;
- o church; and,
- o cable television company.

The proposed Imperial Valley College Desert Museum will eventually be located in Ocotillo, immediately south of Interstate 8, west of Imperial Highway.

III. GOALS AND OBJECTIVES

A. Preface

The Ocotillo/Nomirage Community Area Plan serves as the primary policy statement by the Board of Supervisors for implementing development policies and land uses in the Ocotillo/Nomirage Community Area. This section of the Ocotillo/Nomirage Community Area Plan presents the goals and objectives relative to all land uses within the planning area.

The Goals and Objectives, together with the Implementation Programs and Polices in Chapter IV, are the statements that shall provide direction for private development as well as government actions and programs. The Ocotillo/Nomirage Community Area Plan Goals and Objectives are intended to serve as long-term principles and policy statements representing ideals which have been determined by the citizens as being desirable and deserving of community time and resources to achieve. These Goals and Objectives are important guidelines for land use decision making. It is recognized, however, that other social, economic, environmental, and legal considerations are involved in land use decisions and that these goals and objectives should be used as guidelines but not doctrines.

B. Goals and Objectives

Towns and Communities

Goal 1: Preserve and enhance the distinct character of the Ocotillo/Nomirage Community Area.

- Objective 1.1 Preserve and enhance the townsite of Ocotillo and community of Nomirage.
- Objective 1.2 Encourage distinctive community identities.
- Objective 1.3 Maintain and require compatible land uses with the Ocotillo/Nomirage Community Area.
- Objective 1.4 Prohibit the establishment of non-residential uses in predominantly residential neighborhoods and require effective buffers when appropriate non-residential uses are proposed.

Economic Growth

Goal 2: Provide employment and economic opportunities in the Ocotillo/Nomirage Community Area to serve the needs of area residents while preserving the unique character of the area.

- Objective 2.1 Provide adequate space and land use classifications to meet current and projected economic needs for commercial development.

Objective 2.2 Encourage the development of neighborhood commercial land uses in areas currently designated and zoned C-1 and C-2.

Objective 2.3 Prohibit the rezoning of additional land for C-2, General Commercial.

Objective 2.4 Encourage the development of tourist-oriented commercial land uses that are compatible with existing adjacent land uses.

Housing Opportunities

Goal 3: Encourage the development of various but compatible housing types to accommodate expected population growth and special housing needs.

Objective 3.1 Provide and maintain sufficient, suitable residential sites and housing supply to meet the projected housing needs of all segments of the population.

Objective 3.2 Promote affordable housing for residents of all income groups, including low and moderate income households.

Objective 3.3 Encourage the infill of existing lots rather than expansion of existing boundaries except at very low densities.

Industrial Development

Goal 4: Limit the expansion of industrial development within the Ocotillo/Nomirage Community Area.

Objective 4.1 Discourage the rezoning of additional land to M-1, Light Manufacturing unless the proposal meets all development standards.

Objective 4.2 Prohibit the rezoning of land to M-2, Heavy Manufacturing.

Objective 4.3 Existing industrial land uses will be monitored to ensure land uses do not pose a environmental threat and/or cause a contamination of groundwater.

Protection of Environmental Resources

Goal 5: Preserve significant natural, cultural, and community character resources, air quality and water quality.

Objective 5.1 Preserve as open space those lands containing watersheds, aquifer recharge areas, floodplains, important natural resources, sensitive vegetation, wildlife habitats, historic and prehistoric sites, or lands which are subject to seismic hazards.

Objective 5.2 Reduce and prevent risk and damage from flood hazards by appropriate regulation.

Objective 5.3 Protect the groundwater in the Ocotillo/Nomirage Community Area from overdraft and saline conditions.

Objective 5.4 Ensure that new development proposals do not contribute to overdraft or increase salinity of groundwater.

Objective 5.5 Eliminate agricultural zoning and commercial agricultural land uses within the Ocotillo/Nomirage Community Area.

Objective 5.6 Prohibit the development of new RV or mobile home parks unless development can show through a geohydrology study that adequate water would be available for the project and remain available for public use.

Objective 5.7 Stringently enforce the rules for new development, expansion or reconstruction in floodways to ensure that structures will not adversely affect, hinder, restrict, or alter the water capacity of the floodway and will not result in increased flood levels during the occurrence of a 100-year flood.

Objective 5.8 The County will work with U.S. Gypsum and the Imperial Irrigation District to examine other water sources that can be used at the USG manufacturing plant and reduce their dependence on groundwater.

Objective 5.9 Prohibit land uses which consume large quantities of water such as golf courses, water theme parks, aquaculture etc.

Objective 5.10 Impose a limit of 1.5 acre-feet of water per dwelling unit in the Ocotillo/Nomirage Community Area.

Objective 5.11 Encourage the registration of all non-permitted water wells and the installation of flow meters.

Objective 5.12 Prohibit land uses that may cause groundwater contamination such as farming, landfills, agriculture, geothermal, faulty septic systems and illegal dumping of toxic and hazardous wastes.

Extractive Resources

Goal 6: Identify and protect areas of regionally-significant mineral resources which are in areas suitable for surface mining activities.

Objective 6.1 Provide adequate space and land use classifications to meet current and projected economic needs for extractive activities.

Objective 6.2 Ensure that surface mining operations are operated to avoid air and water quality degradation, including groundwater, soil erosion, wildlife and habitat destruction, and other adverse environmental impacts, and that all surface mining operations comply with the State Surface Mining and Reclamation Act (SMARA) and County Surface Mining Ordinance.

Community Vision

Goal 7: Achieve balanced economic and residential growth while preserving the community's character and natural resources.

Objective 7.1 Maintain and improve the quality of life, the protection of property and the public health, safety, and welfare of the Ocotillo/Nomirage Community Area.

Objective 7.2 Ensure that future growth and development is orderly, safe and does not cause an overdraft, contamination or increased salinity of the ground water aquifer.

Objective 7.3 Ensure safe and coordinated traffic patterns, contiguous growth within the townsite of Ocotillo and community of Nomirage.

Objective 7.4 Coordinate planning activities with the Bureau of Land Management.

Seismic and Public Safety

Goal 8: Include public health and safety considerations in land use planning.

Objective 8.1 Ensure that data on geological hazards is incorporated into the land use review process, and future development process.

Objective 8.2 Regulate development within flood-way areas in accordance with the Federal Emergency Management Agency.

Objective 8.3 Regulate development adjacent to or near all mineral deposits.

Objective 8.4 Require, where possessing the authority, that avoidable risks be avoided; and, that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.

Objective 8.5 Require reclamation of lands where mining, irrigation, landfills, solid waste, hazardous materials/waste storage or disposal, and natural erosion has occurred, so as to pose no danger to public health and safety.

Objective 8.6 Recognize that certain lands are unsuitable for high or medium density development and that prohibition or restriction of such uses are in the public interest, health and safety.

C. Relationship to the General Plan

The Ocotillo/Nomirage Community Area Plan shall be consistent with the Imperial County General Plan.

IV. IMPLEMENTATION PROGRAM AND POLICIES

A. Preface

Recent legal opinions and court decisions have stressed the importance of land use regulation including the density and intensity of land uses. Each land use classification identified herein has development standards that include population density and building intensity. Specific regulatory standards to implement the land use categories are contained with the County Land Use Ordinance.

Population density is defined as "the relationship between the number of dwelling units per acre and the number of residents per dwelling." Building intensity may be based upon a combination of variables such as maximum dwelling units per acre, permitted uses, height and size limitations. Quantifiable standards must be stated for each land use category.

B. Land Use Designations and Standards

In order to define a clear distribution of development and preservation, the following categories have been established:

1. Desert Residential;
2. Low Density Residential;
3. Residential;
4. Commercial;
5. Recreation;
6. Light Industry
7. Special Purpose Facility;
8. Government/Special Public
9. Open Space;
10. Floodway; and,
11. Earthquake Fault.

1. Desert Residential

The Desert Residential category represents very low density residential land uses in the outlying areas of the Ocotillo/Nomirage Community Area where water and sewer service is limited or nonexistent. Residential units may consist of a single family dwelling or mobile home. A second dwelling may be allowed upon approval of a conditional use permit. The keeping and raising of farm animals for domestic use is permitted under restrictions defined in the Zoning Ordinance.

Residential Development Standards:

New residential development must be consistent with the existing character of the community.

Residential land uses at a population density of one (1) dwelling unit per 40 acres.

Legal parcels existing on the adoption date of the plan which are smaller than forty (40) acres are exempt therefrom.

Residential building intensity is limited by water use, and septic systems and other factors which may effect the site.

An on-site potable water supply system must be approved by the County Health Department is required for all residential development.

A site-specific geohydrology study is required if a proposed major subdivision is to be served by groundwater.

Maximum height is 35 feet for single family homes.

Commercial Development Standards:

Commercial zoning and land uses are not permitted in this category.

Industrial Development Standards:

Manufacturing/industrial zoning and land uses are not permitted in this category.

Agricultural Development Standards:

Agricultural zoning and commercial agricultural land uses are prohibited. Vegetable gardens, private greenhouses, flower gardens, fruit and nut trees strictly for domestic purposes are allowed within this category.

Open Space/Recreation Standards:

Open space land uses consist of environmentally sensitive areas, fault zones, floodways and parks. Only passive recreational uses are allowed.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste storage and transfer stations are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

2. Low Density Residential

The Low Density Residential category represents residential land uses in community of Nomirage and the surrounding area outside the townsite of Ocotillo. Typically, these areas have limited water and sewer services. Residential units may consist of a single family dwelling or mobile home. A second dwelling may be allowed upon the approval of a conditional use permit. The keeping and raising of farm animals for domestic use is permitted under restrictions defined in the Zoning Ordinance.

Residential Development Standards:

New residential development must be consistent with the existing character of the community.

Residential land uses at a population density of one dwelling unit per five acres.

Legal parcels existing on the adoption date of the plan which are smaller than five (5) acres are exempt therefrom.

Residential building intensity is limited by water use, and septic systems and other factors which may effect the site.

An on-site potable water supply system must be approved by the County Health Department is required for all residential development.

A site-specific geohydrology study is required if a proposed major subdivision is to be served by groundwater.

Maximum height is 35 feet for single family homes.

Commercial Development Standards:

Commercial zoning and land uses are not permitted in this category.

Industrial Development Standards:

Manufacturing/industrial zoning and land uses are not permitted in this category.

Agricultural Development Standards:

Agricultural zoning and land uses are prohibited in this category. Vegetable gardens, private greenhouses, flower gardens, fruit and nut trees strictly for domestic purposes are allowed within this category.

Open Space/Recreation Standards:

Open space land uses consist of environmentally sensitive areas, fault zones, floodways and parks. Only passive recreational uses are allowed.

Solid Waste Facility Development Standards:

Landfills and hazardous waste storage and transfer stations are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

3. Residential

The Residential category represents low density residential land uses within the existing townsite of Ocotillo where water service is limited and septic systems are required on individual lots. Residential units may consist of a single family dwelling or mobile home. A second dwelling may be allowed upon approval of a conditional use permit if the lot meets size requirements for septic systems.

Residential Development Standards:

New residential development must be consistent with the existing character of the community.

Residential land uses at a population density of one (1) dwelling unit per 0.5 acres.

Legal parcels existing on the adoption date of the plan which are smaller than 1/2 (0.5) acre are exempt therefrom.

Residential building intensity is limited by water use, and septic systems and other factors which may effect the site.

An on-site potable water supply system approved by the County Health Department is required for all residential development.

A site-specific geohydrology study is required if a proposed major subdivision is to be served by groundwater.

Maximum height is 35 feet for single family homes.

Commercial Development Standards:

Commercial zoning and land uses are not permitted in this category.

Industrial Development Standards:

Manufacturing/industrial zoning and land uses are not permitted in this category.

Agricultural Development Standards:

Agricultural zoning and land uses are prohibited in this category. Vegetable gardens, flower gardens, fruit and nut trees strictly for domestic purposes are allowed within this category.

Open Space/Recreation Standards:

Open space land uses consist of environmentally sensitive areas, fault zones, floodways and parks. Only passive recreational uses are allowed.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste storage and transfer stations are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

4. Commercial

Residential Development Standards:

Residential zoning and land uses are not allowed in this category, except for legal pre-existing non-conforming residential uses.

Commercial Development Standards:

Low to medium intensity commercial land uses, which can be shown to be compatible with adjacent existing or planned residential uses.

Only C-1, neighborhood commercial uses are allowed.

General commercial (C-2) land uses are prohibited.

A site-specific geohydrology study is required if a proposed commercial development is to be served by groundwater and the amount of water requested exceeds five (5) acre feet per year.

Maximum floor area ratio not greater than 2:1 (i.e., two square feet of gross building area per one square foot of area within the lot or building site).

Building height maximum of 35 feet.

A minimum of 10 percent of the lot area shall be landscaped. A greater percentage of landscaping may be required for projects involving discretionary review.

Industrial Development Standards:

Manufacturing/industrial zoning and land uses are not permitted in this category.

Agricultural Development Standards:

Agricultural zoning and land uses are prohibited in this category.

Open Space/Recreation Standards:

Open space land uses within this category consist of environmentally sensitive areas, fault zones and floodways. Only passive recreational uses are allowed.

5. Recreation

The Recreation category represents the designation applied to the existing RV Parks in the Ocotillo/Nomirage Community Area.

Residential Development Standards:

Residential zoning and land uses are not allowed in this category.

Commercial Development Standards:

Low intensity commercial uses appurtenant to the RV Park and which can be shown to be compatible with adjacent existing or planned residential uses. Only neighborhood commercial uses are allowed in this classification.

Industrial Development Standards:

Manufacturing/industrial zoning and land uses are not allowed in this category.

Agricultural Land Use Standards:

Agricultural zoning and land uses are prohibited in this category.

Open Space

Open space land uses within this category consist of environmentally sensitive areas, earthquake fault zones and floodways. Only passive recreational uses are allowed.

Recreation Standards

Existing recreational vehicle parks.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste storage and transfer stations are prohibited within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

6. Light Industry

Manufacturing/industrial zoning and land uses are generally not permitted in the Ocotillo/Nomirage Community Area. Light Industry land uses within this category consist of light manufacturing land uses located in areas with the necessary supporting infrastructure and located away from conflicting existing or planned land uses. Generally these lands are located adjacent to major transportation systems. The Light Industry classification will also be applied to all existing light manufacturing uses within the Ocotillo/Nomirage Community Area.

Residential Development Standards:

Residential land uses are limited to one single family dwelling unit if appurtenant to a permitted industrial or commercial use and occupied by a caretaker, custodian, or night watchman when on the same lot as the industrial use and only upon the issuance of a conditional use permit by the Planning/Building Department or Planning Commission.

Industrial Development Standards:

Light manufacturing land uses.

Maximum floor area ratio of 3:1 (i.e., three square feet of gross building area per one square foot of area within the lot or building site).

A minimum of ten percent (10%) of the lot area shall be landscaped.

Building height maximum of 35 feet.

Industrial uses should locate in areas where high noise levels will not impact existing or planned noise sensitive land uses.

Prior to any zone reclassification to allow light industrial use, potential impacts associated with the proposed rezone and appropriate mitigation measures shall be identified pursuant to the California Environmental Quality Act (CEQA).

Light industrial uses within this category should locate in areas having access to major transportation systems.

Zone reclassifications to allow industrial uses, will only be allowed on a conditional basis.

Commercial Development Standards:

Neighborhood commercial uses, which can be shown to be compatible with adjacent existing or planned residential uses.

Maximum floor area ratio not greater than 2:1 (i.e., two square feet of gross building area per on square foot of area within the lot or building site).

Building height maximum of 35 feet.

A minimum of ten percent (10%) of the lot area shall be landscaped.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste storage and transfer stations are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

7. Special Purpose Facility

This designation may be applied to lands which are necessary for basic governmental services which have physical or operational characteristics that are incompatible with most other land use categories, e.g., landfills. In particular, noise, odors, air and water quality impacts, aesthetics, and traffic may create dangerous or objectionable conditions.

This designation shall be applied to the existing Ocotillo landfill facility operated by the County Department of Public Works. No new landfills are not allowed in this land use category. It is the intent of this designation that the existing facility be protected from encroachment by development or incompatible land uses.

Solid Waste Facility Development Standards:

Landfills and hazardous waste storage and transfer stations are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

8. Government/Special Public

This designation indicates lands generally owned by public agencies which are presently, and for the foreseeable future, used for a specific governmental purpose. This designation includes military bases and public parkland and may also be applied to airports, sewer and water facilities, cemeteries, and other public utilities and facilities.

9. Open Space

The Open Space designation will be applied to the all land future and present, that are under the administration of the U.S. Department of the Interior, Bureau of Land Management. Except for limited mining activities and utility corridors, most private enterprises or land uses are not allowed in this classification.

Solid Waste Facility Development Standards:

Landfills and hazardous waste storage and transfer stations are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

10. Floodway

The Floodway designation represents those areas within the Ocotillo/Nomirage Community Area that have been identified and known to be subject to periodic flooding pursuant to the official Flood Insurance Rate Map (F.I.R.M.). Official Flood Insurance Rate Maps are available for public review at the Planning/Building Department.

11. Earthquake Fault Zone

In accordance with the Alquist-Priolo Earthquake Fault Zoning Act, the Office of the State Geologist has delineated earthquake fault zones which encompass potentially and recently active traces of major faults. The Earthquake Fault land use category represents those areas in the Ocotillo/Nomirage Community Area located within the Elsinore Earthquake Fault Zone.

It is the intent of this category to ensure that homes, offices, hospitals, public buildings, and other structures hor human occupancy which are built on or near active faults, or if built within special study areas, are designed and constructed in compliance with the Division 7, Geologic Hazards, Imperial County Codified Ordinance.

C. Implementation Policies and Programs

Implementation of the Ocotillo/Nomirage Community Area Plan is intended to be a continual process involving amendments to the County Zoning Ordinance and Zoning Maps, and discretionary review of proposed subdivisions, conditional use permits, mining permits and reclamation plans; and establishing ministerial review procedures to ensure that proposed development will not cause an overdraft or increased salinity, has adequate sewage disposal, and to determine that no hazard to public health or safety will result from flooding, earthquakes, unstable soil or other natural hazards.

1. Agriculture

Policy

Commercial agricultural practices due to the use of large quantities of water and the application of pesticides and fertilizers, are not compatible within the Ocotillo/Nomirage Community Area Plan due to the potential to cause an overdraft of the groundwater aquifer, increased salinity or increased risk for contamination of groundwater.

Program

- Existing areas zoned A-1, A-2 or A-3 will not be considered in conformance with the Ocotillo/Nomirage Community Area Plan and shall be rezoned to an either Desert Residential or Low Density Residential with a minimum lot size of either forty or five acres.

Program

- Existing commercial agricultural land uses including crop farming and the keeping of farm animals will be considered legal pre-existing non-conforming and will be allowed to be maintained and continued provided there is no expansion of the non-conforming use and no increase in the use of groundwater for irrigation.

2. Industry

Policy

The Ocotillo/Nomirage Community Area does not have the infrastructure or other necessary facilities to support heavy manufacturing land uses. There is a major concern that industrial land uses may lead to contamination of groundwater resources. The County supports limiting light industrial land uses to those presently existing, including the current proposal in the Inkopah area on a conditional basis.

Program

- The M-1 Zone is generally not compatible with the Ocotillo/Nomirage Community Area Plan, but could be found to be compatible under unique and unusual circumstances. Such circumstances would include zoning needed to accommodate an existing legal or legal non-conforming use; when additional density or use restrictions can be included by use of an "overlay" or "combining" zoning; or where a Specific Plan, conditional use permit (CUP) or other discretionary permit can be required for a proposed use and mitigating measures can be imposed to reduce or eliminated potential land use conflicts.

- Heavy manufacturing uses are prohibited.

- The light industry designation and light manufacturing zoning in the Inkopah area will be maintained until the present use expires. Once the present use is abandoned or terminated, the County will reclassify and rezone the area to neighborhood commercial.

3. Commercial Development

Policy

The Ocotillo/Nomirage Community Area has sufficient land zoned and designated for commercial land uses to serve the current and project needs of the community. The C-2 Zone has been determined to be incompatible with the Ocotillo/Nomirage Community Area designation of the General Plan however, existing General Commercial parcels will remain as presently zoned. It is the intent of the plan to maintain the existing character of the community by discouraging regional commercial land uses in order to preserve groundwater resources from overdraft and contamination.

Program

- Prohibit the rezoning of land to C-2 within the Ocotillo/Nomirage Community Area.
- General commercial land uses will only be permitted on parcels presently zoned C-2.

4. Residential

Policy

The existing R-4-T Zone located in the floodway is not in conformance with the Ocotillo/Nomirage Community Area Plan and shall be rezoned to another appropriate use. The existing parcels zoned R-2 do not meet the minimum lot size requirement of 20,000 square feet per dwelling unit to accommodate two dwelling units.

Program

- Existing areas zoned R-4-T located in the floodway and R-2 Zones will not be considered in conformance with the Ocotillo/Nomirage Community Area Plan and shall be rezoned to another appropriate zone compatible with the plan.

5. Community Beautification

Policy

A primary concern for the County and area residents is the maintenance of property to prevent the accumulation of junked automobiles, tires, old appliances and other unwanted debris. Several highly visible properties with abandoned, vacant houses in the Ocotillo/Nomirage Community Area are littered with trash and junked cars that create an aesthetic eyesore for the community.

Program

- County staff in coordination with area residents will enforce applicable zoning laws and other appropriate laws and regulations to help beautify the community.

Program

- Any proposed development within the Ocotillo/Nomirage Community Area visible from Imperial Highway, Interstate 8 or State Highway 98 shall be required to meet architectural standards and landscape requirements.

6. Truck Traffic

Policy

A major concern to residents of the townsite of Ocotillo is the noise generated by the truck traffic from the sand and gravel mining operations at the base of the Coyote Mountains. These operations provide a valuable material for the construction industry of Imperial County. The mineral resources of this area will become increasingly important as other reserves in the County are exhausted. It is important that a long-term solution to this problem be identified.

Program

- The Planning/Building Department will coordinate with other agencies and parties including Public Works, Bureau of Land Management, San Diego Gas and Electric, sand and gravel industry representatives, community residents to consider the feasibility of identifying an alternate truck route that would redirect most of the truck traffic away from the townsite of Ocotillo.

M I N U T E O R D E R
OF
IMPERIAL COUNTY
BOARD OF SUPERVISORS

date : Apr 26, 1994	book : 288	page : 044	file # : 1145.3	m.o.#: 12
x-file 1: 1710.2	x-file 2: 250.54	x-file 3:220.17D	x-file 4:	
department : PLANNING		2nd. page :		

THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL , STATE OF CALIFORNIA, on a motion by Supervisor : COLE , second by Supervisor : SHORES and approved by the following roll call vote;

AYES [: VAN DE GRAAFF, COLE, SHORES, LUCKEY, SHARP]
NAYES[: NONE]
ABSTAINED[: NONE]
EXCUSED OR ABSENT[: NONE]

IN REFERENCE TO;

: . PAGE ONE OF TWO

Following public hearing, the following actions were taken relating to the Ocotillo/Nomirage Community Area Plan:

a. Certified the Negative Declaration on the basis of the Initial Study and any comments recieved showed no substantial evidence that the project would have a significant effect on the environment.

b Made the De Minimus finding as recommended by the Environmental Evaluation Committee (EEC) that the project will not individually or cumulatively have an adverse effect on fish and wildlife resources as defined in Section 711.2 of the Fish and Game Codes.

c. Made findings as presented during the public hearing.

d. Approved and adopted the Ocotillo/Nomirage Community Area Plan as amended:
1) On page 10, Objective 5.10, set a limit of 1.5 acre feet of water instead of 2 acre feet per year (this is a compromise option).
2) On page 10, Objective 5.6, add: "unless development can show through a geohydrology study that adequate water would be available for the project and remain available for public use."

topic : OCOTILLO/NOMIRAGE COMMUNITY AREA PLAN
x-topic:

cc; [Y] Clerk [Y] Auditor [Y] CAO [:Y] County Counsel
[:Y] Planning [:] Public Works [:] Health [:] Ag/APCD
[:] other[:] [:] [:]

M I N U T E O R D E R
OF
IMPERIAL COUNTY
BOARD OF SUPERVISORS

date : Apr 26, 1994	book : 288	page : 044	file # : 1145.3	m.o.#:
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THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL , STATE OF CALIFORNI
motion by Supervisor : COLE , second by Supervisor : SHORES and approved by the following roll call vote;

AYES [: VAN DE GRAAFF, COLE, SHORES, LUCKEY, SHARP
NAYES[: NONE
ABSTAINED[: NONE
EXCUSED OR ABSENT[: NONE

IN REFERENCE TO;

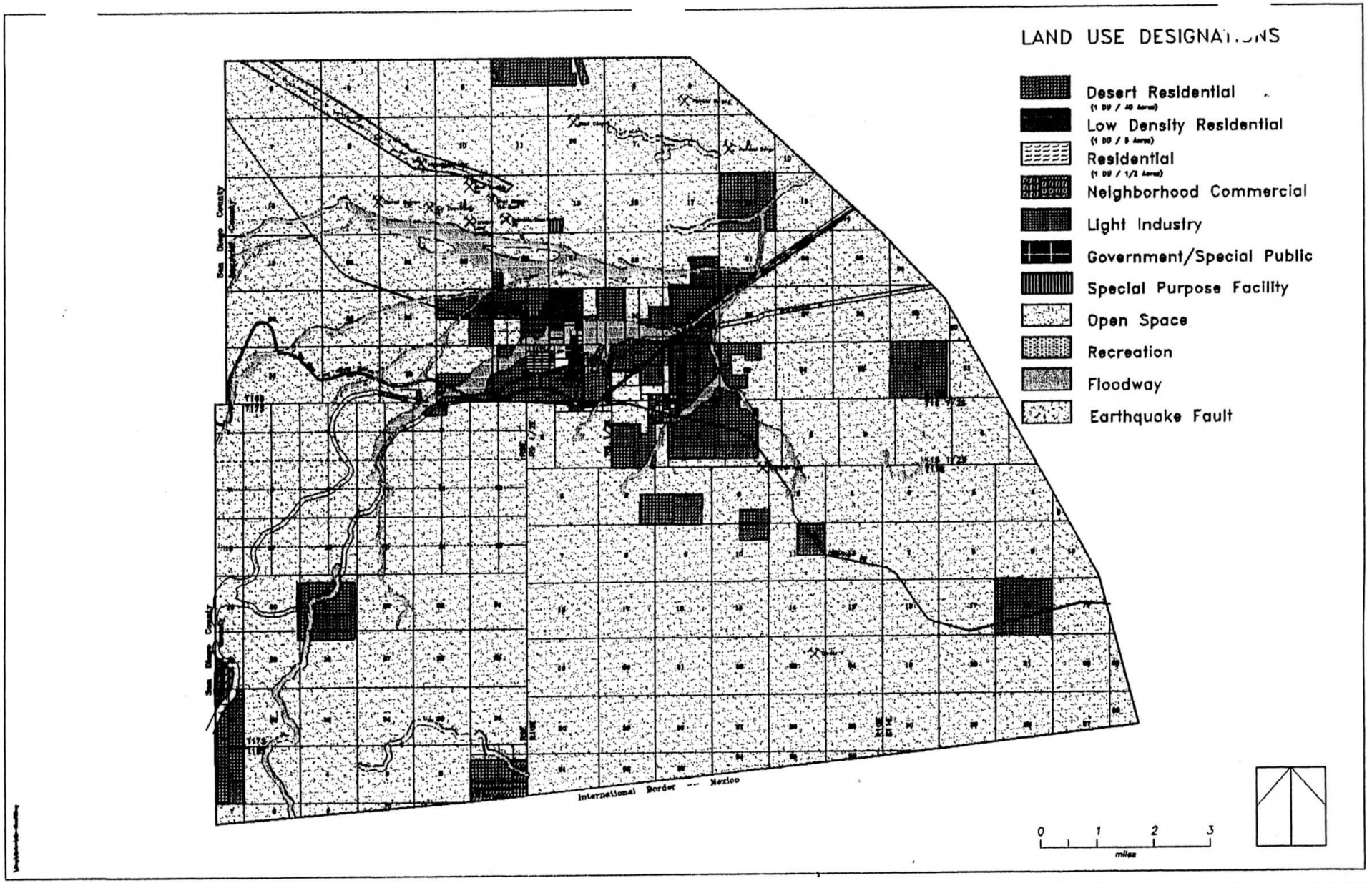
: . PAGE TWO OF TWO

Following public hearing, the following action was taken relating to the Ocotillo/Nomirage Community Area Plan:

d. Approved and adopted the Ocotillo/Nomirage Community Area Plan as amended:
3) On page 14, under Residential Development Standards: A site-specific geohydrology study is required if a proposed (insert) major subdivision is to be served by groundwater.
4) On page 15, under Residential Development Standards: A site-specific geohydrology study is required if a proposed (insert) major subdivision is to be served by groundwater.
5) On page 16, under Residential Development Standards: A site-specific geohydrology study is required if a proposed (insert) major subdivision is to be served by groundwater.
6) On page 17, under Commercial Development Standards: A site-specific geohydrology study is required if a proposed commerical development is to be served by groundwater (add) a the amount of water requested exceeds five (5) acre feet per y
7) Determined that the property (124 acres) owned by the Emory Family be designated as Low Density Residential.
8) Determined that the property (corner of Shell Canyon and S 2) owned by the Foster Family be designated as 30 acres as Low Density with the remaining 150 acres designated as Desert Residential.

topic : OCOTILLO/NOMIRAGE COMMUNITY AREA PLAN
x-topic:

cc; [Y] Clerk [Y] Auditor [Y] CAO [:Y] County Cou
[:Y] Planning [:] Public Works [:] Health [:] Ag/APCD
[:] other[:] [:] [:

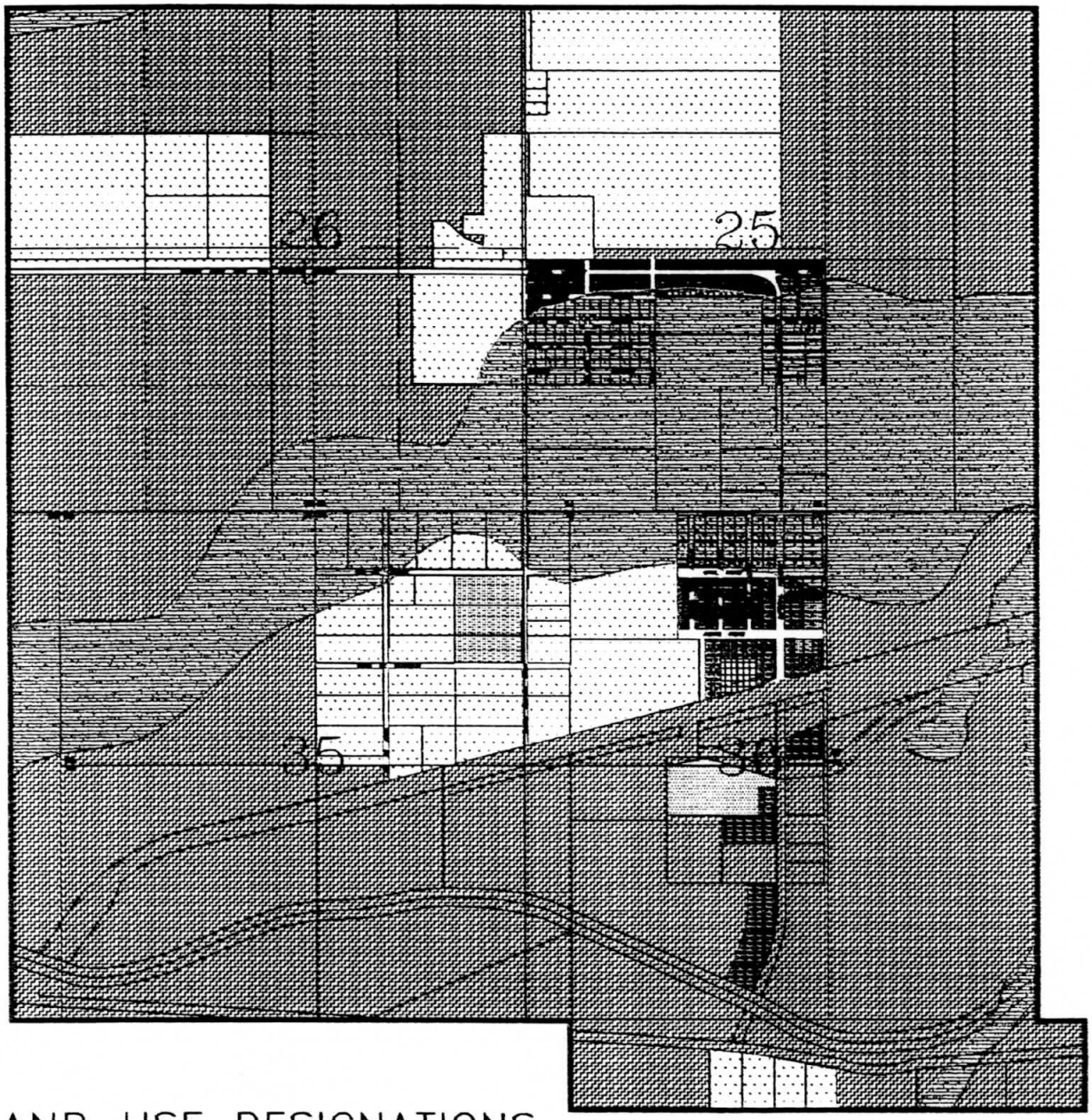


Imperial County General Plan

Ocotillo/Nomirage Community Area

Land Use Element

Figure 1



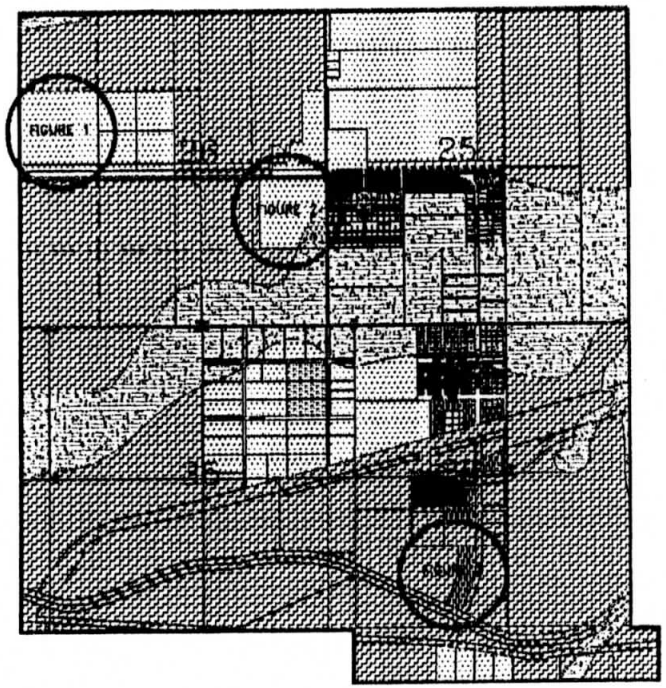
LAND USE DESIGNATIONS

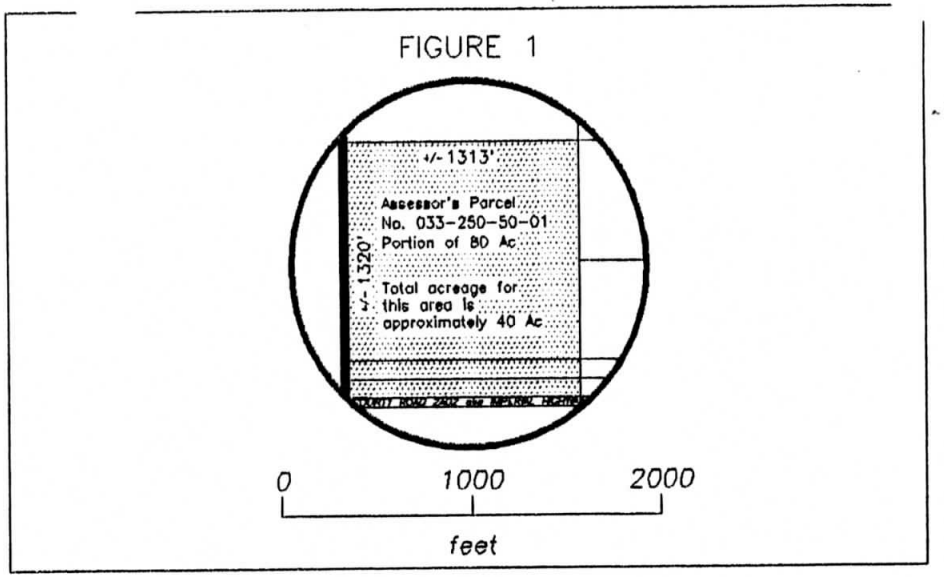
- Desert Residential (1DU/40 AC)
- Low Density Residential (1 DU/5 AC)
- Residential (1 DU/0.5 AC)
- Neighborhood Commercial
- Recreation
- Light Industry
- Open Space
- Government/Special Public
- Floodway

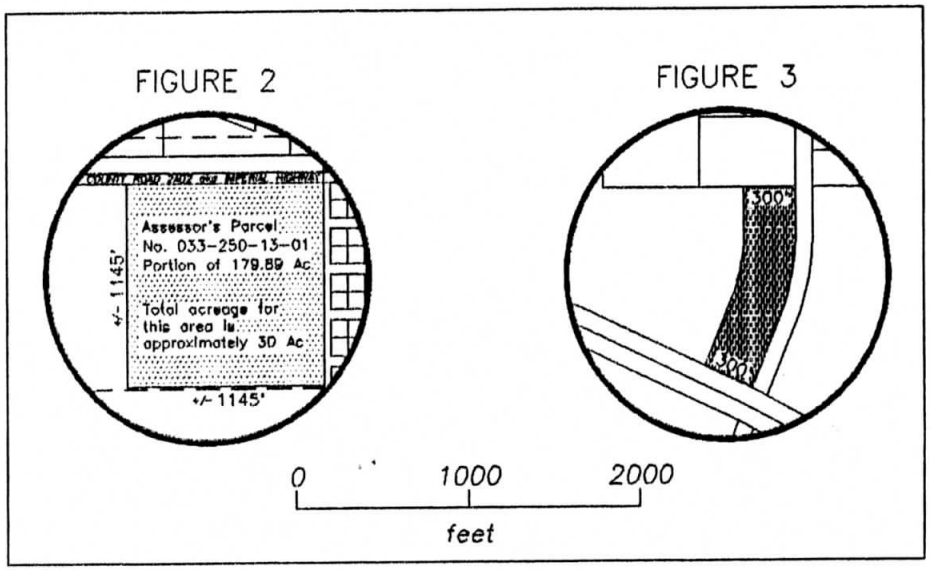
0 1000 2000
feet

\Dwg\Gplan\Gp-Toco2.Dwg

Imperial County General Plan	Townsite of Ocotillo Land Use Element	Figure 2





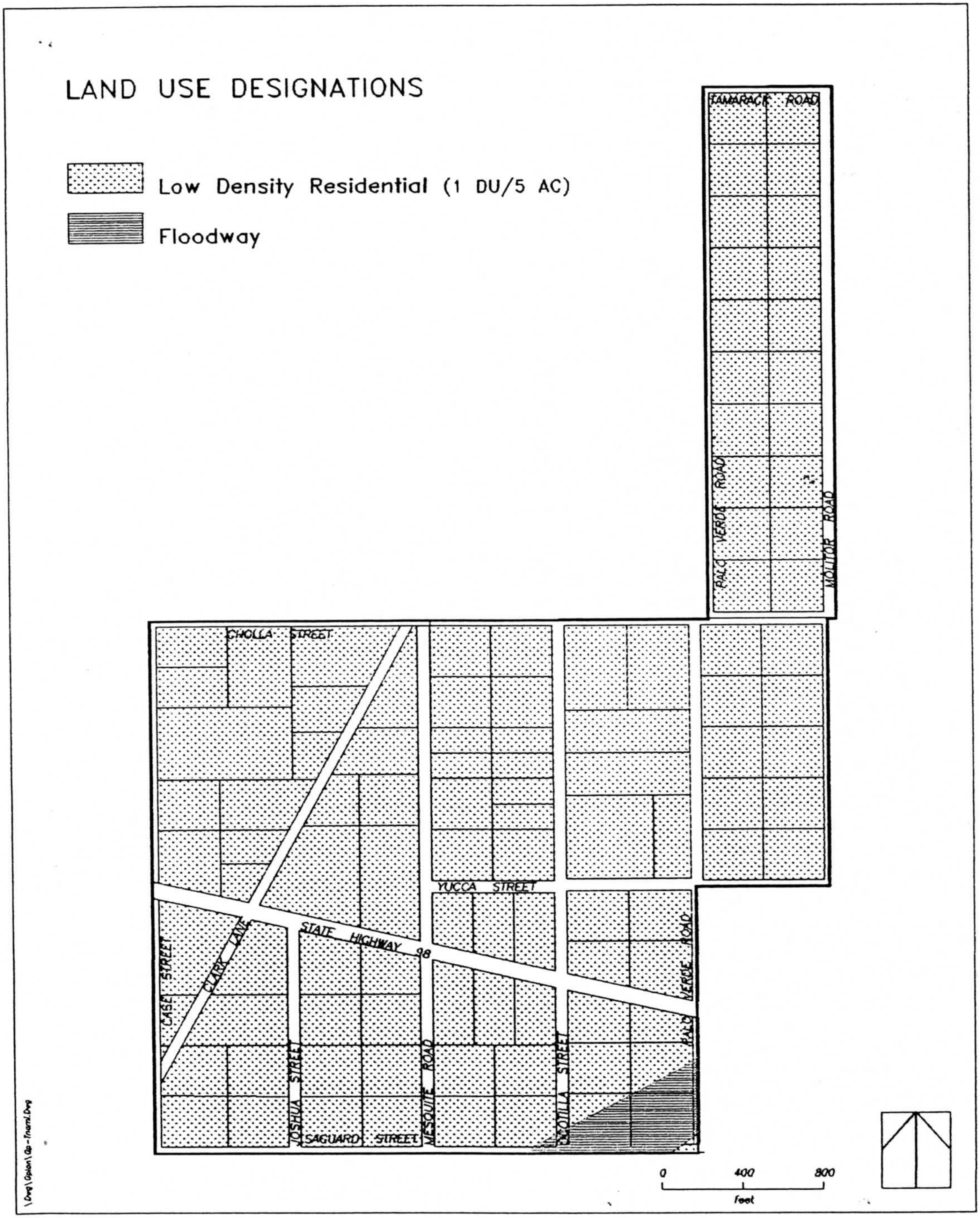


Imperial County General Plan

Townsite of Ocotillo Selected Blow-Up

Land Use Element

Figure 2A

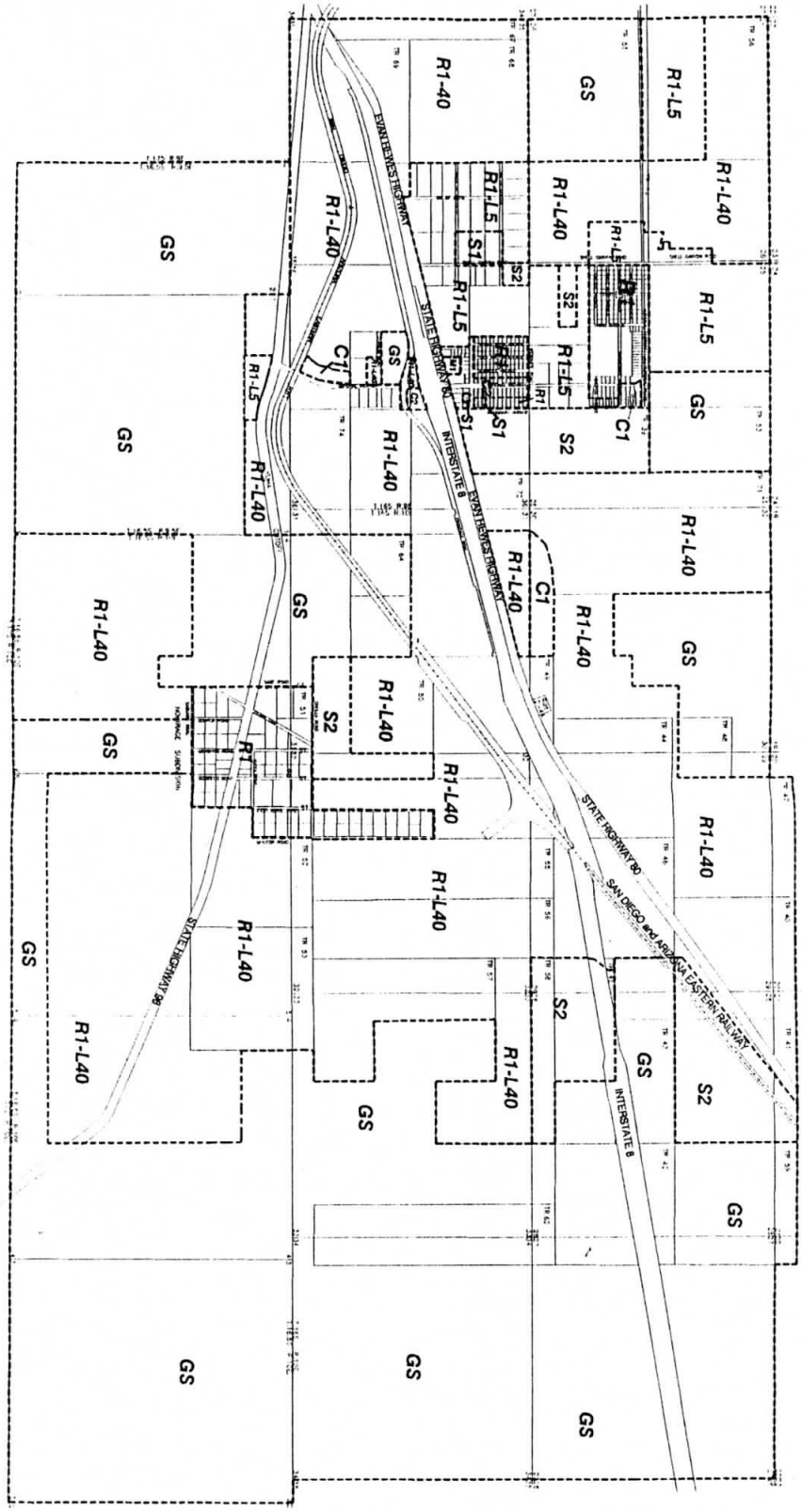


Imperial County General Plan

Community of Nomirage

Land Use Element

Figure 3



NOTE: Efforts have been made to insure zoning accuracy; however, this map may be revised at any time. Therefore this map is generally accurate, for zoning information only! Neither the County of Imperial nor the Planning/Building Department are responsible for erroneous information or improper use of this map.

Adopted by M. O. # 19 (g) on Mar. 31, 1998 effective July 1, 1998.

Director

OCOTILLO AREA

Title 9 Division 25 Section 92559.00

MAP 59

Original adoption date - Nov. 14, 1966
Original date digitized on Acad 2.6 - Jul. 1, 1988
Original date converted to Acad 10 - Feb. 1, 1989
Original date converted to Acad 11 - Sep. 1, 1991
Original date converted to Acad 12 - Jun. 1, 1992
Original date converted to Acad 14 - Dec. 9, 1997
Full Update on April 2, 1998

Revision Dates:

Imperial County Planning/Building Department -- Dwg\Zones\Zone59.Dwg

E:\dwg\ZONE-X\ZONE59-X.dwg Thu Apr 16 10:30:56 1998

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

April 11, 2008

Vicki Wood, Field Manager
Bureau of Land Management
1661 S. 4th Street
El Centro, CA 92243

Subject: Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the United States Gypsum Company Expansion/Modernization Project, Imperial County, California [CEQ #20080089]

Dear Ms. Wood:

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's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

In our July 14, 2006, letter on the Draft EIS/EIR, we expressed concerns that the proposed project could have adverse impacts on watershed resources, including water quality and habitat, groundwater quality and quantity, and air quality. We continue to have concerns regarding water resources and recommend the Bureau of Land Management address these issues prior to issuing the mining permit and document them in the Record of Decision (ROD). Our detailed comments are enclosed.

We appreciate the opportunity to review this Final EIS/EIR and request a copy of the ROD when it becomes available. If you have any questions, please call me at (415) 972-3846 or have your staff call Jeanne Geselbracht at (415) 972-3853.

Sincerely,

Nova Blazej, Manager
Environmental Review Office

004814

Enclosure: EPA's Detailed Comments

Cc: Jurg Heuberger, Imperial County Planning and Development Services
Robert Smith, U.S. Army Corps of Engineers

Groundwater Resources

The Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) does not provide predicted concentrations of contaminants in area wells that could result from increased pumping and groundwater drawdown from United States Gypsum Company's (USG) wells. In Response 25-7, the Final EIS/EIR refers to discussions of groundwater level changes and Mitigation Measure 3.3-2, but we were unable to find a discussion of predicted impacts to constituents such as fluoride, boron, and iron in groundwater. Although Mitigation Measure 3.3-2 describes how potential exceedences of drinking water standards would be mitigated, predictions of potential groundwater degradation in area wells would be useful to understand the likelihood of impacts to water quality both for constituents that could meet standards and for constituents likely to exceed them. According to Table S-1 of the Final EIS/EIR (pp. S-17, 18), degradation of water quality from increased pumping would be a significant impact and, even with implementation of Mitigation Measure 3.3-2, would still be a significant impact.

In addition if, beyond a few wells close to the USG pumping wells, groundwater quality data indicate a downward trend in water quality in the basin, the Final EIS/EIR (pp. S-17, 18) states the only way to halt or reverse these trends would be to curtail pumping by reducing production at the Plant or by implementing one or more project alternatives that reduce or eliminate withdrawals from the basin prior to the groundwater quality being degraded to the point were it was no longer suitable for its current uses. However, this is not considered a mitigation measure in the Draft EIS/EIR (pp. 3.3-80, 81) as its effectiveness appears questionable. Furthermore, it is unclear whether, under such circumstances, reducing or eliminating withdrawals would be included as a requirement of USG's permit.

> **Recommendation:** We recommend the Bureau of Land Management (BLM) seriously consider other practicable means to avoid or minimize these significant impacts and identify them in the Record of Decision (ROD). The ROD should state whether all practicable means to avoid or minimize these impacts have been adopted, and if not, why they were not. [40 CFR 1505(c)]

The Final EIS/EIR (Table S-1) indicates that Mitigation Measures 3.3-1 and 3.3-2 would only require USG to replace degraded or depleted water supplies in affected wells for ten years after cessation of groundwater pumping, or until the well recovers to baseline levels or water quality standards, whichever comes first. These measures are inadequate because replacement water would only be required for ten years after pumping cessation, even if impacts lasted much longer.

> **Recommendation:** These mitigation measures should be revised to require USG to monitor and fully mitigate affected wells for as long as impacts exceeding water quality standards or baseline impacts (e.g., increased pumping costs) last. The ROD should include these revised commitments to ensure full mitigation of impacts to groundwater wells.

Waters of the United States

It appears that activities involved in the proposed mine expansion would involve the discharge of dredged or fill material into waters of the U.S. In our July 14, 2006, letter on the Draft EIS/EIR, we raised the need for substantial additional information on waters of the U.S. that could be affected by the proposed project. We recommended the Final EIS/EIR describe all waters of the U.S. and discuss how they could be affected by the project, including past impacts. We recommended the discussion include acreages and channel lengths, habitat types, values, and functions of these waters and reference project-scale maps that clearly depict these waters and their proximity to each part of the project (e.g., pipelines, quarries, roads, etc.). We recommended the maps also depict the existing channel diversions as well as proposed channel diversions for all future quarrying phases. However, the Final EIS/EIR does not provide this important information.

> **Recommendation:** We recommend the ROD describe all waters of the U.S. and discuss how they could be affected by the project, including acreages and channel lengths, habitat types, values, and functions of these waters, and describe all proposed channel diversions for all future quarrying phases.

Activities involving discharge of dredged or fill material into waters of the U.S. require authorization by the U.S. Army Corps of Engineers (Corps) and compliance with the substantive environmental criteria of the Federal Guidelines (Guidelines) at 40 CFR 230 promulgated under Section 404(b)(1) of the Clean Water Act. However, the Final EIS/EIR states that, although a Section 404 permit application is anticipated for the quarry plan (Response 25-4), the Corps has not been contacted or notified of the proposed project and a jurisdictional delineation has not been conducted (Response 25-2). Response 25-5 states that USG will contact the Corps and California Department of Fish and Game to determine jurisdictional boundaries and apply for appropriate permits. In addition, pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the least environmentally damaging practicable alternative (LEDPA) available to achieve the project purpose. Agencies should integrate the requirements of Section 404 with the National Environmental Policy Act (NEPA) in the formation of project purpose and alternatives, analysis of impacts, and development of mitigation measures to clearly demonstrate that the proposed project is the LEDPA. As we stated in our Draft EIS/EIR letter, this information was needed in the Final EIS/EIR, including an evaluation of the project alternatives in order to demonstrate the project's compliance with the 404(b)(1) Guidelines. The Final EIS/EIR does not provide sufficient information on avoidance alternatives or mitigation to fully offset unavoidable impacts to waters of the U.S. as required under the Guidelines (40 CFR 230.10(d)).

> **Recommendation:** To inform the mine permitting decision regarding the proposed project's compliance with the Clean Water Act Section 404(b)(1) Guidelines BLM should ensure the proposed project complies with the Clean Water Act Section 404(b)(1) Guidelines before signing the ROD. A jurisdictional

delineation should be conducted for the project area, and BLM should coordinate with the U.S. Army Corps of Engineers to determine if the proposed project requires a Clean Water Act Section 404 permit. If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the ROD should discuss the alternatives that were analyzed and selected to avoid or minimize those discharges and describe and commit to mitigation to fully offset unavoidable impacts to waters of the U.S. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation. The discussion should include the following information:

- Acreage and habitat type of waters of the U.S. that would be created or restored;
- Water sources to maintain the mitigation area;
- The revegetation plans including the numbers and age of each species to be planted;
- Maintenance and monitoring plans, including performance standards to determine mitigation success;
- The size and location of mitigation zones;
- The parties that would be ultimately responsible for the plan's success;
- Description of a long-term financing plan for the mitigation; and
- Contingency plans that would be enacted if the original plan fails.

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

Jurg Heuberger
Director
Imperial County Planning and Development Services
801 Main Street
El Centro, CA 92243

Subject: Notice of Preparation of a Draft Environmental Impact Report (EIR) for Coyote Wells Specific Plan Proposed Project.

Dear Mr. Heuberger:

The U.S. Environmental Protection Agency, Region IX Ground Water Office has reviewed the *County of Imperial Coyote Wells Specific Plan Notice of Preparation and Initial Study* prepared by the County and the *Coyote Wells Specific Plan* prepared by Wind Zero Group, Inc. Our review and comments are provided pursuant to oversight of activities potentially affecting the Ocotillo-Coyote Wells Aquifer, a federally-designated Sole Source Aquifer (SSA). Thank you for the opportunity to comment on the proposed project.

The County's Initial Study Checklist indicates that the project may have potentially significant impacts on water quality and ground water levels. It is our understanding that these impacts will be addressed in a hydrology and water quality analysis to be prepared for the proposed project, and findings of this analysis will be incorporated into the impact analysis and discussion in the EIR. Based on our review, I recommend that the analysis include an assessment of the potential for short and long-term overdraft of the SSA, the implications for current users, and that it addresses the potential for new contaminant sources, including salt water intrusion, to negatively impact water quality in the SSA.

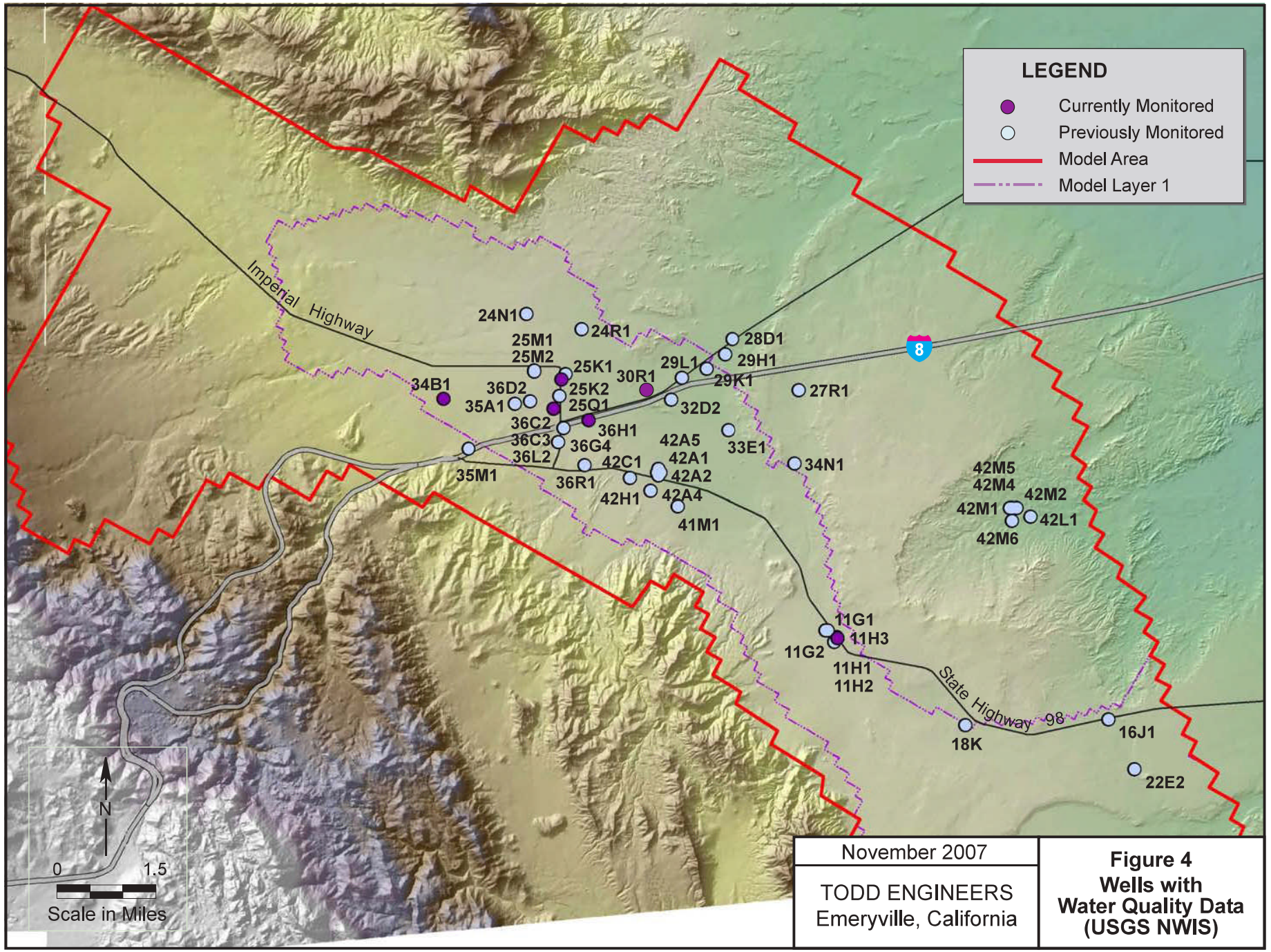
We appreciate the opportunity to review the information provided thus far and request a copy of the EIR when it becomes available. If you have any questions, please call me at (415) 972-3971 or John Ungvarsky, of my staff, at (415) 972-3963.

Sincerely,

David Albright, Manager
Ground Water Office
February 25, 2009

Table 4.0-1
Water Quality Information Available from the USGS National Water Information System (NWIS)

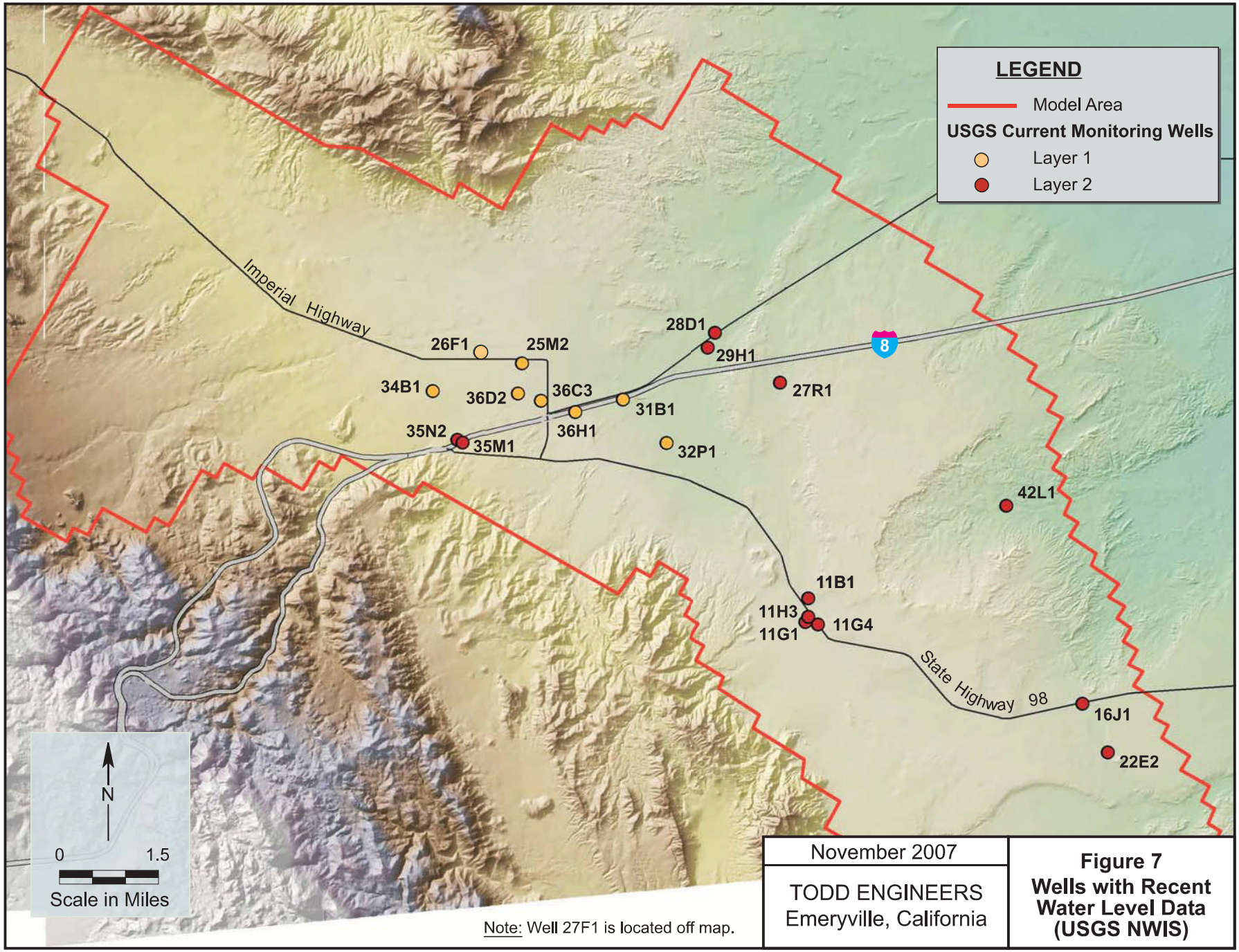
		Period of Record				
State Well Number	Label	Begin	End	Lat	Lon	Number of WQ Measurements
Wells with Recent Data						
17S 10E 11H3	11H3	15-Sep-87	31-Mar-05	32.68812	-115.923	513
16S 9E 34B1	34B1	06-May-97	31-Mar-05	32.74006	-116.024	285
16S 9E 36C2	36C2	08-Feb-61	29-Mar-05	32.73784	-115.996	495
16S 9E 25K2	25K2	01-Dec-72	29-Mar-05	32.74423	-115.994	731
16S 10E 30R1	30R1	27-Jun 59	30-Mar-05	32.74111	-115.9711	1630
16S 9E 36H1	36H1	07-Feb-63	24-Mar-05	32.73534	-115.987	784
Previously Monitored						
16S 10E 42A4	42A4	31-Jul-95	31-Jul-95	32.72395	-115.968	30
16S 10E 42A5	42A5	30-Dec-74	23-Mar-94	32.72478	-115.969	398
16S 9E 36D2	36D2	26-Jun-75	10-Apr-90	32.7395	-116.002	360
16S 9E 24R1	24R1	28-Apr-77	15-Mar-89	32.75506	-115.988	314
16S 10E 29L1	29L1	29-Apr-77	17-Mar-88	32.7445	-115.963	288
17S 10E 11H2	11H2	01-Apr-83	04-Apr-86	32.68839	-115.923	93
17S 10E 11G2	11G2	15-Nov-72	10-Mar-82	32.68978	-115.926	176
16S 10E 42H1	42H1	08-Jan-76	08-Jan-76	32.72006	-115.971	22
16S 10E 42C1	42C1	28-Jun-75	28-Jun-75	32.72284	-115.976	25
16S 10E 41M1	41M1	12-Oct-71	28-Jun-75	32.71673	-115.964	41
16S 9E 36G4	36G4	10-Jan-74	28-Jun-75	32.73367	-115.993	46
16S 9E 35M1	35M1	02-Jul-62	28-Jun-75	32.72923	-116.018	82
17S 10E 11H1	11H1	27-Jun-75	27-Jun-75	32.68728	-115.924	24
16S 10E 29K1	29K1	25-Jun-75	25-Jun-75	32.74645	-115.956	26
16S 9E 35A1	35A1	25-Jun-75	25-Jun-75	32.73895	-116.006	26
17S 11E 22E2	22E2	24-Jun-75	24-Jun-75	32.65951	-115.847	26
16S 11E 42L1	42L1	24-Jun-75	24-Jun-75	32.71423	-115.874	25
16S 10E 34N1	34N1	24-Jun-75	24-Jun-75	32.72589	-115.934	26
16S 10E 27R1	27R1	24-Jun-75	24-Jun-75	32.74173	-115.933	26
16S 9E 36L2	36L2	11-Mar-69	24-Jun-75	32.73062	-115.994	120
16S 9E 24N1	24N1	23-Jun-75	23-Jun-75	32.75839	-116.003	26
17S 11E 18K1	18K1	14-May-75	14-May-75	32.66923	-115.891	25
16S 11E 42M6	42M6	14-May-75	14-May-75	32.71339	-115.878	28
16S 10E 33E 1	33E1	13-May-75	13-May-75	32.73312	-115.951	28
16S 10E 29H1	29H1	13-May-75	13-May-75	32.7495	-115.952	28
16S 10E 42A2	42A2	30-Dec-74	30-Dec-74	32.72339	-115.969	3
16S 10E 42A1	42A1	30-Dec-74	30-Dec-74	32.72395	-115.969	6
16S 9E 25Q1	25Q1	27-Dec-74	30-Dec-74	32.74062	-115.994	10
16S 11E 42M4	42M4	04-Mar-58	23-Dec-74	32.71617	-115.878	45
17S 11E 16J1	16J1	29-Aug-72	11-Dec-74	32.67034	-115.854	37
16S 9E 25K1	25K1	15-May-59	20-Nov-74	32.74534	-115.993	144
17S 10E 11G1	11G1	00-Jan-00	15-Nov-72	32.68978	-115.926	108
16S 11E 42M5	42M5	18-Jan-49	22-Feb-72	32.71617	-115.879	27
16S 9E 25M2	25M2	20-Jan-71	04-Nov-71	32.74617	-116.001	39
16S 9E 36C3	36C3	20-Jan-71	20-Jan-71	32.73784	-115.996	25
16S 9E 25M1	25M1	06-Mar-62	22-Sep-67	32.74589	-116.001	44
16S 11E 42M2	42M2	18-Jan-49	23-Aug-62	32.71617	-115.877	21
16S 11E 42M1	42M1	18-Jan-49	23-Aug-62	32.71617	-115.877	33
16S 9E 36R1	36R1	17-Sep-48	19-Feb-58	32.72562	-115.988	47
16S 10E 28D1	28D1	16-Dec-48	16-Dec-48	32.75284	-115.95	16
16S 10E 32D2	32D2	07-Feb-18	07-Feb-18	32.73978	-115.966	17



November 2007

TODD ENGINEERS
Emeryville, California

Figure 4
Wells with Water Quality Data (USGS NWIS)



November 2007

TODD ENGINEERS
Emeryville, California

Figure 7
Wells with Recent Water Level Data (USGS NWIS)

Table 4-2 Historical U. S. Gypsum Well Production	
Year	Well Production (ac-ft/y)
1976	413
1977	472
1978	491
1979	496
1980	469
1981	261
1982	456
1983	472
1984	472
1985	489
1986	521
1987	512
1988	519
1989	492
1990	476
1991	428
1992	380
1993	363
1994	379
1995	327
1996	367
1997	332
1998	333
1999	372
2000	324
2001	434
2002	533

Sand and Gravel Operations

The 1995 Ocotillo/Nomirage Community Area Plan (ONCAP) identifies Val-Rock and Farmers Land Leveling as water users of 6 and 8 acre-feet per year, respectively. Several other sand and gravel operations are located throughout the area, including Caltrans, Imperial County Public Works, and Granite Construction. However, no estimates of water use were presented in the ONCAP for these operations.

OCOTILLO EXPRESS WIND FACILITY

PLAN OF DEVELOPMENT

Draft

Prepared by:

Ocotillo Express LLC
One Letterman Drive, Building D
San Francisco, California 94129

September 2009

TABLE OF CONTENTS

LIST OF ACRONYMS

Area of Critical Environmental Concern	ACEC
Best Management Practices	BMP
Balance of Plant	BOP
Bureau of Land Management	BLM
Construction Operation and Maintenance	COM
Department of Energy	DOE
Energy Information Administration	EIA
Extensive Recreation Management Area	ERMA
Federal Aviation Administration	FAA
Federal Land Policy and Management Act	FLPMA
High Voltage	HV
Key Observation Point	KOP
Kilovolt	kV
Large Generator Interconnect Agreement	LGIA
Miles Per Hour	MPH
Megawatt	MW
Meters per second	mps
National Environmental Policy Act	NEPA
National Historic Preservation Act	NHPA
National Register of Historic Places	NRHP
Native American Heritage Commission	NAHC
Ocotillo Express LLC	OE LLC
Ocotillo Express Wind Project	OE
Operation and Maintenance	O&M
Plan of Development	POD
Programmatic Environmental Impact Statement	PEIS
Record of Decision	ROD
Recreation Opportunity Spectrum	ROS
Right-of-Way	ROW
Rotations per Minute	RPM
Rotor Diameters	RD
Special Recreation Management Area	SRMA

Storm Water Pollution Prevention Plan	SWPPP
Sunrise Powerlink transmission line	SPL
Supervisory Control and Data Acquisition	SCADA
Turbine Supply Agreement	TSA
Visual Resource Inventory	VRI
Visual Resource Management	VRM
Wind Turbine Generator	WTG

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

1.1.1 Type of facility and generation capacity (Federal and non-Federal lands)

Pattern Energy, through Ocotillo Express LLC (OE LLC), proposes to construct, operate, maintain and decomission a 561 megawatt (MW) wind generation facility on approximately 14,980 acres in the Ocotillo Express wind project area (Figure 1.1-1). OE LLC acquired from Greenhunter, another developer, its rights to approximately 5,915 acres of BLM administered lands(CACA-___). OE LLC also acquired from its affiliate Wind Development Contract Co. its application for an additional 8,878 acres of adjacent BLM administered lands. OE LLC also has entered into an agreement with the owner of approximately 26 acres of private land near the center of the wind project area for wind monitoring. The three separate parcels are consolidated into a single 561MW wind project in this Plan of Development.

The proposed action consists of the construction, operation, maintenance and decommissioning of wind turbine generators and associated facilities necessary to successfully generate up to 561 MW in Imperial County west of Ocotillo, California. The project will be constructed in two phases: Phase I will comprise 130 2.3MW wind turbine generators with a total nameplate capacity of 299MW, and Phase II will comprise 114 wind turbine generators with a total nameplate capacity of 262.2MW (nameplate capacity is the full rated capacity of a wind turbine generator).

1.1.2 Proposed schedule for project (including anticipated timelines for permitting, construction and operation, and any phased development as appropriate)

- Draft EIS – TBD
- Record of Decision – TBD
- Execute LGIA – 4th quarter 2011
- Execute TSA – TBD
- Execute BOP Construction Contract – 1st quarter 2012
- Commence civil works (roads, underground electrical, foundations) – 1st quarter 2012
- Commence balance of plant electrical/civil works – 1st quarter 2012
- Turbine deliveries commence – 2nd quarter 2012
- Turbine commissioning, testing, and commercial operation – 4th quarter 2012
- Decommissioning 2042

1.2 PROPONENT'S PURPOSE AND NEED FOR THE PROJECT

Proponent's objective is to construct, operate, maintain and decommission a 561MW wind generation facility that is environmentally and economically feasible. Recent national and regional electrical demand forecasts predict that the growing consumption of electrical energy will continue to increase into the foreseeable future and will require development of new resources to satisfy this demand. The Department of Energy (DOE) Energy Information Administration (EIA) has forecasted a 41 percent growth in electricity sales by 2030, including a projected increase of 39 percent in the residential sector, 63 percent in the commercial sector,

and 17 percent in the industrial sector. This growth will require an increase in generating capacity of 347 gigawatts (347,000MW) nationwide over the next 25 years (EIA 2007).

Executive Order 13212 signed in 2001 states that the production and transmission of energy in a safe and environmentally sound manner is essential to the well-being of the American people. Reports from the Department of Energy postulate that wind power can provide 20% of the nation's electricity by 2030. The Department of Energy report finds that achieving a 20% wind contribution to U.S. electricity supply would:

- Reduce carbon dioxide emissions from electricity generation by 25 percent in 2030.
- Reduce natural gas use by 11%;
- Reduce water consumption associated with electricity generation by 4 trillion gallons by 2030;
- Increase annual revenues to local communities to more than $1.5 billion by 2030; and
- Support roughly 500,000 jobs in the U.S., with an average of more than 150,000 workers directly employed by the wind industry.

In response to National Energy Policy recommendations on renewable energy and increased interest in wind energy development, the BLM prepared a Programmatic Environmental Impact Statement (PEIS) to analyze the potential impacts of wind energy development on public lands. The PEIS was published in June, 2005 and the Record of Decision (ROD) to implement a comprehensive Wind Energy Development Program was signed in December, 2005. As stated in the PEIS/ROD (BLM 2005), the BLM is responsible for the development of energy resources on BLM-administered lands in an environmentally sound manner in accordance with the requirements of the Federal Land Policy and Management Act of 1976 (FLPMA) (United States Code, Title 43, Section 1701 et seq. [43 USC 1701 et seq.]). BLM Instruction Memorandum No. 2009-043 was issued December 19, 2008 to provide updated guidance on processing of right-of-way applications for wind energy projects on public lands administered by the BLM.

Additionally, the State of California has recognized the need for new and diverse energy resources including renewable energy generation options. In fact, on September 15, 2009, California Governor Arnold Schwarzenegger signed an Executive Order mandating a 33 percent renewable energy target be reached by calendar year 2020.

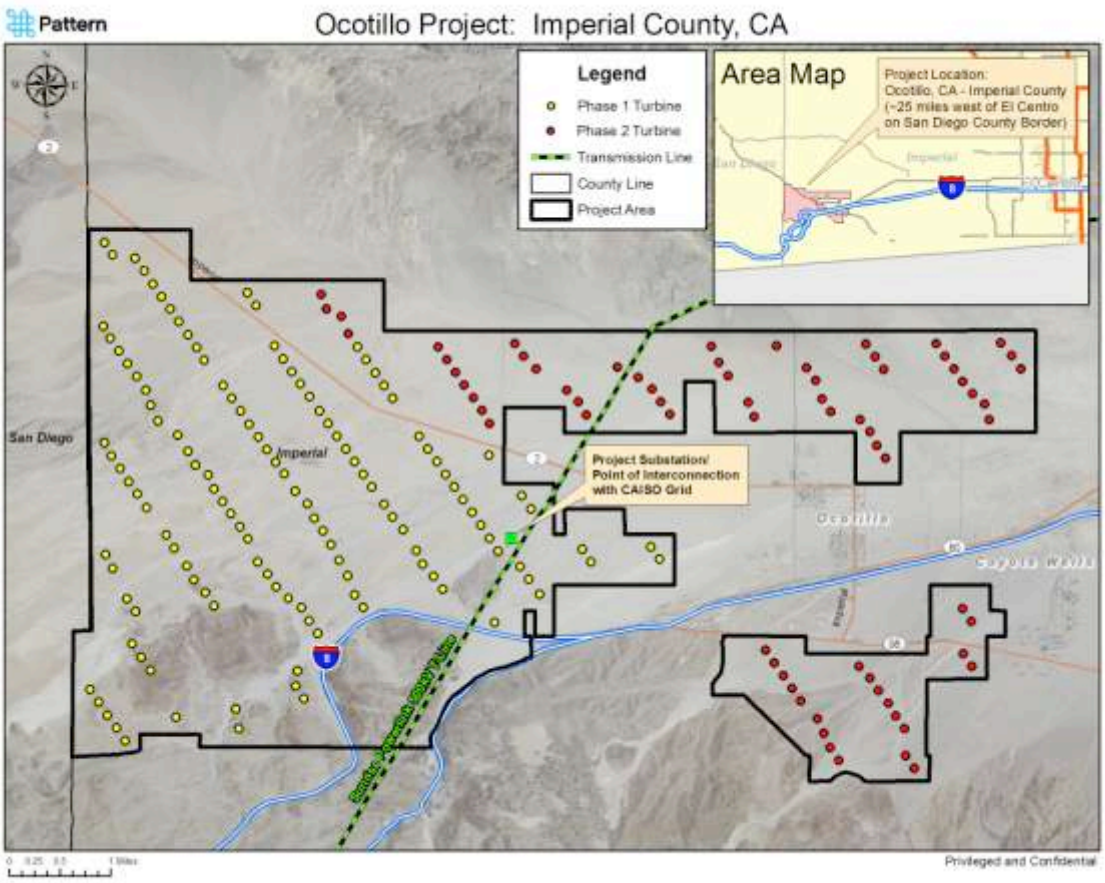


Figure 1.1-1 Project Location Map.

1.3 General Facility Description, Design, and Operation

1.3.1 Project location, land ownership, and jurisdiction

The proposed wind energy project would be located almost entirely on BLM administered lands in the Imperial Valley, approximately 5 miles west of Ocotillo, Imperial County, California. The Imperial Valley of California has been recognized as an area having high renewable energy development potential. A new high-voltage transmission line designed to foster development of renewable resources, known as the Sunrise Powerlink (SPL), has been approved by the BLM and other regulatory agencies. The SPL crosses the Ocotillo Wind Project site, facilitating interconnection of the project and transmission of its renewable energy output to key load centers in Southern California.

1.3.2 Legal land description of facility (BLM-administered and private lands)

A legal description of the entire right-of-way (ROW) is provided in Appendix A.

1.3.3 Total acreage and general dimensions of all facilities and components

Facilities for the proposed action would consist of wind turbine generators, an electrical collection system for collecting the power generated by each wind turbine generator (WTG), an electrical substation, access roads, and an operation and maintenance (O&M) building. The project area totals approximately 14,980 acres, of which all but 26 acres occur on BLM-administered lands covered by the requested ROW for the proposed action. The 26 acres of private land is a private parcel which OE LLChas leased for wind monitoring. The total area estimated for use by the wind energy facility (including short term disturbance) is approximately 2000 acres, or approximately 14% of the total ROW. The permanent footprint of the wind energy facility is shown in Figure 6.1-1 and will only occupy 150 acres or slightly more than 1.0% of the total ROW.

Table 2.1-1 Ocotillo Express Wind Facility Components; Maximum Disturbance Summary Table, Based on Construction of 244 Turbines.

Facility Component	Temporary Disturbance (Acres)	Permanent Disturbance (Acres)
Turbine Foundations & Crane Pads	710	75
Batching Plant & Laydown/Parking Area	10.0	0.0
Temporary Linear Use Area (inc. roads and collection system)	1300	0.0
Access Roads	290,000 ft	110
Collector Lines	350,000 ft	Tbd
Meteorological Towers	0.0	0.1
Substation/Switchyard &	0.0	14.0

O&M Facility		
Gravel Source(s)	15.0 (if on site)	0.0
Total	tbd	Tbd

1.3.4 Number and size of wind turbines (BLM-administered and private lands)

The site layout presented in Figure 6.1-1 shows 244 potential turbine locations. The final layout would ideally utilize the preferred 244 turbine sites, but may include some re-configuration of the potential locations in order to avoid impacts identified during the National Environmental Policy Act (NEPA) process. For additional details, please refer to section 2.10.

1.3.5 Wind turbine configuration and layout (BLM-administered and private lands)

The final site layout will be based on the results of the NEPA process and the type of wind turbine selected, with the total number of turbines generating not more than the 565 MW allowed under the interconnection application. Additionally, the turbine sites selected will be those with the most energy potential (i.e. best wind resource) that do not lead to significant environmental impacts. Appendix B provides an overview of potential environmental impacts for each proposed turbine location [to come]. The final site layout will be in accordance with industry standards, safety measures and appropriate guidance as stated in the BLM's Wind Energy PEIS/ROD.

1.3.6 Substations, transmission lines, access roads, buildings, parking areas

The proposed action would include the following permanent facility components: maximum of 244 WTGs, internal access roads, underground and overhead collector lines, meteorological towers, substation/switchyard, and an operation and maintenance (O&M) facility. During construction, a batch plant, equipment laydown yard, and parking area would also be needed. These are discussed in further detail in section 2.

1.3.7 Ancillary facilities (administrative and maintenance facilities and storage sites)

Ancillary facilities would include an O&M facility, linear temporary use area, and one or more sand and gravel sources used during construction. Gravel and concrete aggregate will come from several locations (Figure X). Each borrow area would be up to 15 acres in size and would be rehabilitated upon completion of the construction phase. Please refer to Table 2.1-1 These locations are anticipated to occur outside the project area, and will be determined before the POD is finalized. Use of sand and gravel from BLM-administered lands would require a permit and contract, which Proponent would obtain prior to utilization of such sand and gravel.

1.3.8 Temporary construction workspace, yards, and staging areas

One 10-acre temporary laydown and parking area will be required to stage and store construction equipment and materials, and for construction staff parking (Figure 6.1-1). During construction, the laydown area may be fenced and gated to control access. Portions of the laydown area may

be graveled depending on the soil conditions. After construction, all temporary disturbances associated with the laydown area will be reclaimed.

The project scope will include a network of 16 foot wide roads that will provide access to each turbine location and to the project's O&M building. During the course of construction, access roads will have an additional temporary disturbance of 20 feet to facilitate the travel of large tracked cranes. These disturbed areas will be graded and compacted for use and then decompacted and stabilized at the conclusion of the project. In addition to the crane travel paths, the underground collection system will also parallel the access road network further widening the disturbed area. A temporary linear use area (TLUA) will be designated to accommodate roads, crane travel paths, and one or more underground circuits. The TLUA will include a 30 foot buffer off the centerline of the road and collection system, plus the area in-between, with a typical total width of 200 feet (Figure 6.1-2). Grading and clearing would only occur within the 36 foot wide road and 20 foot wide collection system alignments (470 acres). The remaining portions of the TLUA would be subject to disturbance by construction equipment and temporary laydown sites. The total approximate area within the TLUA is 1300 acres. Additionally, there will be a 400 foot diameter (2.9 acre) temporary work area for each turbine site that will be used for the crane pad, equipment laydown, and other construction related needs. Within the turbine temporary work area, an area of 75 by 150 feet with a maximum slope of 1% is required to support the crane used during erection and lifting the turbine components into place. The crane pad will not be surfaced with concrete, but will be compacted to provide a stable and safe operation area for the cranes. To meet the necessary compaction standards (determined by geotechnical studies), it may be necessary to employ dynamic compaction (process in which heavy weights are systematically and repeatedely dropped on the pad), and graders and bulldozers used to achieve the required levels and grades. The total area for the maximum temporary turbine work area (244 turbines) is approximately 470 acres, which takes into account overlap with the TLUA (Figure 6.1-2). The topsoil from the crane pads would be scraped and stockpiled, and put back in place during reclamation of the crane pads to BLM standards, as further discussed in Section 2.13.

A 10 acre site will be allocated to install a batch plant, to be located either on site on BLM-administered land or adjacent to the gravel and aggregate source, for preparing and mixing the concrete used for the foundations for the WTGs, the transformers at the substation, the O&M building, and other project facilities. The batch plant will be cleared of all vegetation, graded and compacted. Prior to installation of the batch plant facilities, the area will be covered with gravel as required to support the circulation of trucks and other equipment. The batch plant complex will consist of a mixing plant, areas for sand and gravel stockpiles, an access road, and truck load out and truck turnaround areas. The batch plant itself will consist of cement storage silos, water and mixture tanks, gravel hoppers, and conveyors to deliver different materials. During construction, materials will be taken from stockpiles and dumped into hoppers with front-end loaders where they will be mixed together in the mixing plant and then loaded into ready-mix trucks in the truck loading area. The concrete will be delivered to each turbine site, substation and O&M building, and other locations as needed. Concrete ready-mix trucks will be washed out at designated locations designed for that purpose. At those locations, all effluent will be contained and refuse concrete will be reclaimed. Following completion of construction, all components of the batch plant will be demobilized and the site will be reclaimed to BLM standards as further discussed in Section 2.13.

1.3.9 Water usage, amounts, sources (during construction and operations)

Water sources will be determined prior to the start of construction, and arrangements to procure necessary water will be finalized and included in the Construction Operation and Maintenance (COM) plan. A total of about 20,000 gallons of water per turbine will be needed for batching concrete. Based on the maximum of 244 turbines, a total of 5,000,000 gallons of water will be needed for turbines. In addition, approximately 15,000,000 gallons of water are expected to be required for road maintenance and dust suppression. In total, approximately 20,000,000 gallons (61.4 acre feet) of water will be needed for the project during construction. All water would be delivered from the selected source, by truck to the Batch Plant and project area. Up to 3500 vehicle trips would be required for water delivery. Temporary water storage tanks would be installed support these water needs.

1.3.10 Erosion control and stormwater drainage

Erosion and Sediment control measures would be implemented during construction. These would include stabilization measures for disturbed areas and structural controls to divert runoff. Prior to construction, and continuing through operations, maintenance and decommissioning, a Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented.

1.3.11 Vegetation treatment, weed management, and any proposed use of herbicides

During construction, operation, maintenance and decommissioning phases, Ocotillo Express would abide by noxious weed control procedures as developed in cooperation with the BLM and Imperial County. The establishment of noxious/invasive vegetation can be limited by early detection and eradication. Ocotillo Express would work with the BLM and Imperial County to develop procedures to control the spread of noxious weeds and invasive plants. If chemical treatment is applied, it would be consistent with BLM's Record of Decision: Vegetation Treatments Using Herbicides (September 2007), as supported by the FEIS for Vegetation Treatments Using Herbicides (June 2007). Specific control measures may include:

- Cleaning vehicles that are required to go off designated roadways;
- Reseeding of temporarily disturbed areas (e.g., portions of access roads, trenches for the underground collection system, turbine work areas) with an agency-certified weed-free mixture of native grasses, forbs, and shrubs;
- Using weed-free fill;
- Annual post-construction monitoring and treatment of access roads and turbine sites for a designated period following construction;
- Storing equipment, materials, and vehicles at specified work areas or construction yards; and
- Confining personal vehicles, sanitary facilities, and staging areas to a limited number of specified weed-free locations.

1.3.12 Waste and hazardous materials management

All construction related waste will be stored within a temporary use area until it is collected for transport to a final landfill destination. Materials that can be recycled will be stored and transported separately. Ocotillo Express will coordinate with local landfills prior to commencement of construction. Hazardous materials are typically limited for a project of this

nature. However, the following materials are anticipated to be used or produced during construction and operation of the proposed action:

- Fuel (Diesel and Unleaded) for construction equipment and vehicles
- Lubricants and Mineral Oils
- Cleaners, industrial material

These substances will be contained and disposed of according to local, state, and federal regulations. In addition, Ocotillo Express would work with the BLM and other appropriate agencies to implement the following actions:

- Develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.
- Develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

1.3.13 Fire protection

The potential exists for on-site, man-caused fires to occur during the construction period due to exhaust fumes, storage of flammable liquids, fueling practices, and smoking. All workers will be trained to prevent fire emergencies and to deal with them quickly and effectively if they do occur. Crews would carry fire prevention equipment and consult with the El Centro District during high fire danger. A comprehensive Fire Management Plan will be prepared and included in the COM Plan. Appropriate fire protection methods will be utilized during operations, maintenance and decommission of the Project, as well as during construction.

1.3.14 Site security and fencing proposed (during construction and operations)

The security fence surrounding the substation/switchyard and the O&M building will be the only permanent fencing associated with the proposed action. The type and height of this security fence, and the need for temporary security fencing around temporary construction areas, will be determined based on an assessment of risk prior to commencement of construction. The gate in the substation and O&M building fence will remain locked whenever these facilities are unattended. During the construction phase, access roads may have gates or signs installed, as necessary, to control public access to the site for safety reasons. However, access will be preserved for private landowners and BLM-permitted uses. Adaptive management based on survey results will be utilized, and protective fencing may be utilized as a means to mitigate for added access to the Project.

1.3.15 Electrical components, new equipment and existing system upgrades

The proposed facility will connect to the new SDG&E Sunrise Powerlink 500kV transmission line scheduled for completion in June 2012 across the middle of the project site. The Point of Interconnection will be adjacent to the project substation. A new substation, electrical collection system, padmount transformer vaults (if used), and above ground junction boxes will be installed. Furthermore, a 500 kV above ground stub line will connect the new substation to the new SDG&E Sunrise Powerlink 500 kV line. Section 2.11 discusses these electrical components in further detail.

1.3.16 Interconnection to electrical grid

In addition to the turbines, the project will include the construction of twenty-eight 34.5 kV electrical collection system circuits connecting into a new high voltage (HV) main transformer located at the substation. The new substation will be located within the project area, near the new SDG&E 500kV line. The collection lines connecting one turbine to the next and to the project substation will be buried underground generally adjacent to the interior turbine access roads as noted above. Above ground components of the collection system will include pad mounted transformers alongside each turbine, junction boxes throughout the project site, the main substation/switchyard (which will be fenced), and the overhead 500 kV stub line connecting the switchyard to the new 500 kV transmission line.

1.3.17 Spill prevention and containment for construction and operation of facility

Prior to any hazardous materials being onsite, Ocotillo Express will prepare and implement a Hazardous Materials Business Plan/Spill Prevention Control and Countermeasures Plan (Plan) to avoid spills and minimize impacts in the event of a spill. The plan will ensure that adequate containment would be provided to control accidental spills, that adequate spill response equipment and absorbents would be readily available, and that personnel would be properly trained in how to control and clean up any spills.

1.3.18 Health and safety program

All personnel assigned to this project will work under strict approved safety guidelines that will be established prior to the start of construction and remain in place during construction, operations, maintenance and decommissioning.

Safety is of the utmost importance on the construction site. Numerous hazards exist, both to the workers, and to those traveling through or near the site on public access roads. Therefore, warning signs will be posted along the access roads indicating the dates of construction activities, and recommending that the public take alternate routes during that time period. In addition, areas where supplies and equipment will be stored or areas deemed hazardous will also be properly secured (e.g. fenced) to prevent theft, tampering, or injury. Areas with construction and work in progress will be secured so that no one without proper safety training will be able to access them. WTG access doors will be locked whenever the turbine sites are unattended.

Workers will be trained in health and safety issues as they pertain to the work site as to prevent safety issues from arising and to address those that do. In case of emergency, there will be an

emergency response plan in place, and workers will be trained in proper implementation of its protocols with the general construction contractor taking primary responsibility.

1.4 OTHER FEDERAL, STATE AND LOCAL AGENCY PERMIT REQUIREMENTS

1.4.1 Required permits (entire project area on both BLM-administered and private lands)

FEDERAL AGENCY	PROCESS/PERMIT	JURISDICTION
Bureau of Land Management	**Draft PA**/draft EIS/EIR **Proposed PA/final EIS/EIR** **Record of Decision (ROD)** **Land Use Plan Amendment**	National Environmental Policy Act compliance required for Federal actions. Likely joint EIR/EIS with Imperial County Part of EIR process; Federal Land Policy and Management Act of 1976; BLM Planning Regulations (43 CFR Part 1600); BLM Land Use Planning Handbook (H-1601-1_
	Native American Consultation	Indian tribes must be consulted to identify sacred sites and other palces of traditional religious and cultural importance. Consultation will be done by BLM
	Right of Way (ROW) Grant	Authorized under Title V of FLPMA (43 U.S.C. 1761-1771)
	National Historic Preservation Act, Section 106 Compliance	Identification and evaluation of cultural resources within Area of Potential Effects in accordance with BLM requirements. BLM will consult with State Historic Preservation Officer and other parties consistent with BLM/SHPO Protocol.
BLM State Office	**Archeological Resources Protection Act, Cultural Resource Use Permit**	A BLM Cultural Use Permit must be obtained for the purposes of testing to determine the NRHP significance of identified sites and to conduct data recovery on sites adversely affected by project construction and operation.
BLM, El Centro Field Office	**Fieldwork Authorization**	A BLM Fieldwork Authorization must be obtained prior to conducting Class II or Class III cultural resource inventories.
US Fish & Wildlife Service	**Biological Opinion**/Endangered Species Act/Section 7 Consultation	Based on listed or proposed species, designated or proposed critical habitat on-site or affected by project
U. S. Army Corps of Engineers	**Nationwide Permit 12**/Clean Water Act Sect. 404	Depending on water discharges
Federal Aviation Agency	**Determination of No Hazard**	Confirming no hazard to military or other air operations in area – on line filing: https://oeaaa.faa.gov/oeaaa/external/portal.jsp
U.S. DoD	**Consultation**	Operations, military radar impacts
Homeland Security	**Consultation**	Affect on border surveillance aircraft
NOAA National Weather Service/Radar Operations	**Consultation**	Affect on weather radar. [Nearest Yuma, 140 km ESE , San Diego 140 km WNW]
STATE AGENCY	**PROCESS/PERMIT**	**JURSIDICTION**
California Energy Commission	**Renewables Portfolio Standards (RPS) Certification**	
Colorado River	**National Point Discharge**	

RWQCB Region 7	**Elimination System (NPDES) Permit** **Stormwater Pollution Prevention Plan (SWPPP)** **Water Quality Certification/**Clean Water Act Sect 401	
Caltrans	**ROW Encroachment Permit**	Access across State ROW
	Transportation Permit	Weight, size, route

Native American Heritage Commission	**Consultation on Sacred Areas to comply with State requirements**	The NAHC must be contacted to determine the presence of known Native American sacred areas in the project vicinity. Consultation is ongoing and will be completed by the applicant prior to the onset of NEPA analysis.

LOCAL AGENCY	PROCESS/PERMIT	JURISDICTION
Imperial County	**Environmental Impact Report (EIR) Determination /Findings** **Mitigation Monitoring and Reporting Plan**	California Environmental Quality Act compliance required for State and Local actions. Likely joint EIR/EIS with BLM
	Conditional Use Permit/Variance	Turbines and Met Towers
	ROW Encroachment Permit	Access across road ROW
	Water Well Permit	If on-site water supply
	Septic System Permit	If on-site disposal
	Building, Grading Permits	Site construction

1.4.2 Status of permits

FEDERAL AGENCY	PROCESS/PERMIT	STATUS
Bureau of Land Management	**Environmental Impact Statement** (EIS)	Plan of Development and Type III R-O-W grant application being developed.
	Record of Decision (ROD)	Likely joint EIR/EIS with Imperial County
	Management Plan Amendment	Pending (part of EIR process)
	Native American Consultation	Pending (to be conducted by BLM)
	Right of Way (ROW) Grant	Pendng (Authorized under Title V of FLPMA (43 U.S.C. 1761-1771)
US Fish & Wildlife Service	**Biological Opinion**/Endangered Species Act/Section 7 Consultation	To come in due course - Based on listed species and habitat on-site or affected by project
U. S. Army Corps of Engineers	**Nationwide Permit 12**/Clean Water Act Sect. 404	To come in due course - Depending on water discharges
Federal Aviation Agency	**Determination of No Hazard**	DNH's have been issued by FAA

U.S. DoD	**Consultation**	OE consultant has been verbally advised that Navy has no objection
Homeland Security	**Consultation**	Pending FAA process
NOAA National Weather Service/Radar Operations	**Consultation**	Pending FAA process
STATE		
California Energy Commission	**Renewables Portfolio Standards (RPS) Certification**	Application will be filed in due course
Colorado River RWQCB Region 7	**National Point Discharge Elimination System (NPDES) Permit** **Stormwater Pollution Prevention Plan (SWPPP)** **Water Quality Certification/**Clean Water Act Sect 401	
Caltrans	**ROW Encroachment Permit** **Transportation Permit**	Will be obtained in due course Will be obtained in due course
California State Fish And Game (CDFG)	Consultation	California Endangered Species Act (CESA) of 1984, Fish and Game Code §§ 2050-2098 Fish and Game Code §§1600-1607, Streambed Alteration Agreement (SAA) Fish and Game Code Fully Protected Species including: § 3511: birds § 4700: mammals § 5050: reptiles and amphibians § 5515: fishes Fish and Game Code § 1900 et seq. Native Plant Protection Act (NPPA) of 1977 Fish and Game Code §§ 3503, 3503.5, and 3513. Title 14 California Code of Regulations §§ 670.2 and 670.5
State Historic Preservation Officer	**Section106 Consultation**/ National & State Historic Preservation Acts	Pending completion in due course
Native American Heritage Commission	**Consultation**	Letters/telephone calls to NAHC-identified tribes or bands. Perhaps satisfied by BLM's consultations with Tribes
California State Fish And Game (CDFG)	Consultation	Letters/meetings to ensure compliance with state code.
LOCAL		
Imperial County	**Environmental Impact Report (EIR)** **Determination /Findings** **Mitigation Monitoring and Reporting Plan**	California Environmental Quality Act compliance required for State and Local actions. Likely joint EIR/EIS with BLM
	Conditional Use Permit/Variance	Applications pending for two met towers
	ROW Encroachment Permit	To be obtained in due course
	Water Well Permit	Need to be determined in due course
	Septic System Permit	Need to be determined in due course
	Building, Grading Permits	Will be obtained in due course

1.5 FINANCIAL AND TECHNICAL CAPABILITY OF APPLICANT

Pattern Energy is one the most experienced and best-capitalized renewable energy and transmission development companies in the U.S. This group has successfully developed, financed and placed into operation 2,000 MW of wind power across 11 states, representing over $3 billion in investment. In addition to having a full range of development capabilities, the Company provides construction management during the building phase in addition to operations management, turbine and BOP service and maintenance, financial management and reporting functions. The table below summarizes the track record of projects placed into service by the Pattern team while at Babcock & Brown, and excludes certain projects which were acquired by our team as late-stage developments.

Pattern recently financed and commenced construction on the 101MW Hatchet Ridge Wind Farm in Shasta County, California, with a cost of approximately $200 million. The Ocotillo Express Wind Project will likely cost approximately $1 billion. As noted below, the Pattern team has significant experience and a successful track record in completing projects of similar size and scale.

No	Description	Locn	Mfr	Units	MW	Total MW	Compl Date
1	Sweetwater 1	TX	GE	25	37.5	37.5	2003
2	Caprock	NM	MHI	80	80.0	171.5	2004
3	Sweetwater 2	TX	GE	61	91.5		
4	Bear Creek	PA	Gamesa	12	24.0	216.5	2005
5	Jersey Atlantic	NJ	GE	5	7.5		
6	Kumeyaay	CA	Gamesa	25	50.0		
7	Sweetwater 3	TX	GE	90	135.0		
8	Aragonne Mesa	NM	MHI	90	90.0	208.0	2006
9	GSG	IL	Gamesa	40	80.0		
10	Buena Vista	CA	MHI	38	38.0		
11	Cedar Creek	CO	MHI	221	300.5	701.8	2007
			GE	53			
12	Sweetwater 4a	TX	MHI	135	135.0		
13	Sweetwater 4b	TX	Siemens	46	105.8		

14	Sweetwater 5	TX	Siemens	35	80.5		
15	Allegheny 1*	PA	Gamesa	40	80.0		
16	Gulf Wind	TX	MHI	118	283.2	568.9	2008
17	South Trent	TX	Siemens	44	101.2		
18	Butler Ridge	WI	GE	36	54.0		
19	Wessington	SD	GE	34	51.0		
20	Majestic	TX	GE	53	79.5		
			Total	1281		1904.2	

*Construction Management Agreement

2.0 CONSTRUCTION OF FACILITIES

2.1 WIND TURBINE DESIGN, LAYOUT, INSTALLATION, AND CONSTRUCTION PROCESSES INCLUDING TIMETABLE AND SEQUENCE OF CONSTRUCTION

Turbines will be placed in a series of southeast-northwest oriented rows (or arrays) to best utilize prevailing wind flows across the project site. Turbines within each array will be connected by gravel or crushed caliche surfaced access roads and underground 34.5 kV collection circuits. To minimize downwind array losses, spacing between turbine rows will be at least 10x rotor diameters (RD) (950 meters) and 2.0 to 3.5 RD (186 to 325.5 meters) for in-row spacing. Turbine towers and foundations will be designed to survive a gust of wind more than 133.1 miles per hour (mph) with the blades pitched in their most vulnerable position. Turbine foundations will be approximately eight feet deep with a projection of approximately six inches above final grade and utilize approximately 350 cubic yards of concrete. In addition, each tapered tubular steel tower will have a maximum 15 foot (4.5 meter) diameter base.

Construction of each of the two phases of the wind generation facility is anticipated to be completed over a period of 9 to 12 months. During construction, up to 300 employees would be

required. Power supply for construction will be through the use of diesel generators and/or purchase of power from the local utility. A summary of facility components and associated ground disturbance from those components is provided in table 2.1-1. This section is followed by detailed descriptions of each project component.

Five to ten WTGs can be erected weekly. Construction of Phase I is anticipated to commence in the early part of 2012, with the final mechanical completion, commissioning, and electrical testing of Phase I planned to be completed before year-end 2012. Phase II is anticipated to follow in 2013.

Turbine crane pads would be constructed for each wind turbine. Each turbine would require a 400 foot diameter area (2.9 acre) temporary construction area and a permanent 75 foot diameter area (0.3 acre) for the tower within the temporary construction area. Clearing and grading would be accomplished using bulldozers, backhoes and road graders.

The temporary work area for each site would be used for the crane pad, equipment laydown, and other construction related needs. Within the area of temporary disturbance, an area of 75 by 150 feet with a maximum slope of 1% is required to support the crane used in lifting the turbine components into place. The crane pad would not be surfaced with concrete, but would be compacted to provide a stable base for safe operation of cranes. To meet the necessary compaction standards as determined by geotechnical studies, it may be necessary to employ dynamic compaction; graders and bulldozers will be used to achieve the required levels and grades.

Within the temporary construction area, permanent foundations would be excavated, compacted, and constructed of structural concrete and steel reinforcement as directed by the tower supplier and geotechnical engineer's recommendations. The wind turbines freestanding tubular towers would be connected by anchor bolts to the concrete foundation at the pedestal. The tapered tubular, steel towers would have a maximum 15 foot (4.5 meter) diameter base. The area immediately surrounding the concrete pedestal will be covered with gravel to provide a stable surface for future maintenance vehicles accessing the turbine. After construction, all temporary disturbances associated with the turbine installation would be reclaimed to BLM specifications.

2.2 GEOTECHNICAL STUDIES THAT MAY BE PLANNED

A preliminary geotechnical analysis of the project area will be conducted to describe soil and geology suitability. Additional site specific geotechnical studies may be required for use in the final design of the turbine foundations.

2.3 PHASED PROJECTS, DESCRIBE APPROACH TO CONSTRUCTION AND OPERATIONS

Construction of a wind project is a relatively straightforward process with the actual ground disturbance of the turbines and plant infrastructure (civil and electrical) typically taking up less than 3% of the total project area (AWEA 2008). Construction begins with installation of civil improvements, including site laydown areas for turbine and tower deliveries, construction of the access/maintenance roads, installation of the underground runs for electrical cabling, construction of turbine/transformer foundations, and the preparation of crane pads for erection of the turbines. The second construction phase, where some of the works will proceed in parallel with the civil works, includes installation of the electrical hardware (including cabling), construction of the main substation, placement of the pad mount transformers, construction of the maintenance facility, and erection of the turbines. The third and final construction phase includes mechanical completion of all wind turbine generators, substation and other facilities

followed by commissioning and testing of each turbine, the substation, utility interconnection, testing of the electrical system, and restoration of temporary construction areas, laydown areas and turbine crane pads.

2.4 ACCESS AND TRANSPORTATION SYSTEM, COMPONENT DELIVERY, WORKER ACCESS

New internal long-term access roads will be constructed to provide construction vehicle access to the turbine locations during the construction phase, and service vehicle access during the operations phase. During the construction phase of the project, new road width will be 36 feet. This will be reduced to 16 feet during the operations phase and the remaining 20 foot wide area of short term disturbance will be reclaimed to BLM specifications. These long term access roads will include a turn-around at the end of each turbine array and will enable construction and post-construction operational personnel to safely access the turbine locations throughout the project area.

There would be up a total of 55 miles of such new internal project access roads. There would be up to 110 acres total long term disturbance from new road construction. The TLUA to construct these access roads and the electric collection system will be designated to include the temporary widths for the roads and collections system, plus the area in-between. The TLUA will average 200 feet wide to accommodate crane movement and material delivery and would be up to 1300 acres of short term temporary disturbance. The final long term roads will be compacted and surfaced with gravel aggregate or crushed caliche from BLM-permitted sources.

Internal access road layout will incorporate existing BLM standards regarding road design, construction, and maintenance such as those described in the 2005 Wind Energy PEIS and ROD (BLM 2005), BLM 9113 Manual (BLM and USFS 1985) and the Surface Operating Standards for Oil and Gas Exploration and Development (Fourth Edition 2006) (i.e., the Gold Book), as well as BLM Visual Resource Management Manuals.

2.5 CONSTRUCTION WORK FORCE NUMBERS, VEHICLES, EQUIPMENT, TIMEFRAMES

Up to 300 workers will be employed during each 9-12 month construction period, and the majority of these workers would be onsite daily during construction. The majority of construction personnel will stay in hotels and rental properties in El Centro, California. During construction, potable water and sanitary facilities will be provided to support the construction crews. Temporary port-a-potty facilities will be available at the laydown area and O&M Building. Bottled water from a commercial provider will be utilized and will be delivered to the site. A plan for employee transportation to and from the project area will be developed and included as part of the COM plan. It is anticipated that employee carpooling will be required to minimize vehicle traffic to and from the site, and minimize the area necessary for construction phase parking. No more than 100 employee vehicles are anticipated on the site at any one time.

MAJOR FACILITIES (INCLUDING VEHICLES AND NUMBER OF TRIPS)

- Wind turbine generators - Wind turbine technology is continually improving and the cost and availability of specific types of turbines varies from year to year. A representative range of turbine types that are most likely to be used for the project are being considered.
- Access Roads – The Ocotillo Express Wind project area currently has existing access via Interstate 8 to the south and/or Highway 8 (Imperial Highway), which crosses near the center of the project area. There would be up to 55 miles of new, permanent interior site access and maintenance roads constructed.
- Electrical Collection and Connection – The project would include the construction of up to twenty-eight 34.5 kV circuits connecting into a 500kV transformer and substation located adjacent to the new SDG&E 500 kV line. The interior collection lines would be buried underground and adjacent to the interior maintenance roads.
- Construction equipment would consist of standard construction equipment such as graders, bulldozers, backhoes, cranes, delivery trucks, semi trucks, and welding rigs. Construction would require an average of ten truck trips on area highways for delivery of each turbine and associated components. The anticipated travel route for delivery of construction materials will be determined and included as part of the COM plan.

ANCILLARY FACILITIES

- Operations and Maintenance Facility (4 acres)Permanant
- Substation and Switchyard (10 acres) Permanant
- Parking and Storage (4 acres) - Temporary
- Batching Plant (10-acres) - Temporary
- Sand and Gravel Source (15-acres)
- Permanent Meteorological Towers – Ocotillo Wind proposes to install up to 4 permanent met towers within the project area (i.e. towers that would be installed at time of construction and stay in place until decommissioning of the project). These towers would be 80 meters in height, would be self-supporting monopole structures, and would be located at sites to be determined in due course.
- The same types of vehicles used during the construction of major facilities would also be used in construction of ancillary facilities.

TIMEFRAMES

- Commence civil works (roads, underground electrical, foundations) – 1st quarter 2012
- Commence balance of plant electrical/civil works – 1st quarter 2012
- Turbine deliveries commence – 2nd quarter 2012
- Turbine commissioning, testing, and commercial operation – 4th quarter 2012

2.6 SITE PREPARATION, SURVEYING, AND STAKING

The centerline and exterior limits of the ROW will be surveyed and clearly marked by stakes and flagging at 200ft intervals, or more closely if necessary to maintain a sight line. All construction activities will be confined to these areas to prevent unnecessarily impacting sensitive areas. Stakes and flagging that are disturbed during construction will be repaired or replaced before construction continues. Stakes and flagging will be removed when construction and restoration are completed.

2.7 SITE PREPARATION, VEGETATION REMOVAL, AND TREATMENT

Vegetation would be removed from permanent facility sites, such as the O&M building and substation and switchyard, by blading. Temporary disturbance sites would be reclaimed to BLM specifications. To reestablish healthy vegetation communities, a BLM approved seed mix will be used and additional restoration measures will be developed as necessary. Further restoration plans are described in Section 2.13.

2.8 SITE CLEARING, GRADING, AND EXCAVATION

Clearing and grading would be necessary for new roads, turbine pads, O&M facility, substation, batching plant, and the temporary laydown area. Clearing and grading will be accomplished using bulldozers, road graders or other standard earth-moving equipment. For the most part, the total area to be cleared of vegetation would be less than temporary work areas requested to minimize erosion and avoid other potential environmental impacts.

2.9 GRAVEL, AGGREGATE, CONCRETE NEEDS AND SOURCES

Construction of access roads, facility foundations, and temporary laydown areas associated with the proposed action will require access to sand and gravel. Appropriate sources of sand and gravel in proximity to the project area will be identified by a construction contractor and permitted through the BLM. Any sand and gravel source will require biological and cultural resource clearance and the appropriate level of BLM NEPA analysis would have to be completed prior to utilization.

Gravel and concrete aggregate would come from up to three, 15-acre locations within or near the project area (Figure Z). The materials will be trucked to the batching plant and placed into stockpiles. Cement will be delivered on trucks from a source to be identified and stored in two to five silos on site. Approximately 510,000 pounds of sand, 800,000 pounds of gravel and 240,000 pounds of cement will be needed for each turbine site. Based on a maximum of 244 turbines installed, 124,500,000 pounds of sand, 195,200,000 pounds of gravel and 58,560,000 pounds of cement will be utilized. Additional sand, gravel and cement will be required for construction of the substation, switchyard and O&M facilities.

2.10 WIND TURBINE ASSEMBLY AND CONSTRUCTION

Wind turbines consist of three main components: the turbine tower, the nacelle, and the rotor consisting of the hub and the blades (Figure 2.10-1). The nacelle is the portion of the wind turbine mounted at the top of the tower, which houses the wind turbine itself and the gearbox. Turbine hub heights and rotor diameters (RD) for the potential turbines may have slight variations, but for purposes of analysis will not exceed the 2.3 MW turbine specifications.

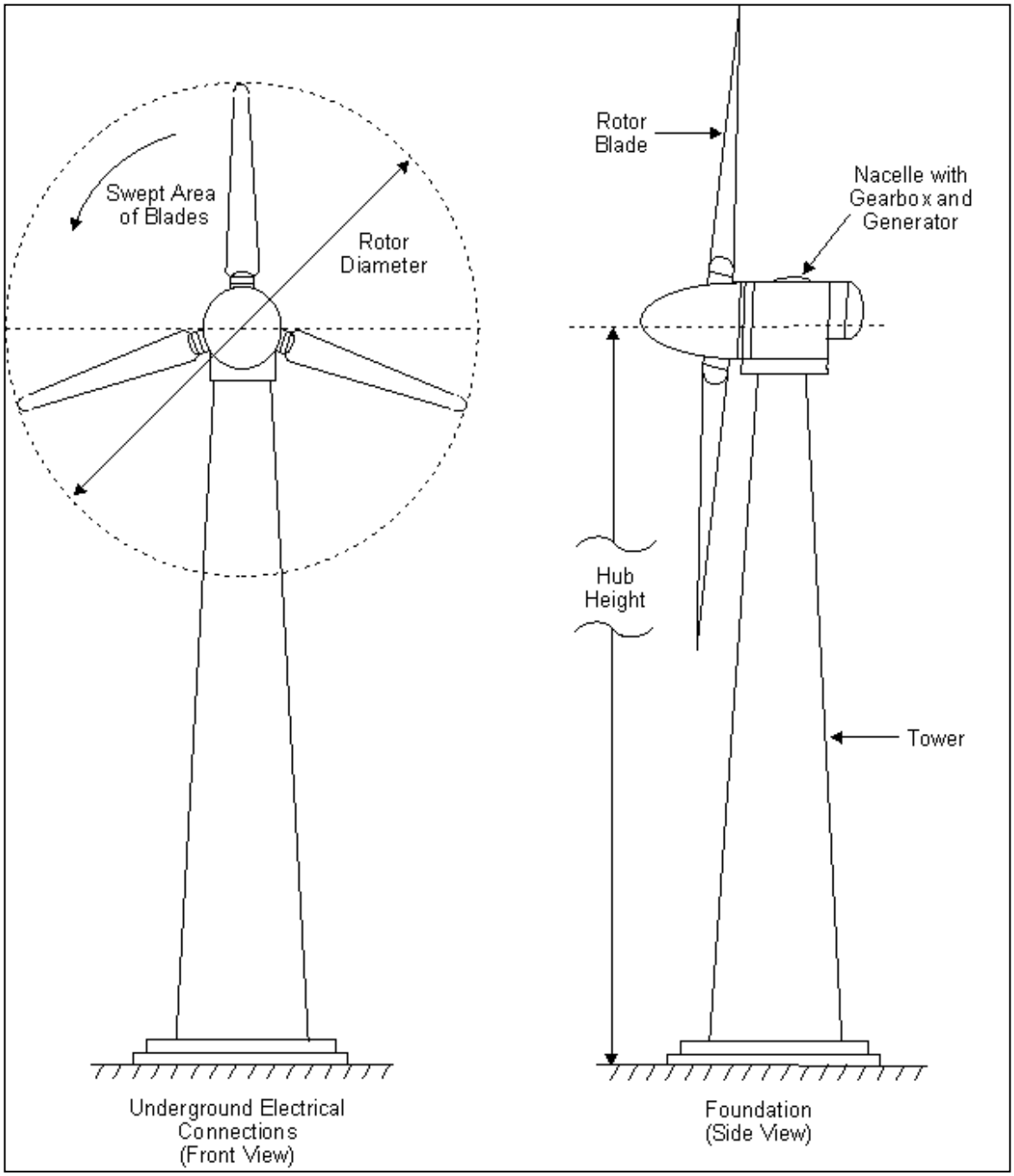


Figure 2.10-1 Turbine Technology Diagram.

Table 2.10-1 Wind Turbine Specifications

Turbine	Hub Height	Rotor Diameter	Total Height	Rated Capacity Wind Speed	Rotor Speed (RPM)	Tower Base Diameter
2.3 MW Siemens	80 m	93 m	126.5 m	12-13mps	6-16	14.76 (4.5m)
1.8 MW V90 Vestas	80m	90m	125m	12 mps	9-14.9	< 15 ft

The towers will be a tapered tubular steel structure manufactured in three or four sections depending on the tower height, and approximately 15 feet (4.5 meters) in diameter at the base. The towers will be painted white per FAA requirements. A service platform at the top of each section will allow for access to the tower's connecting bolts for routine inspection. A ladder inside the structure will ascend to the nacelle to provide access for turbine maintenance. The tower will be equipped with interior lighting and a safety glide cable alongside the ladder. The towers will be fabricated and erected in sections.

The nacelle houses the main mechanical components of the wind turbine generator, the drive train, gearbox, and generator. The nacelle will be equipped with an anemometer and a wind vane that signals wind speed and direction information to an electronic controller. A mechanism will use electric motors to rotate (yaw) the nacelle and rotor to keep the turbine pointed into the wind to maximize energy capture. An enclosed steel-reinforced fiberglass shell houses the nacelle to protect internal machinery from the elements.

Modern wind turbines have three-bladed rotors. The diameter of the circle swept by the blades will be no more than 305 feet (93 meters). If the maximum number of 244 turbines were constructed, a total rotor swept area of 1,660,000 m^2 (415 acres) would be utilized. Generally, larger wind turbine generators have slower rotating blades, but the specific RPM values depend on aerodynamic design and vary across machines. Based on the turbines considered, the blades will turn at no more than 16 rotations per minute (RPM).

Each turbine will be equipped with a computer control system to monitor variables consisting of wind speed and direction, air and machine temperatures, electrical voltages, currents, vibrations, blade pitch, and yaw (side to side) angles. In addition to monitoring, a primary function of the control system will be nacelle and power operations. Nacelle functions include yawing the nacelle into the wind, pitching the blades, and applying the brakes if necessary.

Power operations controlled at the bus cabinet inside the base of the tower include operation of the main breakers to engage the generator with the grid as well as control of ancillary breakers and systems. The control system will always run to ensure that the machines operate efficiently and safely.

Each turbine will be connected via fiber optic cables to a central Supervisory Control and Data Acquisition (SCADA) system that will be owned by the Proponent. The SCADA system allows for controlling and monitoring individual turbines and the wind plant as a whole from a central host computer or a remote personal computer. In the event of problems, the SCADA system can also send signals to a fax, pager, or cell phone to alert operations staff. The SCADA system will

also be connected to CAISO and SDG&E, through a third party telecommunications provider, whose sytem will need to be extended to the control room of the Project's substation.

Turbines will be equipped with a braking system to stop the rotor. The braking system is designed to bring the rotor to a halt under all foreseeable conditions. The turbines also will be equipped with a parking brake used to keep the rotor stationary while maintenance or inspection is performed.

2.11 ELECTRICAL CONSTRUCTION ACTIVITIES

The new SDG&E 500 kV transmission line that will cross through the central part of the site will be the primary power transmission line from the facility. A 34.5 kV underground electrical collector system will be necessary to connect the turbines to the project substation. Approximately 65 miles of collector cable circuits and fiber optic cables will be placed underground in trenches either adjacent to access roads or, in some cases, running cross country within the ROW. Installation of these cables is further discussed in Section 3.1.1 below.

Vaults and splice boxes will be placed aboveground at locations as needed. There will be several above ground junction boxes that will be used in various locations. Junction boxes are approximately four feet by six feet and four feet in height.

2.12 AVIATION LIGHTING (WIND TURBINES, TRANSMISSION)

Turbines will be lit as required by the Federal Aviation Administration (FAA). Based on the FAA Obstruction Marking and Lighting Advisory Circular (AC70/7460-1K), no structural markings or alternative colors are proposed for the wind turbines. For nighttime visibility, two flashing red beacons will be mounted on the nacelle. Lights are not recommended to be placed on all turbines, so it is likely that only those turbines at each end of the array will have lights to mark the extent of the facility.

2.13 SITE STABILIZATION, PROTECTION, AND RECLAMATION PRACTICES

Upon completion of the construction aspect of the project, all soils disturbed by short term access roads and facilities will be reclaimed by stabilization and rehabilitation. Reseeding and fertilization will take place according to specifications provided by BLM and access to rights of way will be limited to the public with the use of gates and signs where necessary to allow the revegetation of replanted sites. After construction activities are complete, Ocotillo Wind will restore temporary disturbance areas. In areas with potential seed bearing soils, the top 3-6 inches of topsoil stripped and stockpiled during construction activities will be reapplied to temporary surface disturbances during restoration. To reestablish healthy vegetation communities, a BLM approved seed mix will be used. Additional restoration measures will be developed as necessary.

The Ocotillo Express Wind project will have a lifetime after which cost-effective operation will no longer be feasible. The anticipated life of the Ocotillo Express Wind Generation Facility is 30 years, and it is likely that after that time the site would be decommissioned and existing facilities and equipment would be removed. It is also possible that the facility owners may wish to work

with the BLM to replace the old facilities with a new project on the same site. However, that option is not considered in this Plan of Development (POD).

Prior to the termination of the ROW authorization, a decommissioning plan will be developed consistent with the BLM Wind Energy PEIS/ROD, and approved by the BLM. The BMPs and stipulations developed for construction activities will be applied to similar activities during decommissioning. All roads and tower pads would be reclaimed in accordance with the BLM approved decommissioning plan.

3.0 RELATED FACILITIES AND SYSTEMS

3.1 O&M FACILITY

A 12-acre O&M facility will be located in the central portion of the project area. The O&M building and yard will be constructed to store critical spare parts and provide a building for maintenance services. A concrete foundation will be required for the maintenance facility and the area immediately surrounding the building will be covered with gravel for vehicle parking. Any area within the fence not covered by concrete will be covered with gravel to minimize erosion and surface runoff. A permanent 7-foot high security fence surrounding the O&M facility and directional lighting will be installed. This chain link fence will have an open weave to enable viewing through to background landscape. Colors for the building and fence will be selected in consultation with BLM.

3.2 TRANSMISSION SYSTEM INTERCONNECT

3.2.1 Existing and proposed transmission system

The project would include the construction of twenty-eight 34.5 kV circuits connecting into a 500kV transformer and substation located at the central part of the project area adjacent to the new SDG&E Sunrise Powerlink 500 kV line. The interior collection lines connecting one turbine to the next and to the project substation would be buried underground and generally adjacent to the interior maintenance roads. Above ground components to the electric system would include pad mounted transformers alongside each turbine, the main substation/switchyard (which would be fenced) and the overhead 500 kV stub line connecting the switchyard to the new 500 kV transmission line. The stub line is anticipated to be only a few hundred yards in length, at most.

3.2.2 500 kV Substation

A 200 foot by 480 foot substation will be located adjacent to the O&M building within the 12-acre facility area. The substation would be a 5 breaker, breaker and a half substation with three 500kV line terminals, one of which may also have a 500kV, 35 MVAr line reactor. Each line terminal will consist of one dedicated circuit breaker, one shared circuit breaker, along with any associated relays, switches, and lightening arrestors. A 500 kV above ground stub line will connect the substation to the new SDG&E 500 kV line. If possible, all towers, insulators and conductor will be non-reflective. Because the substation will be adjacent to the new line, the stub line will not require any additional disturbance. Construction of this substation will last approximately four to six months and will involve two primary stages: Site preparation and structural and electrical construction.

Construction of the substation will begin with clearing vegetation and organic material from the site. The site will then be graded to subgrade elevation. Structural footings and underground utilities, along with electrical conduit and grounding grid will be installed, followed by aboveground structures and equipment. A chain link fence will be constructed around the new substation for security and to restrict unauthorized persons and wildlife from entering the substation. The site will be finish graded, gravel surfaced, and reclamation will be completed to minimize the visual appearance of the substation.

Control buildings will be added to the substation and will more than likely be constructed of prefabricated steel. Major equipment to be installed inside the control buildings consist of relay and control panels, alternating current and direct current load centers to provide power to equipment inside and outside the control building, a battery bank to provide a back-up power supply, a heating/cooling system to prevent equipment failure, and communications equipment for remote control and monitoring of essential equipment.

Steel structures will be erected on concrete footings to support switches, electrical buswork, instrument transformers, lightning arrestors, and other equipment, as well as termination structures for incoming and outgoing transmission lines. Structures will be fabricated from tubular steel and galvanized or painted a BLM-approved color to blend in with predominant vegetation and soil types. Structures will be grounded by thermally welding one or more ground wires to each structure.

Major equipment will be set by crane and either bolted or welded to the foundations to resist seismic forces. Oil spill containment basins will be installed around major oil-filled transformers and other equipment. Smaller equipment, including air switches, current and voltage instrument transformers, insulators, electrical buswork, and conductors will be mounted on the steel structures.

Control cables will be pulled from panels in the control building, through the underground conduits and concrete trench system, to the appropriate equipment. After the cables are connected, the controls will be set to the proper settings, and all equipment will be tested before the transmission line is energized.

3.2.3 Status of Power Purchase Agreements

Ocotillo Wind posted the required $500,000 deposit to be included in the first Phase I Interconnection Cluster Study, and applied for 565 MW of transmission capacity on the new Sunrise Powerlink, scheduled for completion in June 2012. Ocotillo Wind submitted a proposal into SDG&E's 2009 Request for Offers for Eligible Renewable Resources, and has been notified by SDG&E that the Project has been shortlisted. Initial meetings with SDG&E have already occurred, and the Power Purchase Agreement is expected to be finalized in early 2010. Based on our knowledge of the quality of the wind resource at the Ocotillo Wind Project Site, compared to potentially competing sites, and based on our knowledge of the market demand for cost-effective renewable energy in California, we are confident in our ability to secure a power purchase agreement or agreements for the full output of the project.

3.2.4 Status of Interconnect Agreement

Ocotillo Wind posted the required $500,000 deposit to be included in the first Phase I Interconnection Cluster Study, and applied for 549.5 MW of transmission capacity on the new Sunrise Powerlink, scheduled for completion in June 2012. Under the new CAISO Large Generator Interconnection Procedures, the Phase I Interconnection Cluster Study will be complete in no more than 270 days after the close of the Open Window at the end of July, 2009, and the Phase II Study is expected to be completed, and an Interconnection Agreement proffered, in no more than one year after completion of the Phase I Interconnection Cluster Study. Thus, we anticipate executing an Interconnect Agreement for the Ocotillo Wind Project no later than the end of 2011.

3.2.5 General design and construction standards

Construction of the facilities will follow guidelines set forth by Best Management Practices (BMPs). For example, construction vehicle movement within the project boundary will be restricted to pre-designated access, contractor-required access, or public roads. In construction areas where ground disturbance is unavoidable, surface restoration will consist of returning disturbed areas back to their natural contour (if feasible), and reseeding with a BLM approved seed mix. A full list of BMPs will be included with the COM Plan.

3.3 METEOROLOGICAL TOWERS

Ocotillo Wind proposes to install up to four permanent met towers within the project area (Figure 6.1-1). The permanent met towers would be 80 meter, self-supporting monopole structures. The locations of these towers would be determined in due course. Ocotillo Wind also proposes to install up to 5 temporary Met towers, which would be removed prior to construction (Figure 6.1-1). These temporary towers would be 60 meter, guyed monopole structures.

3.4 OTHER RELATED SYSTEMS

3.4.1 Communications system requirements (microwave, fiber optics, hard wire, wireless) during construction and operation

Fiber optic cable for communications will also be necessary. Approximately 65 miles of fiber optic cables and collector cable circuits (Section 2.11) will be placed underground in trenches adjacent to access roads. Within the 200 foot wide temporary use area, trenches will be excavated up to 20 feet wide (to accommodate multiple circuits) and 3-5 feet deep. The cables will then be placed in the trench. Following placement of the cables, the trench will be backfilled and any topsoil set aside during excavation will be placed on top and the area restored. It is anticipated that a third party telecommunications provider will need to extend cable to the control room in the project substation to interconnect this internal communications system with CAISO and SDG&E.

4.0 OPERATIONS AND MAINTENANCE

4.1 OPERATION AND FACILITY MAINTENANCE NEEDS

Once the project has been constructed, the Ocotillo Express Wind Generation facility will be monitored and operated year-round by Pattern Energy and will have a permanent staff of 10-12 full-time technicians, who would normally be on-site daily. The computer control system for each turbine will perform self-diagnostic tests allowing a remote operator to ensure each turbine is functioning at peak performance. Routine maintenance activities consisting of visual inspections, oil changes, and gearbox lubrication will result in regular truck traffic on project access roads throughout the year. Project access roads will be graded as necessary to facilitate operations and maintenance.

Annual maintenance activities requiring the shut down of turbines will be coordinated to occur during periods of little or no wind to minimize the impact on the amount of overall energy generation. Annual maintenance procedures will consist of inspection of wind turbine components and fasteners.

4.2 MAINTENANCE ACTIVITIES, INCLUDING ROAD MAINTENANCE

All equipment used in the operation of this project will be maintained and inspected regularly by authorized and trained facility staff. A complete schedule will be established before the start of operations.

The internal access roads built and used during the construction phase will be maintained throughout commercial operations. During operations, all project access roads will be evaluated and graded as necessary to facilitate operations and maintenance. In addition to grading, the application of new gravel may be necessary to maintain road surfaces.

4.3 OPERATIONS WORKFORCE, EQUIPMENT, AND GROUND TRANSPORTATION

10 to 12 personnel will normally be onsite during maintenance activities. Five or six service vehicles will normally be utilized, as crews work and travel in pairs. These vehicles will be kept on site, and personnel will travel to the site in personal vehicles. Car pooling will be encouraged.

5.0 ENVIRONMENTAL CONSIDERATIONS

5.1 PA/EIR/EIS SCHEDULE

Activity	Due Date
Applicant's POD Approved by BLM, and BLM Selects/Approves Applicant's Environmental Contractor	January 15, 2010
BLM Publishes the Notice of Intent in the Federal Register for the Plan Amendment/EIS and Proposed Energy Project	January 29, 2010
BLM Conducts Formal Scoping Meetings	February 17, 2010
Formal Scoping Period Ends	March 1, 2010

Preliminary Draft Plan Amendment/Draft Environmental Impact Statement (Draft PA/DEIS) for Internal Staff Review	June 1, 2010
Biological & Cultural Field Surveys Completed	June 1, 2010
Biological & Cultural Reports Completed	June 14, 2010
BLM/EPA Publishes the Notice of Availability (NOA) in the Federal Register for the Draft PA/DEIS *	July 2, 2010
The 90-day Public Review and Comment Period Begins	July 2, 2010
BLM Submits BA to USFWS (Starts the 135-day Consultation Process)	July 2, 2010
Public Meetings for the Draft PA/DEIS	August 18, 2010
90-Day Public Review and Comment Period Ends **	September 30, 2010
USFWS Issues Biological Opinion	November 15, 2010
Section 106 Consultation Completed	November 15, 2010
Comment Analysis and Responses to Comments Drafted	November 15, 2010
Preliminary Proposed Plan Amendment/Final Environmental Impact Statement (Proposed PA/FEIS) for Internal Staff Review	November 30, 2010
BLM/EPA Publishes the Notice of Availability (NOA) in the Federal Register for the Proposed PA/FEIS *	January 7, 2011
30-Day Protest Period for Proposed PA Begins	January 7, 2011
Protest Period for Proposed PA Ends ***	February 7, 2011
BLM Releases the Record of Decision for PA and Energy Project	April 20, 2011

5.2 GENERAL DESCRIPTION OF SITE CHARACTERISTICS AND POTENTIAL ENVIRONMENTAL ISSUES

Pending more detailed site investigations, environmental characteristics of the site can be inferred from existing information. Potential environmental issues potentially include, but would not necessarily be limited to:

- Local vegetation and native plant species
- Wildlife and Endangered or Special Status Species
- Cultural and paleontological resources
- Visual and noise, recreation
- Watershed and fire management
- Special Designations (Protected Areas)
- Local economic and social conditions
- Native American concerns
- Health and Safety
- Community Issues and Aviation

Many of these issue areas are discussed below.

5.2.1 SPECIAL OR SENSITIVE SPECIES AND HABITATS

The Ocotillo Express Wind project would be located near Ocotillo, Imperial County. The project would be located in the Colorado Desert bioregion. This area consists primarily of desert habitats including Sonoran creosote bush scrub, Sonoran desert mixed scrub, Sonoran west scrub, and Sonoran mixed woody and succulent scrub (CPUC, 2008). The wind project would be located immediately north of the in Peninsular Bighorn Sheep Designated Critical Habitat Unit 3 (USFWS, 2009).

The Colorado Desert is the western extension of the Sonoran desert, which covers southern Arizona and northwestern Mexico. Much of the Colorado Desert land lies below 1,000 feet in elevation. Mountain peaks rarely exceed 3,000 feet. Common habitats include sandy desert, scrub, palm oasis, and desert wash. Summers are hot and dry, and winters are cool and moist (CERES, 2009).

The Colorado Desert supports a diverse array of wildlife species including the Yuma antelope ground squirrels, white-winged doves, muskrats, southern mule deer, coyotes, bobcats, and raccoons. Rare animals include desert pupfish, FTHL, prairie falcon, Andrew's dune scarab beetle, Coachella Valley fringe-toed lizard, Le Conte's thrasher, black-tailed gnatcatcher, and California leaf-nosed bat. Rare plants include Orcutt's woody aster, Orocopia sage, foxtail cactus, Coachella Valley milk vetch, and crown of thorns (CERES, 2009).

Sensitive species that could be located in or adjacent to the project site include Peninsular Bighorn Sheep, flat-tailed horned lizard, barefoot banded gecko, and migratory birds and bats.

Peninsular Bighorn Sheep. On April 14, 2009, the USFWS revised the final critical habitat for the Peninsular bighorn sheep, excluding from designation approximately 460,487 acres of habitat in Riverside, San Diego, and Imperial counties identified in the 2001 designation (see 50 Fed. Reg. Part 17). This revision excluded the critical habitat that would have been located on the proposed site. Peninsular bighorn sheep live on steep, open slopes, canyons, and washes in hot and dry desert regions where the land is rough, rocky, and sparsely vegetated. Elevation ranges have been recorded between 300 and 4,000 feet where average annual precipitation is less than four inches and daily high temperatures average 104ºF in the summer. Caves and other forms of shelter (e.g., rock outcrops) are used during inclement weather and for shade during the hotter months. Lambing areas are associated with ridge benches or canyon rims adjacent to steep slopes or escarpments. Alluvial fans are also used for breeding, feeding, and movement. Designated critical habitat is located from the San Jacinto Mountains south to the U.S.-Mexico border, generally along the eastern escarpment of the Peninsular Ranges that steeply descend into the Sonoran Desert along the Coachella Valley, Anza-Borrego Desert, and Salton Trough.

Flat-Tailed Horned Lizard. The FTHL has the most limited distribution of any horned lizard species in the U.S. It is found in the extreme southwestern corner of Arizona, the southeastern corner of California, and adjoining portions of Sonora and Baja California, Mexico. FTHLs occur entirely within the largest and most arid subdivision of the Sonoran Desert. Most records of this lizard come from the creosote-white bursage series of Sonoran Desert Scrub, although in California the species has been recorded in a wide range of habitats including sandy flats and hills, badlands, salt flats, and gravelly soils. Ants constitute approximately 97 percent of the

FTHL's diet; harvester ants (genera *Messor* and *Pogonomyrmex*) are far more important to this diet than smaller ant species. Water is obtained primarily from food; free-standing water is usually not available (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). Unlike other iguanid lizards that often flee when approached, the FTHL remains still or may bury itself in loose sand. This reluctance to move, along with its cryptic coloration and body-flattening habit, makes the FTHL very susceptible to mortality, especially from vehicles (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

Barefoot Banded Gecko. In California, the State-listed threatened barefoot banded gecko inhabits the eastern edge of the Peninsular Ranges from Palms to Pines Highway (SR74) to the Baja California border. It occupies arid, rocky areas on flatlands and in canyons and thornscrub, especially where there are large boulders and rock outcrops and the vegetation is sparse (CaliforniaHerps.com, 2007). This species is known only from five localities in eastern San Diego County and western Imperial County. Anza- Borrego Desert State Park (ABDSP) affords protection for some gecko habitat (CDFG, 2006b). The natural history of this gecko is not well known; this secretive nocturnal animal hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (CaliforniaHerps.com, 2007).

Biological surveys will be conducted to identify any possible biological resources that would be impacted by the project. These surveys will help determine what species are present on the project site and to assess potential impacts and determine appropriate conservation and mitigation measures.

TABLE XX – Threatened, Endangered, Species of Concern

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS
BIRDS			
California Black Rail	Laterallus jamaicensis conturniculus	Sp of Concern (C2)	Threatened
Yuma Clapper Rail	Rallus longirostris yumanensis	Endangered	Threatened
Western Yellow Billed Cuckoo	Coccyzus americanus occidentalis	None	Endangered
Elf Owl	Micrathenewhitneyi	None	Endangered
Gila Woodpecker	Melanerpes uropygialis	None	Endangered
Gilded Northern Flicker	Colaptes auratus chrysoides	None	Endangered
Willow Flycathcher	Empidonax traillii	None	Endangered
Arizona Bells Vireo	Vireo bellii arizonae	None	Endangered
FISH			
Colorado Squawfish	Ptychocheilus lucius	Endangered	Endangered

Razorback Sucker	Xyrauchen texanus	Endangered	Endangered
Desert Pupfish	Cyprinodon macularius	Endangered	Endangered
MAMMALS			
Peninsular Bighorn Sheep	Ovis canadensis cremnobates	Proposed Endangered	Threatened
REPTILE			
Desert Tortose	Xerobates agassizii	Threatened	Threatened
Barefoot Banded Gecko	Coleonyx switaki	Sp of Concern (C2)	Threatened
PLANTS			
Algodones Dunes Sunflower	Helianthus niveus ssp tephrodes	Sp of Concern (C2)	Endangered
Wiggins's Croton	Croton wigginsii	Category 3C	Rare
Pierson's Milk-Vetch	Astragalus magdalena var peirsonii	Proposed Endangered	Endangered

5.2.1.1.1 Potential Impacts

As stated in the BLM Programmatic EIS (2005), impacts to vegetation and wildlife during construction could occur from (1) erosion and runoff; (2) fugitive dust; (3) noise; (4) the introduction and spread of invasive vegetation; (4) modification, fragmentation, and reduction of habitat; (5) mortality of biota; (6) exposure to contaminants; and (7) interference with behavioral activities. Site clearing and grading, along with construction of access roads, towers, support buildings, utility and transmission corridors, and other ancillary facilities, could reduce, fragment, or dramatically alter existing habitat in the disturbed portions of the project area. Wildlife in surrounding habitats might also be affected if the construction activity (and associated noise) disturbs normal behaviors, such as feeding and reproduction.

The BLM has identified the following as types of impacts that could occur during the construction and operation of wind projects.

Construction impacts on vegetation. Construction activities may directly impact vegetation at wind project sites due to clearing and grading for towers and related infrastructure, utility corridors and access roads, assembly of turbines and towers, etc. Impacts would be of long and short duration and would be primarily localized to the immediate project area. Introduction of invasive vegetation would impact the project area and potentially impact the surrounding habitat. During construction, vegetation may be impacted through injury or mortality, fugitive dust, and exposure to contaminants or invasive species.

According to the BLM Wind PEIS, approximately five to ten percent of the entire project area would be potentially subject to direct injury or loss of vegetation due to permanent disturbance. Additional temporary impacts to vegetation could occur along transmission lines or at staging areas. Impacts to vegetation would also potentially occur due to compaction, loss of topsoil, and removal or reductions in seed banks.

Construction impacts on wildlife. Direct and indirect impacts to wildlife could occur during the construction of the wind project. Impacts to wildlife could include habitat reduction, alteration, and fragmentation, introduction of invasive species, injury or mortality, decrease of water quality due to erosion and runoff, fugitive dust, noise, and exposure to contaminants, as well as interference with behavioral activities. The location and timing of construction would potentially impact migration routes of some species.

Impacts to wildlife habitat include reduction, alteration, or fragmentation of habitat due to project related infrastructure. Existing habitat would be disturbed within the turbine footprints and support facilities, along new access roads, and within new utility right-of-way (ROW). The amount of habitat that would be subject to direct impact would be approximately five to ten percent of the project site (BLM, 2005).

Additional impacts to wildlife could occur through direct injury or mortality, if wildlife is not sufficiently mobile to avoid construction operations, or if the wildlife is using burrows or defending nest sites.

Construction impacts on wetland and aquatic biota. Wind energy development typically occurs on ridges and other elevated land where wetlands and surface bodies are not likely to occur; however, access roads and transmission lines may cross lands where these features may be more common. This may result in impacts to wetland and aquatic biota during construction. Desert washes may be impacted.

Construction impacts on Threatened and Endangered Species. Construction activities could impact threatened, endangered or sensitive species through injury or mortality, habitat disturbance, introduction of invasive species, erosion or runoff, fugitive dust, noise, exposure to contaminants, and interference with behavioral activities. Because of the regulatory requirements of the Endangered Species Act (ESA) and various state laws and regulations, and the requirements specified in BLM Manual 6840 – Special Status Species Management (BLM 12/12/2008) and other resource-specific regulations and guidelines, appropriate survey, avoidance, and mitigation measures would be identified and implemented prior to any construction activities to avoid impacting any sensitive species or the habitats on which they rely.

Operational Effects on Wildlife. Wildlife may be affected by wind energy project operations through electrocution from transmission lines; noise; the presence of, or collision with, turbines, meteorological towers, and transmission lines; site maintenance activities; exposure to contaminants; disturbance associated with activities of the wind energy project workforce; interference with migratory behavior; and increased potential for fire. Wildlife may be affected by human activities that are not directly associated with the wind energy project or its workforce but instead are associated with the potentially increased access to BLM-administered lands that previously received little use. The construction of new access roads or improvements to old

access roads may lead to increased human access into the area. Potential impacts associated with increased access include the disturbance of wildlife, including an increase in legal and illegal take, an increase in invasive vegetation, and an increase in the incidence of fires.

Collision with turbines meteorological towers, and transmission lines. Operation of a wind energy project is expected to result in mortality of birds due to collision with wind turbine blades. Recent studies have shown that taller tower heights are likely to reduce raptor mortality due to an increase in ground-to-rotor clearance, especially for red-tailed hawks, golden eagles and American kestrels that use spaces closer to the ground for hunting prey. Ground disturbance around wind turbines (roads and work pads) increases the vertical/horizontal edge near turbines, which also may increase prey densities and raptor use. Also, ground disturbance that creates rock piles creates habitat for small mammals and reptiles that could attract raptors to the turbine sites. Small mammals and reptiles may also burrow near the turbine bases where soil has been disturbed. Fatalities among of raptors are of special concern because of their generally low numbers and protected status. Depending on the species and its population size, the number of fatalities may result in population-level effects to the affected raptors. To date (2005), no studies have shown population-level effects in raptor populations associated with wind energy projects (BLM, 2005).

Operation of component wind energy project is expected to result in mortality of bats due to collision with wind turbine blades. Studies show that bat mortality from collision with wind turbines is highest during the late summer and fall migration season. Preliminary data from the Buffalo Ridge WRA suggest that while a number of bats may be susceptible to turbine collisions, the observed mortality is not sufficient to cause population declines in the vicinity of the facility (BLM, 2005). If the species killed were uncommon, impacts could result in population-level effects, while impacts from killing small numbers of common bat species would not be expected to result in population-level effects.

5.2.2 SPECIAL LAND USE DESIGNATIONS

The Ocotillo Express Wind project would be in an area governed by the California Desert Conservation Area Plan. The site is located immediately north of the Jacumba Wilderness, approximately two miles east of the Yuha Area of Critical Environmental Concern, approximately 1.5 miles southwest of the Plaster City Open Area, approximately one mile south of the Coyote Mountains Wilderness, and adjacent to Anza-Borrego Desert State Park and the Jacumba Mountain Wilderness. The Ocotillo Express Wind project would be potentially visible from these special land use areas.

California Desert Conservation Area Plan. The 25-million-acre CDCA is a special planning area administered by the BLM that contains over 12 million acres of public lands within the California Desert, which includes the Mojave, the Sonoran, and a small portion of the Great Basin Deserts. The goal of the CDCA Plan is to provide for economic, educational, scientific, and recreational uses of public lands and resources in the CDCA in a manner that enhances use without diminishing the environmental, cultural, and aesthetic values of the desert.

California Desert District. The mission of the California Desert District (CDD) of the BLM is to protect the natural, historic, recreational and economic riches of the California Desert for

generations to come. In 1976, the United States Congress created the California CDCA, which covers nearly one quarter of the State. As one of the government's primary authorities for the management of public lands, the BLM - through the CDD - acts as steward for 10.4 million acres of this 26 million acre preserve. In an effort to provide the most benefit to the most people, while preserving this rugged and awe inspiring landscape, the CDD developed a balanced, multiple-use plan to guide the management of this vast expanse of land. The plan, completed in 1980 with the help of the public, divides the desert into multiple-use classes. These classes were created in order to define areas in critical need of protection, while allowing for the use and development of less-vital parts of the desert.

Jacumba Wilderness. The Jacumba Wilderness is a 31,237-acre federal wilderness area administered by BLM. The Jacumba Mountains sit on the eastern flank of southernCalifornia's coastal peninsular ranges, extending to the international border. The Jacumba's are a broad range, made up of ridges and intervening valleys (BLM, 2009b). The Davies Valley is the largest valley in the wilderness area and is used for hiking, equestrian use, photography, and nature study. A staging area for hiking and riding into Davies Valley is located at the end of Clark Road, south of Ocotillo on State Highway 98.

Yuha Basin Area of Critical Environmental Concern. The Yuha Basin ACEC is managed by the BLM and is designated as an ACEC because of its significant natural, cultural and historic resources (e.g., FTHL populations, Yuha well, Yuha geoglyph, and Juan Bautista de Anza National Historic Trail) (BLM, 2004). Camping is permitted only within six BLM-designated primitive campgrounds located south of the Proposed Project and Interstate 8 in the Yuha Desert. BLM primitive campgrounds are widely dispersed, and undeveloped (i.e., without toilets, electricity, or water). These BLM primitive campgrounds are located along the Juan Bautista de Anza National Historic Trail (BLM, 2004).

Plaster City Off Highway Vehicle Open Area. This area provides 41,000 acres of open desert terrain for OHV recreationists and includes two staging areas, Plaster City East and Plaster City West, that are popular primitive camping and day use areas (BLM, 2009c). Vehicles and camping are permitted anywhere in the area.

Coyote Mountain Wilderness. The Coyote Mountains make up 40 percent of this wilderness. It encompasses approximately 18,000 acres. Part of the Carrizo Badlands lies within the northern portion of the wilderness, their narrow and twisting gullies giving the landscape a harsh, forbidding appearance. A group of unusual sandstone rock formations, believed to be six million years old, adds to the character of this wilderness. Fossil Canyon ACEC is within the Coyote Mountains Wilderness (BLM, 2009c).

Anza-Borrego Desert State Park and Jacumba Mountain Wilderness. Anza-Borrego Desert State Park is the largest state park in California. Five-hundred miles of dirt roads, 12 wilderness areas and miles of hiking trails are found in this part of the California Desert.

5.2.1.1.2 Potential Impacts to BLM-Administered Land.

Public lands -- unless otherwise classified, segregated, or withdrawn -- are available at the BLM's discretion for ROW authorization for wind energy development under the FLMPA (BLM, 2005). The *California Desert Conservation Area Plan, as Amended* (BLM 1999),

identifies wind energy development as an authorized use of public lands, consistent with the Plan and NEPA. Consequently, public lands located in the CDCA are not restricted from wind energy development.

Site monitoring and testing associated with the meteorological towers and minimum-specification access roads (if required) would generally result in temporary, localized impacts to existing land uses. Meteorological data would be collected for 1 to 3 years and would require the installation of meteorological towers to characterize the wind regime at a potential wind resource area (WRA). Since a meteorological tower would occupy only a few square feet, only a negligible impact to most existing land uses would be expected. However, the presence of the towers, including guy-wires and possible access roads, may impact more remote recreational experiences.

According to the BLM Wind PEIS, construction activities could result in temporary impacts to existing land uses. For example, construction activities such as blasting could impact other uses of BLM land.

Permanent land use impacts are based on the amount of land that would be displaced by a proposed project and by the compatibility of the proposed use with existing uses. Permanently converted acreage would usually involve only a small portion of that available within a project area. Given the overall footprints of wind turbine towers and ancillary structures, the amount of acreage required for most wind energy development projects should be a small fraction of the grant area (BLM, 2005). Generally, wind turbines need to be separated by a distance equivalent to at least several tower heights in order to allow wind strength to reform and for the turbulence created by one rotor not to harm another turbine downwind. Therefore, only a small percentage of land area is taken out of use by the turbines, access roads, and other associated infrastructure. Depending on the location, size, and design of a wind energy project, wind development is compatible with a wide variety of land uses and generally would not preclude recreational, wildlife habitat conservation, military, livestock grazing, oil and gas leasing, or other activities that currently occur within the proposed project area (BLM, 2005). Development of the wind farm and security measures may impact the off-highway vehicular (OHV) traffic and associated recreational experiences due to rerouting of roads, closures of existing travel routes, creation of strong visual contrasts, and implementation of site security measures.

Overall, establishment of a wind energy project and its ancillary structures (e.g., transmission lines and access road) would modify the existing land cover (BLM, 2005). Indirect land use impacts would not be expected, because it is anticipated that a wind energy project would not substantially induce or reduce regional growth to the extent that it would change off-site land uses or use of off-site resource-based recreation areas.

Upon decommissioning, most land use impacts from facility construction and operation would be reversible. No permanent land use impacts would be expected from decommissioning (BLM, 2005). The BLM could decide to continue the use of, and maintain, access roads.

5.1.3 CULTURAL AND HISTORIC RESOURCE SITES AND VALUES

The Ocotillo Express Wind project would be located in the Colorado Desert in Imperial County. The following is a brief description of the cultural and historic setting of the Colorado Desert taken from the Sunrise Powerlink Project Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (2008). According to the Sunrise Powerlink Project EIR/EIS, current research of precontact occupation in San Diego County and western Imperial County recognizes the existence of at least two major cultural traditions, discussed here as Early Period/ Archaic and Late Period. Within the region, the Early Period/Archaic spans from roughly 9,500 to 1,300 years ago, and the Late Period begins approximately 1,300 years ago and ends with historic contact. The Historic Period covers the time from Spanish contact to the present.

5.2.1.2 ARCHAIC PERIOD

The Archaic period in western Imperial County is not strongly represented. The Salton Trough is unique in having contained a large freshwater lake that filled, dried out, and filled numerous times in prehistory in response to the western diversion of the Colorado River into the Salton Trough. While the general timing of several of these lacustral intervals is fairly well established for the late Holocene (Waters, 1983), data for earlier periods is currently lacking. The Archaic period is represented in the western Colorado Desert by occasional surface finds of isolated dart points, a cairn burial from the Yuha area dated between 1,650 and 3,850 years B.P. (Taylor et al., 1985), stratified deposits spanning the Archaic and Late Periods at Indian Hill Rockshelter in Anza-Borrego Desert State Park (Wilke and McDonald, 1989; McDonald, 1992), and by an unusually high concentration of Archaic points and crescentics at the Salton Sea Test Base (Apple et al., 1997).

5.2.1.3 LATE PERIOD

It is not possible to understand the Late Period of the western Colorado Desert and eastern slopes of the Peninsular Range without reference to Lake Cahuilla. Combining radiocarbon evidence from core samples and archaeological sites with ethnohistoric information, Waters (1983) determined that the Salton Trough experienced four major lacustrine episodes during the period between approximately 400 and 1,200 years ago. A fifth partial refilling has since been proposed based on faunal evidence recovered from the Dunaway Road site in southeastern Imperial County. Numerous communities exploited many resources along the Lake Cahuilla shoreline, although there is debate regarding it the occupations were year-round residential bases or seasonal, temporary camps. Variability and flexibility in the face of changing environmental circumstances seem to have been the main principles governing Late Period adaptation throughout the area (Schaefer, 1994). Following desiccation of Lake Cahuilla, major out-migrations to other areas of interior California would have occurred (Wilke, 1978).

The extensive system of trails that crisscross the desert attests to the importance of long-range resource extraction and trade during the Late Period. Extensive travel and trade between the Pacific coast and well beyond the California-Arizona and California-Mexico borders are well documented in ethnohistoric accounts and in the archaeological record.

5.2.1.4 HISTORICAL BACKGROUND

The history of the region is generally divided into the Spanish (1769-1821), Mexican (1821-1846), and American (after 1846) periods. The Spanish Period began with the establishment of a mission and presidio on a hill overlooking San Diego Bay in July 1769. The Spaniards introduced European crops, cattle, and other livestock. Their goal was to convert the Native Americans to Christianity and teach them to be agriculturists. The Mexican Period began in 1821 when Mexico achieved independence from Spain. During the 1820s, a small village began to form at the base of Presidio Hill that became the Pueblo of San Diego (present-day Old Town). In 1846, San Diego was occupied by American troops and officially became part of the United States when the Treaty of Guadalupe Hidalgo formalized the transfer of territory from Mexico to the United States in 1848.

5.2.1.5 DEVELOPMENT OF WESTERN IMPERIAL VALLEY

In May 1901, the California Development Company, under the direction of engineer George M. Chaffey, succeeded in bringing water into the Imperial Valley from the Colorado River. Within one year, 400 miles of ditches had been excavated to irrigate more than 10,000 acres of fertile land that up until that time had remained barren desert for lack of water. The area prospered quickly and towns formed including Imperial City, Calexico, Mexicali, Holtville, Seeley, Brawley, and El Centro (Pourade, 1965). In 1907, Imperial County was formed out of the eastern portion of San Diego County with an estimated population of 6,940. El Centro was the county seat (Pourade, 1965).

Transportation. Development brought the need for better transportation routes. Between 1912 and 1915, three major projects: the completion of an automobile road down Mountain Springs Grade; construction of the Plank Road across the Algodones Sand Dunes; and, the building of the Ocean to Ocean Highway Bridge that crosses the Colorado River at Yuma, gave Imperial Valley major automobile connections with the east and west coasts. This route was eventually paved in 1924 as Highway 80 (Wray, 2004). Between 1917 and 1925, the Julian-Kane Springs Road, which closely follows current Highway 78, was completed between Julian and Kane Springs at the junction of the Brawley to Indio Road, now Highway 86. A small service station was located at Kane Springs (Wray, 2004). The Imperial Highway was completed through Sweeney Pass in the 1930s. Modern San Diego County Highway S-2 now follows this route. The town of Ocotillo developed at the junction of the Imperial Highway and Highway 80 (Wray, 2004). In addition, during the 1920s, Plaster City was established along Highway 80 to process gypsum ore from the company's mine at Split Mountain. A railroad carries the ore from the mine to the plant (Wray, 2004).

5.2.1.5.1 Potential Impacts

A Class III cultural resource inventory survey is being completed. As necessary, project components will be relocated to avoid direct impacts to any eligible sites. Information from a Class I record search will be available when complete.

Site Monitoring and Testing. Potential impacts to cultural resources could occur during site monitoring and testing; however, the causes of possible impacts would be limited to minor ground-disturbing activities and activities that result in the potential for unauthorized collection

of artifacts and acts of vandalism (BLM, 2005). Typically, excavation activities and road construction to provide access to the project area would be very limited. Some clearing or grading might be needed in order to install monitoring towers and equipment enclosures. If more extensive excavation or road construction was needed during this phase, more extensive impacts would be possible

Site Construction. Ground disturbance during project construction could impact cultural resources by damaging and displacing artifacts, resulting in loss of significant information. Increased erosion caused by construction could impact cultural resources by dispersing artifacts and destroying archeological deposits.Project construction would potentially open up new areas of BLM-Administered land to humans which increases the potential for adverse impacts caused by looting, vandalism, and inadvertent destruction to resources (BLM, 2005). Visual impacts to cultural resources are also likely during project construction.

Site Operation. As during construction, project operation would potentially open up new areas of BLM-Administered land to humans which increases the potential for adverse impacts caused by looting, vandalism, and inadvertent destruction to resources (BLM, 2005). Visual impacts could occur during operation, as wind turbines could potentially be perceived as an intrusion on sacred or historical landscapes.

Site Decommissioning. Few impacts to cultural resources would be expected during site decommissioning. Ground disturbance during decommissioning would be confined primarily to areas that were originally disturbed during construction. Most cultural resources are nonrenewable and would either have been removed professionally prior to construction or would have been already disturbed or destroyed by prior activities. Should access roads remain, the potential for looting and vandalism would also remain (BLM, 2005)

5.1.4 NATIVE AMERICAN TRIBAL CONCERNS

Pursuant to section 106 of the National Historic Preservation Act, the BLM would initiate Native American consultation. The BLM, El Centro Field Office would conduct government to government Native American consultation.

According to the BLM Wind PEIS, the BLM should consult with Native American governments early in the planning process to identify issues and areas of concern regarding the proposed wind energy development. Consultation is required under the National Historic Preservation Act of 1966, as Amended and consultation is necessary to establish whether the project is likely to disturb properties of traditional religious or cultural importance. To comply with the American Indian Religious Freedom Act, the BLM must consider the views of American Indian religious practitioners regarding sacred sites and must seek ways to avoid or minimize disturbance to traditional religious places or disruption of traditional religious practices.

5.1.5 SPECIAL AREAS,RECREATION AND OHV CONFLICTS

The Ocotillo Express Wind project site is located in the Yuha Desert Recreation Area, and is adjacent to a number of points of interest. As stated above, the project site would be adjacent to a variety of recreational opportunities. The Jacumba Wilderness offers camping, hiking, equestrian

and unique geologic formations. The Plaster City Open Area provides a variety of terrain for off-highway vehicles. Additional open routes cross the project site; the wind turbines would be sited to avoid the open roads.

The project area would be visible from the Yuha Desert ACEC, Yuha Geoglyphs, Plaster City ORV Open Area, Coyote Mountain Wilderness, Juan Bautista de Anza National Historic Trail, and the Jacumba Wilderness Area.

5.1.5.1Special Designations

The NEPA analysis will determing the degree is significance of impacts to the existing tow Wilderness and the Historic Trail Designations.

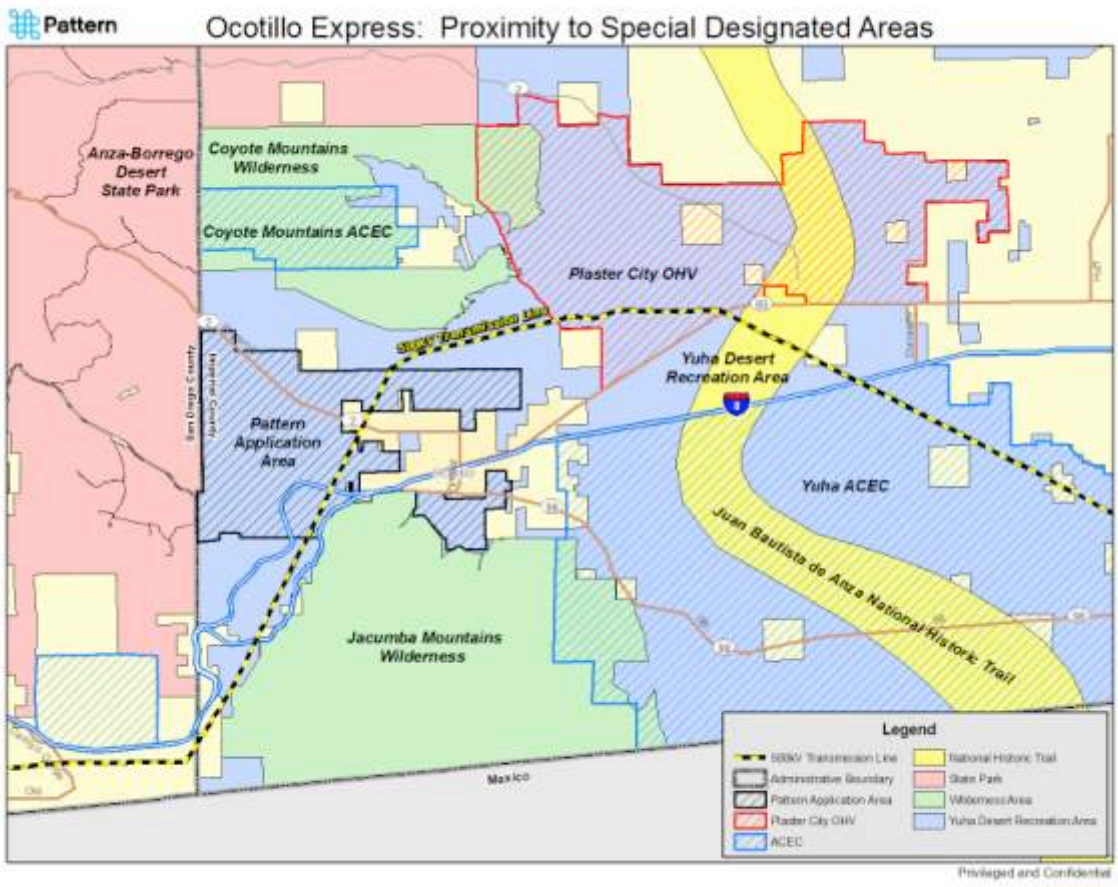
5.1.5.2 Recreation

Ocotillo Express will consult with the BLM to determine impacts o the proposed project area to the recreation outcomes and benefits. BLM will identify what it will do to provide management, marketing, monitoring, and administrative actions to meet recreation demands for this area as a result of the proposed project changing the setting character of the area.

5.1.5.3OHV

The applicant will work with BLM staff, interested public, organizations, and agencies to develop a travel management plan for the project area to prvode systematic acces across and within the project area to facilitate OHV and other public traffic.

Figure XX Special Designated Areas



5.2.1.5.2 Potential Impacts

Impacts to recreational resources include noise impacts, dust or air quality impacts, and/or visual impacts (BLM, 2005). The potential for impacts increases if the project is located in an area of high-density, concentrated, and developed recreation or if the visual impact is to a remote setting or landscape.

Noise, dust, traffic and the presence of construction crews could temporarily impact the character of nearby recreational resources. People engaged in hiking, camping, birding, and hunting would be affected the most by construction activities. Some campsites may experience increased use by transient workers who seek temporary accommodations during project construction.

Operation of the wind project could improved accessibility to the area and as such, could increase recreational opportunities; although at the same time, this could alter the experience for people wanting a backcountry setting (BLM, 2005). However, development of a wind energy project could modify the Recreation Opportunity Spectrum class within which the proposed project would be located. Most long-term effects would relate to visual disturbances.

5.1.6 NOISE

Site-specific data on outdoor sound levels in the project area are not available. Varying noise levels occur in the project area. Rural communities or unpopulated lands are the quietest, but noise can be sporadically elevated in localized areas where influenced by on-road traffic or aircraft. Natural noise levels absent human activity are generally low. Unpopulated natural areas are expected to be as low as 35 to 50 dBA, and ambient levels tend to be below 50 dBA in open areas. Part of the project site would be adjacent to I-8 where noise levels are the highest (over 80 dBA). Parallel to the existing 500 kV Southwest Powerlink transmission line, corona noise can be heard as a crackling or hissing sound at levels of approximately 50 dBA.

Noise-Sensitive Receptors. Residences are near the project in Ocotillo. Non-motorized recreational users would also be considered as noise-sensitive receptors.

5.2.1.5.3 Potential Impacts

Site testing. Most activities associated with site monitoring and testing would generate relatively low levels of noise. Potential short-term sources of noise at the beginning or end of this phase could include the use of a grader or bulldozer [about 85 dB(A)] if an access road was needed and there was traffic caused by heavy-duty or medium-duty trucks used to transport the towers to and from the site. Light-duty pickup trucks would potentially be used periodically for meteorological data collection and instrument maintenance during the course of the monitoring and testing phase. All these activities would be expected to occur during daytime hours when noise is tolerated more than at night, because of the masking effect of background noise. Accordingly, potential impacts of site monitoring and testing activities on ambient noise would be expected to be temporary and intermittent in nature (BLM, 2005).

Construction. Average noise levels for typical construction equipment range from 74 dB(A) for a roller, to 85 dB(A) for a bulldozer, to 101 dB(A) at a pile driver (impact) (BLM, 2005). In general, the dominant noise source from most construction equipment is the diesel engine, which is continuously operating around a fixed location or with limited movement. According to BLM calculation, it is estimated that with the two noisiest pieces of equipment operating simultaneously at peak load, noise levels would exceed the EPA guideline for residential Ldn noise [55 dB(A)] for a distance of about 1,640 ft (500 m) (EPA 1974). As sensitive receptors occur within 1,640 ft of the project site, there is potential for noise impacts during construction of the project.

Noise could be generated during construction from vehicular traffic including hauling materials, movement of heavy equipment, and commuter or visitor traffic. Noise levels associated with traffic would increase and decrease rapidly and would be greatest at the highest number of peak-hour trips and total heavy-duty truck traffic.

Additional noise impacts could occur should blasting be required for wind turbine foundations. Blasting would create a compressional wave in the air (air blast overpressure), the audible portion of which would be manifested as noise (BLM, 2005).

Operation. During operation, noise sources would include mechanical and aerodynamic noise; transformer and switchgear noise from substations; corona noise from transmission lines;

vehicular traffic noise, including commuter and visitor and material delivery; and noise from an operation and maintenance (O&M) facility.

Wind Turbine Noise. Aerodynamic noise from wind turbines originates mainly from the flow of air over and past the blades and generally increases with tip speed. The aerodynamic noise has a broadband character, often described as a "swishing" or "whooshing" sound, and is typically the dominant part of wind turbine noise today (BLM, 2005). The noise caused by this process is unavoidable. Although aerodynamic noise mostly has a broadband character, airfoil-related noise can also create a tonal component and there can be both impulsive and low-frequency components.

Impulsive noise and low-frequency noise are primarily associated with older-model downwind turbines, the blades of which are on the downwind side of the tower; these types of noise are caused by the interaction of the blades with disturbed air flow around the tower. Impulsive noise is characterized by short acoustic impulses or thumping sounds that vary in amplitude (level) as a function of time. Low-frequency noise is a more steady sound in the range of 20 to 100 Hz. These types of noise can be avoided, however, with appropriate engineering design (BLM, 2005).

There are many wind turbine designs. In general, upwind turbines are less noisy than downwind turbines and their lower rotational speed and pitch control results in lower noise generation (BLM, 2005). A variable speed wind turbine generates relatively lower noise emissions than a fixed speed turbine. A large variable speed wind turbine operates at slower speeds in low winds, resulting in much quieter operation in low winds than a comparable fixed speed wind turbine. As wind speed increases, the wind itself masks the increasing turbine noise.

To determine the potential noise impacts at the nearest residences from wind turbine operations, sound level data would be needed. Whether the turbine noise is intrusive or not depends not only on its distribution of amplitude and frequency but also on the background noise, which varies with the level of human and animal activities and meteorological conditions (primarily wind speed).

Substation Noise. Two sources of noise are associated with substations, transformer noise and switchgear noise (BLM, 2005). A transformer produces a constant low-frequency humming noise primarily because of the vibration of its core. Current transformer design trends have shown decreases in noise levels. The cooling fans and oil pumps at large transformers produce broadband noise only when additional cooling is required; in general, this noise is less noticeable than the tonal noise. Switchgear noise is generated by the operation of circuit breakers used to break high-voltage connections at 132 kV and above. An arc formed between the separating contacts has to be "blown out" using a blast of high-pressure gas. The resultant noise is impulsive in character (i.e., loud and of very short duration). The industry is moving toward the use of more modern circuit breakers that use a dielectric gas to extinguish the arc and generate significantly less noise.

Corona Noise. Potential transmission line noise can result from corona discharge, which is the electrical breakdown of air into charged particles. Corona noise is composed of broadband noise, characterized as a crackling or hissing noise, and pure tones, characterized as a humming noise

of about 120 Hz. Corona noise is primarily affected by weather and, to a lesser degree, by altitude and temperature. It is created during all types of weather when air ionizes near isolated irregularities (e.g., nicks, scrapes, and insects) on the conductor surface of operating transmission lines. Modern transmission lines are designed, constructed, and maintained so that during dry conditions the line will generate a minimum of corona-related noise. In wet conditions, however, water drops collecting on the lines provide favorable conditions for corona discharges. Occasional corona humming noise at 120 Hz and higher is easily identified and, therefore, may become the target of complaints (BLM, 2005).

Noise related to Maintenance Activities. Regular maintenance activities would include periodic site visits to wind turbines, communication cables, transmission lines, substations, and auxiliary structures. These activities would involve light- or medium-duty vehicle traffic with relatively low noise levels. Infrequent but noisy activities would be anticipated, such as road maintenance work with heavy equipment, or repair or replacement of old or inoperative wind turbines or auxiliary equipment.

5.1.7 PALEONTOLOGICAL RESOURCES

Portion of the Ocotillo Express Wind site is underlain by the following geologic units:

- Quaternary alluvium. Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. "Younger" alluvium is Holocene (10,000 years ago to Recent) in age and "Older alluvium" is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison (Scott, 2006). Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- Split Mountain Formation. The Split Mountain Formation, deposited during the late Miocene to early Pliocene (3 to 7 million years ago) consists of four members: a lower boulder and cobble fanglomerate (interpreted as a landslide) overlain by the Fish Creek Gypsum, which is in turn overlain by a marine sandstone and shale. The uppermost member consists of a massive gray fanglomerate that is also interpreted to be a deposited as a landslide event. The two fanglomerate units have not yielded fossils; however, the marine sandstone and shale as well as the Fish Creek Gypsum have yielded microfossils. The Split Mountain Formation is determined to have a moderate paleontological resources potential.
- Alverson Volcanics. Alverson Volcanics include an upper unit of volcanic flows and a lower unit consisting of a sequence of conglomerates, sandstones, and mudstones interbedded with lava flows. The sedimentary deposits within this geologic unit have yielded fossilized algae, pollen, petrified wood, mollusks, and one occurrence of a vertebrate bone fragment. The Alverson Volcanics are assigned a moderate paleontological resource potential.

Other geologic units may also be present (CPUC 2008).

5.2.1.5.4 Potential Impacts

Impacts to paleontological resources would potentially occur during ground disturbing activities. If there is a strong potential for fossil remains to be present in the project area, a survey would be required (BLM, 2005).

Site Monitoring and Testing. Ground disturbing activities would occur during the site monitoring and testing, including excavation and some road construction. Some clearing and grading may be required for installing monitoring towers and equipment enclosures. Because the monitoring and testing activities would affect small, localized areas the likelihood of an impact is reduced (BLM, 2005). Additional impacts could occur if the access roads were used to reach areas previously inaccessible to the public.

Site Construction. Site construction has the potential to impact paleontological impacts because it would require excavation, grading, and vegetation removal and potential blasting. Grading and blasting would directly impact paleontological resources if they were present. Grading for access roads, lay-down areas, staging areas for cranes, and other infrastructure would also create potential impacts. BLM identifies human removal of fossils rather than reporting them as one of the greatest threats to paleontological resources. Development of a wind project would bring a large number of workers into contact with areas that had been previously undisturbed. With mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide, could be properly salvaged and documented.

Site Operation and Decommissioning. Few impacts to paleontological resources would be expected during operation and decommissioning of the wind project. Most activities during operation and decommissioning would not result in new ground disturbance, minimizing disturbance to new fossils. The improved access to the site would continue to present possible impacts due to removal of fossils by amateurs.

5.1.8 VISUAL RESOURCE MANAGEMENT DESIGNATIONS

Public lands administered by the BLM have a variety of visual values. These lands are subject to visual resource management objectives as developed using the BLM Visual Resource Management (VRM) System (BLM, 1984, 1986a, 1986b) and presented in the Resource Management Plan for a given unit. The BLM system identifies four VRM Classes (I through IV) with specific management prescriptions for each class. The system is based on an assessment of scenic quality, viewer sensitivity and viewing distance zones.

5.2.1.5.5 Scenic Quality

Scenic Quality is a measure of the overall impression or appeal of an area created by the physical features of the landscape, such as natural features (landforms, vegetation, water, color, adjacent scenery and scarcity), and built features (roads, buildings, railroads, agricultural patterns, and utility lines). These features create the distinguishable form, line, color, and texture of the landscape composition that can be judged for scenic quality using criteria such as distinctiveness, contrast, variety, harmony, and balance. The VRM scenic quality rating components are evaluated to arrive at one of three scenic quality ratings (A, B, or C) for a given landscape. Each landscape component is scored and a score of 19 or more results in a Class A scenic quality rating.

A score of 12 to 18 results in a Class B scenic quality rating, while a score of 11 or less results in a Class C scenic quality rating. The three scenic quality classes can be described as follows:

- Scenic Quality Class A – Landscapes that combine the most outstanding characteristics of the region.
- Scenic Quality Class B – Landscapes that exhibit a combination of outstanding and common features.
- Scenic Quality Class C – Landscapes that have features that are common to the region.

5.2.1.5.6 Viewer Sensitivity

Viewer Sensitivity is a factor used to represent the value of the visual landscape to the viewing public, including the extent to which the landscape is viewed. For example, a landscape may have high scenic qualities but be remotely located and, therefore, seldom viewed. Sensitivity considers such factors as visual access (including duration and frequency of view), type and amount of use, public interest, adjacent land uses, and whether the landscape is part of a special area (e.g., California Desert Conservation Area or Area of Critical Environmental Concern). The three levels of viewer sensitivity can generally be defined as follows:

- High Sensitivity. Areas that are either designated for scenic resources protection, or receive a high degree of use (includes areas visible from roads and highways receiving more than 45,000 visits [vehicles] per year). Typically within the foreground/middleground viewing distance.
- Medium Sensitivity. Areas lacking specific, or designated, scenic resources protection, but are located in sufficiently close proximity to be within the viewshed of the protected area. Includes areas that are visible from roads and highways receiving 5,000 to 45,000 visits (vehicles) per year. Typically within the background viewing distance.
- Low Sensitivity. Areas that are remote from populated areas, major roadways, and protected areas or are severely degraded visually. Includes areas that are visible from roads and highways receiving less than 5,000 visits (vehicles) per year.

The project site would be located on BLM-administered lands located within the California Desert Conservation Area (CDCA). Because of the public importance imparted by this designation, all BLM lands within the CDCA that were inventoried for this project have been assigned a High rating for Viewer Sensitivity.

5.2.1.5.7 Viewing Distance Zones

Landscapes are generally subdivided into three distance zones based on relative visibility from travel routes or observation points. The foreground/middleground (f/m) zone includes areas that are less than three to five miles from the viewing location. The foreground/middleground zone defines the area in which landscape details transition from readily perceived, to outlines and patterns. The background (b) zone is generally greater than 5, but less than 15, miles from the viewing location. The background zone includes areas where landforms are the most dominant element in the landscape, and color and texture become subordinate. In order to be included within this distance zone, vegetation should be visible at least as patterns of light and dark. The seldom-seen zone (s/s) includes areas that are usually hidden from view as a result of topographic or vegetative screening or atmospheric conditions. In some cases, atmospheric and lighting conditions can reduce visibility and shorten the distances normally covered by each zone (BLM, 1986b).

5.2.1.5.8 Visual Resource Management Classes

The VRM Class for a given area is typically arrived at through the use of a classification matrix. By comparing the scenic quality, visual sensitivity, and distance zone, the specific VRM class can be determined. The exception to this process is the Class I designation, which is placed on special areas where management activities are restricted (e.g., wilderness areas).

VRM Classes have been established in existing Resource Management Plans for the BLM lands in San Diego County. However, VRM classifications have not been established in Resource Management Plans for BLM lands in the vicinity of the project in Imperial County. For those lands, Interim VRM Classes were developed for the Sunrise Powerlink Project EIR/EIS using the methodology set forth below. These Interim VRM Classes will become final once adopted in an amendment to the Land Management Plan.

The objectives of each VRM classification as stated in the BLM VRM *Visual Resource Inventory Manual* are as follows:

- VRM Class I. The objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
- VRM Class II. The objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- VRM Class III. The objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate or lower. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- VRM Class IV. The objective is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

As previously stated, all lands within the California Desert Conservation Area are assigned a High Visual Sensitivity Level. All of the lands inventoried for the Sunrise Powerlink Project are also within the foreground/middleground (f/m) viewing distance zone of one or more public viewing points or access roads. As a result, the Interim VRM Classes are tied directly to the Scenic Quality Classes. Areas with Class B Scenic Quality result in an Interim VRM Class II. Areas with Class C Scenic Quality result in an Interim VRM Class III. As can be seen in Figure D.3-1A from Section D. (Visual Resources) for the Sunrise Powerlink Project EIR/EIS, the Ocotillo Express Wind project would be located on an area with an Interim VRM Class III. Land located south of the project, the Jacumba Wilderness, and land located north of the project, the Coyote Mountain Wilderness, have Interim VRM Class I (CPUC, 2008).

Western Imperial County is predominantly characterized by rough, rocky mountains with jagged ridgelines bordering broad, desert basins and alluvial slopes. Vegetation in this region ranges from sparse, low-growing grasses and shrubs such as creosote in the wide, flat desert basins to

completely absent in areas of high four-wheel drive (4WD) recreational use. Project viewing opportunities are numerous and include Interstate 8 (I-8), State Routes (SR) 2 and 98, local roads, the many 4WD access roads on public lands, and recreational and visitor areas, and from the town of Ocotillo and Coyote Wells.

According to the Sunrise Powerlink Project EIR/EIS, this landscape encompasses a portion of the existing SWPL transmission line as it crosses Sugarloaf Mountain and converges on I-8, passing between the separated eastbound and westbound lanes. Vista views from I-8 are panoramic in scope and encompass the western portion of the Yuha Desert with the Coyote Mountains beyond. Adjacent landform colors are predominantly light tan for soils with reddish-brown hues for rocks and lavender and bluish hues for the distant mountains. Landform textures appear smooth to granular while vegetation is patchy with clumps. Vegetation exhibits a matte texture and vegetation colors include tans to pale yellow for grasses with muted to light and dark greens and tans for the shrubs. Although the boulder slopes of In-Ko-Pah Gorge, Sugarloaf Mountain, and the Coyote Mountains beyond create land variation of visual interest, the overall scenic quality of the desert basin landscape is substantially compromised by the prominent presence of the steel-lattice transmission line with its complex structural form and lines and industrial character. The Sunrise Powerlink Project would further increase the industrial nature of this area. The BLM scenic quality classification is Class C while viewer sensitivity is high. The Interim VRM Class Rating is III.

The BLM's Interim VRM Class III objective allows for a moderate or lower degree of visual change that, while it may attract attention, should not dominate the view of the casual observer.

5.2.1.5.9 Potential Impacts

The BLM's VRM system defines visual impact as the contrast perceived by observers between existing landscapes and proposed projects and activities. The degree to which an activity intrudes on, degrades, or reduces the visual quality of a landscape depends on the amount of visual contrast it introduces. Visual changes or modifications that do not harmonize with landscapes often look out of place, and the resulting contrast may be unpleasant and undesirable.

Site Monitoring and Testing. Possible visual impacts could occur during monitoring and testing due to the road traffic, parking, and associated dust, the presence of meteorological towers, and possibility of associated reflections producing sun glint, and any idle or dismantled equipment on site.

Site Construction. Impacts during project construction could include the development of new or expanded roads, which would lead to visible activity and an increase in dust. Temporary parking would also be visible due to suspended dust and loss of vegetation in parking areas. The temporary presence of large cranes or other equipment would be visible in addition to any visible exhaust plumes from these. Ground disturbance would result in contrast in color, from, texture, and line compared with the rest of the project site. Destruction and removal of vegetation due to clearing, compaction, and dust are expected. Soil scars and exposed slope faces would result from excavation, leveling, and equipment movement. Invasive species may colonize disturbed and stockpiled soils and compacted areas. The land area or footprint of installed equipment would be typically small, as little as 5 to 10% of the site, but could be susceptible to broader

disturbance and alteration over longer periods of time (BLM, 2005). Site restoration activities would reduce many of these impacts.

Site Operation. Wind energy development projects on BLM-administered lands would be highly visible because of the introduction of turbines into typically rural or natural landscapes, many of which have few other comparable structures. The artificial appearance of wind turbines may have visually incongruous "industrial" associations for some, particularly in a predominantly natural landscape. Visual evidence of wind turbines cannot be avoided, reduced, or concealed, owing to their size and exposed location; therefore, effective mitigation could be limited (BLM, 2005).

The BLM Wind PEIS identifies other additional potential visual impacts including shadow flicker and blade glint. Daily and seasonal low sunlight conditions striking ridgelines and towers would tend to make them more visible and more prominent. Interposition of turbines between observers and the sun, particularly in the early and late hours of the day and during the winter season when sun angles are low, could produce a strobe-like effect from flickering shadows cast by the moving rotors onto the ground and objects. A strobe-like effect can also be caused by the regular reflection of the sun off rotating turbine blades. Unlike shadow flicker, perception of blade glint would depend on the orientation of the nacelle, angle of the rotor, and the location of the observer relative to the position of the sun.

If security and safety lighting are used, even if they are downwardly focused, visibility of the site would increase, particularly in dark nighttime sky conditions typical of rural areas. It would also contribute to sky glow resulting from ambient artificial lighting. Any degree of lighting would produce off-site "light trespass"; it would be most abbreviated, however, if the lighting was limited to just the substation and controlled by motion sensors (BLM, 2005).

FAA rules would require lights mounted on nacelles that flash white during the day and twilight (20,000 candela) and red at night (2,000 candela). White lights would be less obtrusive in daylight, but red lights would likely be conspicuous at great distances against dark skies. Typically, the FAA requires warning lights on the first and last turbines in a string and every 1,000 to 1,400 ft (305 to 427 m) in between. Although these beacons would concentrate light in the horizontal plane, they would increase visibility of the turbines, particularly in dark nighttime sky conditions typical of rural areas. Beacons would likely not contribute (because of intermittent operation) to sky glow resulting from artificial lighting. The emission of light to off-site areas could be considerable (BLM, 2005).

The applicant will design the facilities to the extent feasible to minimize the impact on the characteristic visual landscape. The POD should contain statements to the effect that "the applicant will design the facilities to minimize the impact on the characteristic visual landscape.

The process is to design the facility to meet or exceed the objectives for the VRM Interim Class III. High level visual simulations and VRM Contrast Ratings will be done from the Key Observation Points (KOPs). These ratings evaluate the existing contrast and proposed mitigating measures to reduce contrast. Applicant will to the extent feasible use proper design fundamentals, including proper siting and location; reduction of visibility; repetition of form, line, color, and texture of the characteristic landscape; and reduction of unnecessary disturbance. Design strategies to use include color selection, earthwork, vegetation manipulation, and

structure modification. Development of good design strategies minimizes the need for extensive mitigation measures later on in the environmental documentation process.

5.1.9 AVIATION AND/OR MILITARY CONSIDERATIONS

The Ocotillo Express Wind Project would be located approximately five miles southwest of the Naval Reservation Target 103, which is identified as a live bombing area. The project location would be located within the Department of Defense Airspace Consultation Area (BLM, 2009d).

The FAA requires a notice of proposed construction for a project so that it can determine whether it would adversely affect commercial, military, or personal air navigation safety (FAA 2000). One of the triggering criteria is whether the project would be located within 20,000 ft (6,096 m) or less of an existing public or military airport. Another FAA criterion triggering the notice of proposed construction is any construction or alteration of more than 200 ft (61 m) in height above ground level. This criterion applies regardless of the distance from the proposed project to an airport (FAA 2000). As such, the Ocotillo Express Wind Project would be required to notify the FAA of the project.

In accordance with the *Wind Energy Protocol Between The Department of Defense and the Bureau of Land Management Concerning Consultation of Development of Wind Energy Projects and Turbine Siting on Public Lands Administered by the Bureau of Land Management to Ensure Compatibility with Military Activities,* the BLM would be required to send the preliminary POD to the Department of Defense.

5.1.10 OTHER ENVIRONMENTAL CONSIDERATIONS

5.2.1.6 GEOLOGIC RESOURCES

The wind project would cross the northeastern edge of the Yuha Desert and the southern edge of the Coyote Mountains. The project would be located on geologic units including Alluvium and Granitic rocks (CPUC, 2008). Other geologic units may also be present. Alluvium deposits include unconsolidated stream, river, and alluvial fan deposits consisting of primarily sand, silt, clay, and gravel. The granitic rocks that would underlay part of the project location would be La Posta quartz diorite.

The project would be located on hills, mesas, and valleys of the Jacumba Mountains. The sloping hills and valleys in these areas are underlain primarily by granitic and volcanic units which are not typically prone to landslides. However, excavation and grading for the project would potentially trigger rock-falls or shallow soil slides.

The project would be located on the Rositas-Orita-Carrizo-Aco (s994) soil association; other soil associations may be present as well (CPUC, 2008). This soil association includes very deep soils formed in eolian deposits and mixed alluvium. Soil types include: fine sand, loamy sand, gravelly fine sandy loam, extremely gravelly sand; and sandy loam and may include local areas of desert pavement and desert varnish. The hazard erosion of the soil is slight to moderate, with a low to moderate shrink/swell (expansive) potential, and a high risk of corrosion to uncoated steel and low to moderate risk of corrosion to concrete.

Approximately one to ten active mineral claims have been made at the project site (BLM, 2009d). No oil, gas, or geothermal fields are located in the vicinity of the project (DOGGR, 2009). There is little to no potential for the project to impact petroleum or geothermal resources.

The project would be approximately five miles west of the Yuha Wells Fault and the Laguna Salada Fault (CPUC, 2008). The Yuha Wells fault is a fairly recently mapped northeast-southwest trending fault which offsets the Laguna Salada fault from the main trace of the Elsinore fault. The project site would be less than one mile south of the Elsinore Fault zone. This portion of the Elsinore fault is within an Alquist-Priolo zone. Peak ground acceleration at the project site would be between 0.3g to 0.5g.

5.2.1.6.1 Potential Impacts

Site Monitoring and Testing. Impacts during monitoring and testing tend to be limited and temporary due to the limited development, excavation activities, and road construction activities. Some clearing and grading may be required but it is unlikely that major road construction would be required. As such, it is unlikely that the activities would activate geologic hazards or increased soil erosion (BLM, 2005).

Site Construction. Activities during construction that may impact geologic resources include clearing, excavating, blasting, trenching, grading, and heavy vehicle traffic. Potential mining for sand, gravel, and/or quarry stone would disturb the land surface and potentially lead to soil erosion. Construction and operation of the project could be impacted by landslide, rock falls, and groundshaking due to earthquakes. Active earthquakes could also trigger landslides during heavy precipitation conditions.

Soil erosion would likely occur due to ground surface disturbance which could lead to degradation of water quality in nearby surface water bodies. Activities that would contribute to soil erosion include ground disturbance at wind tower pads, access roads, staging areas, lay-down areas, and at other on-site structures. Use of heavy equipment could disturb or destroy soil conditions, and construction activities could disturb stormwater runoff patterns (BLM, 2005).

Site Operation and Decommissioning. Few impacts to geologic resources and soil erosion would be expected during project operation especially if appropriate mitigation had been implemented during construction. Soil erosion could occur during maintenance of the project due to vehicle traffic.

5.2.1.7 WATER RESOURCES

The Ocotillo Express Wind Project would be located on the Coyote Wells Valley Groundwater Basin. The Coyote Wells Valley groundwater basin are EPA-designated Sole Source Aquifers. This means the aquifer supplies more than 50% of a community's drinking water. Any project which is financially assisted by federal grants or federal loan guarantees, and which has the potential to contaminate a sole source aquifer, should be modified to reduce or eliminate the risk (USEPA, 2009).

The Coyote Wells Groundwater Basin, located near the international border with Mexico in the western Yuha Desert west of Imperial Valley, is in unconsolidated sediment up to 650 feet thick.

Water bearing zones are mostly 100 to 300 feet below ground surface. Unconfined shallow groundwater exists in parts of the basin, but the quality of the water is poor. Natural fluoride levels in some wells are as high as 3.5 mg/L (CDWR, 2004).

The Palm Canyon Wash and Meyer Creek cross the project site in addition to several unnamed washes.

5.2.1.7.1 Potential Impacts.

A wind energy project can impact surface water and groundwater in several different ways, including the use of water resources, changes in water quality, alteration of the natural flow system, and the alteration of interactions between the groundwater and surface water.

Site Monitoring and Testing. Impacts during site monitoring and testing would be expected to be limited because few new access roads would be needed, and on-site activities would be limited and temporary. Little water would likely be used during this phase of development and would potentially be trucked in from off site. Impacts to water resources, local water quality, water flows, and surface water/groundwater interactions are expected to be negligible to small, unless extensive excavation or road construction occurs.

Site Construction. A number of construction activities would require water use including water used for dust control, water used for making concrete, and water used by the construction crew. Construction activities would also have the potential to impact water quality due to increased soil erosion due to ground disturbing activities, weathering of exposed soil or spoils from foundation excavation which could release chemical through oxidation, discharges of wastewater or sanitary water, and pesticide application (BLM, 2005).

Construction activities could also lead to the disruption of natural surface water and groundwater flow systems should surface water be diverted on site or off site by access road systems or storm water control systems. This could also impact groundwater flow.

Site Operation. Few impacts are expected during operation because minimal ground disturbance would be expected and minimal water use would be required.

5.2.1.8 AIR QUALITY

The Imperial County portion of the Salton Sea Air Basin is administered by the Imperial County Air Pollution Control District (ICAPCD). Ambient air quality is characterized in terms of the "criteria air pollutants," which refer to a group of pollutants for which regulatory agencies have adopted ambient standards and region-wide pollution reduction plans. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Volatile organic compounds (VOC) or reactive organic gases (ROG) and nitrogen oxides (NOx) are also regulated as criteria pollutants because they are precursors to ozone formation. Certain VOCs also qualify as toxic air contaminants. Two subsets of particulate matter are inhalable particulate matter less than ten microns in diameter (PM10) and fine particulate matter less than 2.5 microns in diameter (PM2.5). Sulfur oxides (SOx) and NOx are also pre-cursors to particulate matter formation in the atmosphere.

Air quality is determined by measuring ambient concentrations of criteria pollutants, which are air pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Because of unique meteorological conditions in California, and because of differences of opinion by medical panels established by CARB and the U.S. EPA, there is diversity between State and federal standards currently in effect in California. In general, the CAAQS are more stringent than the corresponding NAAQS. Table XX shows the standards currently in effect in California.

Air quality standards are designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise, including outdoor recreational activity.

Table XX. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	—
	8-hour	0.07 ppm	0.075 ppm
PM10	24-hour	50 µg/m^3	150 µg/m^3
	Annual	20 µg/m^3	—
PM2.5	24-hour	—	35 µg/m^3
	Annual	12 µg/m^3	15 µg/m^3
CO	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9.0 ppm
NO_2	1-hour	0.18 ppm	—
	Annual	0.030 ppm	0.053 ppm
SO_2	1-hour	0.25 ppm	—
	24-hour	0.04 ppm	0.14 ppm
	1-year	—	0.03 ppm
Visibility-Reducing Particles	8-hour	Extinction coefficient 0.23/km, visibility of 10 miles due to particles when relative humidity < 70%	—

Notes: ppm=parts per million; µg/m^3= micrograms per cubic meter; "—" = no standard
Source: CARB Ambient Air Quality Standards Table, September 2009

Each geographic area is designated by either the U.S. EPA or CARB as a nonattainment area if violations of the ambient air quality standards are persistent. Imperial County is classified as a nonattainment area for the State ozone standard, and like nearly every other area in the State of California, it is a nonattainment area with respect to the PM10 CAAQS. Since 1994, the U.S. EPA has found Imperial Valley to be in serious nonattainment for PM10. Federal PM2.5 standards are relatively recent, and although there is insufficient data to determine attainment status of the air basin as a whole under the federal PM2.5 standards, the City of Calexico is designated nonattainment for State-level CO and PM2.5. A summary of the attainment status within the

project area is provided below. The attainment status of San Diego is provided for informational purposes as the project would be adjacent to San Diego County and the San Diego Air Basin, administered by the San Diego Air Pollution Control District.

Table YY. Attainment Status of Project Area Air Basins

	Ozone		PM10		PM2.5		CO		NO_2		SO_2	
Air Basin	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**
Salton Sea, Imperial County	N	N (Marginal)	N	N (Serious)	U/A	U/A	A	A	A	A	A	A
San Diego County	N	N (Subpart 1)	N	U/A	N	U/A	A	A	A	A	A	A

Note: A = Attainment of Ambient Air Quality Standards; U/A = Unclassified/Attainment; N = Nonattainment.
"Subpart1" areas are subject to general, less-prescriptive requirements than "classified" nonattainment areas.
Source: CARB, 2006 (http://www.arb.ca.gov/desig/desig.htm) and U.S. EPA, 2009 (http://www.epa.gov/region09/air/).

5.2.1.9 SALTON SEA AIR BASIN

The Imperial County Air Pollution Control District is the primary agency responsible for planning, implementing, and enforcing federal and State air quality standards in Imperial County. The following rules and regulations apply to all sources in the jurisdiction of ICAPCD:

- ICAPCD Regulation II – Rule 202, Exemptions. Portable equipment holding a valid registration under the Statewide Portable Equipment Registration Program is not required to obtain a permit from the ICAPCD.
- ICAPCD Regulation IV – Rule 401, Opacity of Emissions. Prohibits any activity causing emissions dark or darker in shade as that designated as Number 1 on the Ringlemann Chart (20 percent opacity) for a period or periods aggregating more than three minutes in any hour.
- ICAPCD Regulation IV – Rule 407, Nuisances. Prohibits any activity that emits pollutants which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- ICAPCD Regulation VIII – Rule 800, General Requirements for Control of Particulate Matter. Limits emissions from construction and earthmoving activities (Rule 801). Requires dust control along unpaved access roads and unpaved staging areas or yards (Rule 805), for handling of materials (Rule 802), and for any material deposited on a paved surface (Rule 803). Dust control plans must be filed and approved by the ICAPCD.

Air Quality Management Plans. The ICAPCD established an attainment plan for PM10 in 1993 (PM10 SIP) and updated the plan in 2005 with the Regulation VIII rules that include the "best available control measures" for control of windblown particulate matter and particulate matter from travel on unpaved roads across Imperial County. The ICAPCD also oversees a Natural Events Action Plan that allows the ICAPCD to document and take into account high PM10 concentrations caused by qualified natural events, such as windstorms and wildfires. The

Regulation VIII Rules and the Natural Events Action Plan are part of the regional plan to comply with PM10 standards. ICAPCD also maintains and implements an ozone attainment plan that depends on the CARB's SIP to achieve reductions of ozone precursors from mobile sources.

5.2.1.9.1 Potential Impacts

Site Monitoring and Testing. Activities that would generate dust and emissions during site monitoring and testing include worker and equipment vehicle travel on access and site roads to carry towers, worker vehicle travel for routine maintenance, brush clearing at tower sites, and erection of the meteorological towers (BLM, 2005). Such activities would generate fugitive dust from road travel and clearing and tailpipe emissions from vehicular exhaust.

Site Construction. Prior to construction permits from local air quality agencies would potentially be required. Activities that would generate dust and emissions during construction include 1) clearing and grade alterations for site access, 2) foundation excavations and installations, 3) wind turbine erection, and 4) miscellaneous ancillary construction. Emissions from vehicle traffic and delivery traffic are likely to occur during each of these phases. Construction equipment emissions would generate fugitive dust from vehicle travel and movement and transportation of soil. Use of onsite power from diesel generators for the batch plant and other equipment would also result in emissions. Concrete batching would produce fugitive particles associated with mixing of concrete and the storage piles associated with the concrete batching.

Site Operation. Operation of the Ocotillo Express Wind project would be unlikely to adversely impact air quality. Operation of the wind turbines would not produce direct emissions. Minor VOC emissions would occur during routine changes of lubricants and cooling fluids and grease. Other minor emissions would be generated by road travel, vehicular exhaust, and brush clearing.

5.2.1.10 TRANSPORTATION

The Ocotillo Express Wind project would be reached via Interstate 8, County Highway S2, and State Route 98. A number of BLM rough bladed or two-tracked surface roads cross the project site. The San Diego and Arizona Eastern Railway (SD&AE), owned by the San Diego Metropolitan Transit System, would cross the project site. This line connects with the Santa Fe Railway.

5.2.1.10.1 Potential Impacts

Site Monitoring and Testing. It is likely that activities would be limited to low volumes of heavy-duty and medium duty trucks and personal vehicles. It is unlikely that existing roads would be impacted although some new access roads may be required depending on the tower locations.

Site Construction. Movement of equipment and materials to the site during construction would cause an increase in the level of service of the roadways. Most equipment would likely remain on site for the duration of the construction activities (BLM, 2005).

Shipments of oversized and overweight loads could cause temporary disruptions to secondary and primary roads used to access the construction site. Because of the anticipated weight of the

turbine components and electrical transformers that would be brought to the site, maximum grade becomes a critical road design parameter. Turbine components would likely require permitting of oversized loads.

Site Operation. Limited to low volumes of heavy-duty and medium duty trucks and personal vehicles would likely be used during operation. Some large turbine components would potentially be required for equipment replacement; however, this is expected to be infrequent.

5.2.1.11 SITE DECOMMISSIONING. AS WITH SITE CONSTRUCTION, OVERSIZED AND OVERWEIGHT LOADS ARE EXPECTED DURING SITE DECOMMISSIONING DUE TO THE NEED FOR REMOVAL OF THE TURBINE COMPONENTS. HEAVY EQUIPMENT AND CRANES WOULD BE REQUIRED.

5.2.1.12 TRANSPORTATION

The Ocotillo Express Wind project would be reached via Interstate 8, County Highway S2, and State Route 98. A number of BLM rough bladed or two-tracked surface roads cross the project site. The San Diego and Arizona Eastern Railway (SD&AE), owned by the San Diego Metropolitan Transit System, would cross the project site. This line connects with the Santa Fe Railway.

5.2.1.12.1 Potential Impacts

Site Monitoring and Testing. It is likely that activities would be limited to low volumes of heavy-duty and medium duty trucks and personal vehicles. It is unlikely that existing roads would be impacted although some new access roads may be required depending on the tower locations.

Site Construction. Movement of equipment and materials to the site during construction would cause an increase in the level of service of the roadways. Most equipment would likely remain on site for the duration of the construction activities (BLM, 2005).

Shipments of oversized and overweight loads could cause temporary disruptions to secondary and primary roads used to access the construction site. Because of the anticipated weight of the turbine components and electrical transformers that would be brought to the site, maximum grade becomes a critical road design parameter. Turbine components would likely require permitting of oversized loads.

Site Operation. Limited to low volumes of heavy-duty and medium duty trucks and personal vehicles would likely be used during operation. Some large turbine components would potentially be required for equipment replacement; however, this is expected to be infrequent.

Site Decommissioning. As with site construction, oversized and overweight loads are expected during site decommissioning due to the need for removal of the turbine components. Heavy equipment and cranes would be required.

5.2.1.13 HAZARDOUS MATERIALS AND WASTE MANAGEMENT IMPACTS

A limited amount of hazardous material may be used in the construction and operation of the Ocotillo Express Wind Energy project. These may include cleaning fluids, fuels, and lubricants. These would require appropriate storage, use, and disposal. In addition, soiled rags and similar applicators and clean up materials would require disposal. Except for the possibility of illegal disposal, the site is not expected to have any existing contamination. [This would be confirmed through a Phase 1 Environmental Site Assessment]. The nearest sensitive receptors are located south of the northeastern portion of the project site in Ocotillo and east of the southeast portion of the project in Coyote Wells.

Packaging materials are expected to be the major solid waste generated during construction. Except for parts packaging, operational waste would be minor and similar to household waste.

The closest landfills to the project include (CIWMB, 2007):

- Allied Imperial Landfill (104 East Robinson Road) that allows a maximum permitted throughput of 1,135 tons/day and has a remaining capacity of 2,105,500 cubic yards
- Imperial Solid Waste Site (1705 West Worthington Road) that allows a maximum permitted throughput of 207 tons/day and has a remaining capacity of 183,871 cubic yards

5.2.1.13.1 Potential Impacts

The use, storage, and disposal of hazardous materials and waste associated with a typical wind energy project could result in potential adverse health and environmental impacts associated with improper management of these materials. Hazardous materials likely to be used include fuels (gasoline, diesel fuel, etc.), lubricants, cleaning solvents, paints, pesticides, and potentially explosives. In general, most potential impacts are associated with the release of these materials to the environment, which could occur if the materials are improperly used, stored, or disposed of. Direct impacts of such releases could include contamination of vegetation, soil, and water, which could result in indirect impacts to human and wildlife populations.

Compliance with all applicable federal and state regulations regarding notices to federal and local emergency response authorities and development of applicable emergency response plans are required for hazardous materials when quantities on hand exceed amounts specified in regulations.

Solid wastes produced during construction of a wind energy development project would include containers, dunnage and packaging materials for turbine components, and miscellaneous wastes associated with assembly activities (BLM, 2005). Solid wastes resulting from the presence of the construction work crews would include food scraps and other putrescible wastes. Solid wastes produced during the operational phase would be very limited and consist primarily of office-related wastes generated at the control facility and food wastes from the maintenance crews who might be present on the site during business hours. All such wastes are expected to be nonhazardous, and typically they are containerized on site and periodically removed by commercial haulers to existing off-site, appropriately permitted disposal facilities.

During decommissioning, substantial quantities of solid wastes and industrial wastes could result from dismantlement of a wind energy project. Fluids drained from turbine drivetrain components (e.g., lubricating oils, hydraulic fluids, coolants) are likely to be similar in chemical composition to spent fluids removed during routine maintenance and would be managed in the same manner as analogous maintenance-related wastes. Tower segments are expected to be stored on site for a brief period and eventually sold as scrap. Likewise, turbine components (emptied of their fluids) may have some salvage value. Recycling turbine components would diminish any impacts created by solid wastes during decommissioning. Electrical transformers are expected to be removed from the site and available for other applications elsewhere (in most cases, without the need for removing dielectric fields). Substantial amounts of broken concrete from tower and building foundations as well as rock or gravel from on-site roads or electrical substations would also result from decommissioning. All such materials are expected to be salvageable for use in road-building or bank stabilization projects. Miscellaneous materials without salvage value are expected to be nonhazardous and should be removed from the site by a licensed hauler and delivered to appropriately permitted disposal facilities.

5.2.1.14 HEALTH AND SAFETY IMPACTS

The Ocotillo Express Wind project would be located in an open space area. The project would be located south of several large quarries in the southern foothills of the Coyote Mountains, and would be located approximately eight miles west of the large gypsum sheetrock manufacturing plant in Plaster City. The project would be located approximately two miles west of the proposed Stirling Engine System Solar Two, LLC solar thermal plant. The nearest sensitive receptors are located immediately south of the northeastern portion of the project site in Ocotillo and east of the southeast portion of the project in Coyote Wells.

Construction using heavy equipment and bulky materials can pose safety risks to workers. Maintenance of these facilities, including elements high off the ground and having moving parts, can also pose risks. Risks to public health and safety generally include risks associated with major construction sites, rare tower failures, human-caused fire, EMF exposure, aviation safety interference, EMI, low-frequency sound, and shadow flicker.

5.2.1.14.1 Potential Impacts

According to the BLM Wind EIS, one of the primary safety hazards of wind turbines occurs if a rotor blade breaks and parts are thrown off. This could occur as a result of rotor overspeed, although such an occurrence has been extremely rare and happens mostly with older and smaller turbines. The difficulty of predicting the trajectory of a broken rotor blade makes the quantitative determination of safety risk very uncertain. However, it is known that these types of events are very rare and the probability of a fragment hitting a person is even lower. With proper engineering design and quality control, blade throw should rarely occur.

5.3 DESIGN CRITERIA (MITIGATION MEASURES) PROPOSED BY APPLICANT AND INCLUDED IN POD

5.3.1 FACILITY COMMITMENTS

- Alternate Turbine Locations - 244 potential turbine locations will be analyzed, but a range of sites will be developed, allowing selection of the best wind sites and avoidance of environmentally sensitive areas.
- Use of Tubular Conical Steel Turbine Towers - Tubular towers do not provide locations for raptors to perch, decreasing risk of collisions with turbine blades.
- Underground Collection System - Reduces the visual impact of overhead transmission as well as the potential impact to avian and bat species from collisions.
- Setbacks - Turbines will be set back from public roads at least 1.1x total turbine height and will be setback 1.5x total turbine height from any property lines and ROW boundary.

5.3.2 CONSTRUCTION COMMITMENTS

- Best Management Practices (BMPs) - For example, construction vehicle movement within the project boundary would be restricted to pre-designated access, contractor-required access, or public roads. In construction areas where ground disturbance is unavoidable, surface restoration would consist of returning disturbed areas back to their natural contour (if feasible), reseeding with native seed mix. A full list of BMPs will be developed and included in the COM Plan.
- A Transportation Plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.
- A Traffic Management Plan shall be prepared as part of the Transportation Plan for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration. Additionally, SVW will consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.

5.3.3 RESOURCE CONSERVATION MEASURES

- Direct avoidance of any eligible cultural resources, to the extent feasible. Applicant intends to develop a cultural resource monitoring and mitigation plan prior to the start of construction that will include a procedure for identifying areas to be monitored during construction and that will ensure qualified archaeological monitors are used to carry out this task. A discovery plan, which may be part of the cultural resource monitoring and mitigation plan, may be part of the proposed mitigation. Construction workers will be educated about the importance of preserving significant cultural properties, and a process will be established for them to report and protect suspected discoveries. Curation will be arranged for any archaeological materials collected.

- Wildlife Mitigation and Monitoring Plan – The BLM El Centro Field is currently preparing wind energy protocol in coordination with other agencies. If the El Centro BLM wind energy protocol is not complete, an individual plan specific to Ocotillo Express would be prepared as part of the COM plan. The plan would detail initial mitigation requirements and an adaptive mitigation plan using a tiered approach that details post-construction monitoring requirements and utilizes those findings to implement necessary levels of mitigation. The plan would be based on avian/bat mortality assessments and be designed and implemented in coordination with the BLM and other appropriate agencies. Additionally, available BMP's and guidelines for mitigating impacts of wind energy development to migratory birds an bats will be used to develop mitigation measures The wildlife mitigation and monitoring plan will also use the FTHL conservation agreement and strategy to develop applicable measures.
- Survey all proposed ground disturbing activities in sensitive habitat areas utilizing the appropriate protocol.
- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.
- Migratory Birds - If construction is planned during migratory periods, migratory bird clearance surveys would be conducted. Evidence of active nests or nesting will be reported immediately to the BLM to determine appropriate minimization measures (i.e. avoidance buffer), on a case-by-case basis.
- Develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.
- Restoration Plan – A plan would be prepared as part of the COM plan. The plan would describe restoration methods and requirements for temporary disturbance areas.
- For soil disturbing actions which will require reclamation, salvage and stockpile all available growth medium prior to surface disturbances. Seed stock piles if they are to be left for more than one growing season. Re-contour all disturbance areas to blend as nearly as possible with the natural topography prior to re-vegetation. Rip all compacted portions of the disturbance to an appropriate depth based on site characteristics. Establish an adequate seed bed to provide good seed to soil contact.
- Do not allow bristlecone pine, limber pine, or swamp cedar to be harvested except for education, scientific, research purposed.
- Develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.
- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides approved for use in BLM's Record of Decision: Vegetation Treatments Using Herbicides (Sept. 2007), as supported by the FEIS for Vegetation Treatments Using Herbicides (June 2007). Pesticide use shall

be limited to non-persistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

- All straw, hay, straw/hay, or other organic products used for reclamation or stabilization activities must be certified that all materials are free of plant species listed on the California noxious weed list or specifically identified by the El Centro Field Office. Inspections will be conducted by a weed scientist or qualified biologist.
- Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and demobilization procedures. Cleaning efforts will concentrate on tracks, feet or tires, and on the undercarriage. Special emphasis will be applied to axles, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the El Cento District Office Weed Coordinator or designated contact person.
- Prior to the entry of vehicles and equipment to a planned disturbance area, a weed scientist or qualified biologist will identify and flag areas of concern. The flagging will alert personnel or participants to avoid areas of concern.
- To minimize the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials will not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials will be salvaged and stockpiled adjacent to the area from which they were stripped. Appropriate measures will be taken to minimize wind and water erosion of these stockpiles. During reclamation, the materials will be returned to the area from which they were stripped.

5.4 RESOURCES

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6.0 MAPS AND DRAWINGS

6.1 MAPS WITH FOOTPRINT OF WIND FACILITY (7.5 MIN TOPOGRAPHIC MAPS OR EQUIVALENT TO INCLUDE REFERENCES TO PUBLIC LAND SURVEY SYSTEM)

Figure 6.1-1. Project Area Facility Layout

Figure 6.1-2. Typical Use Areas

6.2 INITIAL DESIGN DRAWINGS OF WIND FACILITY LAYOUT AND INSTALLATION, ELECTRICAL FACILITIES, AND ANCILLARY FACILITIES.

Figure 6.2-1. Site Layout

6.2-2. Road and Turbine Details

Figure 6.2-3. Operational Diagram

Figure 6.2-4. Plan View

6.3 INITIAL SITE GRADING PLAN

Insert Grading Plan

6.4 MAPS WITH TRANSMISSION FACILITIES, SUBSTATIONS, DISTRIBUTION, COMMUNICATIONS

See Section 6.2 Figures

6.5 ACCESS AND TRANSPORTATION MAPS

See Figure 6.1-1.

6.6 PRELIMINARY VISUAL RESOURCE EVALUATION AND VISUAL RESOURCE SIMULATIONS

Photographic visual simulations of the proposed project as it would appear from several KOPs are being prepared to assist with the visual contrast rating analysis.

REFERENCES

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APPENDIX A LEGAL DESCRIPTION

Exhibit
A
Right-Of-Way
Legal Land Descriptions of Project Area

	Township 16 South	Range 9 East	
	section 17		
Track			Project Total-
40	lot 3	13.86	14980.88
	lot 4	40.00	
	lot 5	26.22	
	lot 6	13.78	
	lot 7	13.78	
	lot 8	26.22	
	lot 9	40.00	
	lot 10	13.81	
		187.67	
	section 18		
	lots 7,8,9, (40 acres ea)	120.00	
	lot 10	17.78	
	lot 11	17.69	
	lot 12, 13, 14 (40 acres ea)	120.00	
	lots 17,18,19,20,21 (40 acres ea)	200.00	
	lot 22	18.06	
	lot 23	18.53	
	lots 24,25,26,27,28 (40 acres ea)	200.00	
	SE1/4	160.00	
		872.06	
	section 19		
	lot 7	13.74	
	lot 8	40.00	
	lot 9	40.00	
	lot 10	40.00	
	lot 11	40.00	
	lot 12	40.00	
	lot 13	18.28	
	lot 14	17.79	

	Lot 15	40.00
	lot 16	40.00
	lot 17	40.00
	lot 18	40.00
	lot 19	40.00
	lot 20	13.70
	lot 25	13.66
	lot 26	40.00
	lot 27	40.00
	lot 28	40.00
	lot 29	40.00
	lot 30	40.00
	lot 31	17.29
	lot 32	16.78
	lot 33	40.00
	lot 34	40.00
	lot 35	40.00
	lot 36	40.00
	lot 37	40.00
	lot 38	13.62
Track 41	lot 5	40.00
	lot 6	26.26
Track 42	lot 21	26.30
	lot 22	40.00
Track 43	lot 23	40.00
	lot 24	26.34
	lot 39	26.38
	lot 40	40.00
		1190.14
	section 20	
Track 41	lot 7	13.76
Track 42	lot 8	13.72
Track 43	lot 19	13.68
	lot 20	13.64
Track 44	lot 16	13.74
	lot 17	40.00
	lot 18	26.32

	lot 21	26.36
	lot 22	40.00
	lot 23	13.70
Track 45	lot 4	13.82
	lot 5	40.00
	lot 6	26.24
	lot 9	26.28
	lot 10	40.00
	lot 11	13.78
Track 46	lot 2	13.88
	lot 3	26.18
Track 47	lot 1	26.12
	lot 12	26.22
	lot 13	40.00
	lot 14	40.00
	lot 15	26.26
	lot 24	26.30
	lot 25	40.00
		640.00

	section 21	
Track 47	lot 6	13.84
	lot 7	13.80
	lot 18	13.76
	lot 19	13.72
Track 48	lot 3	13.77
	lot 4	40.00
	lot 5	26.16
	lot 8	26.20
	lot 9	40.00
	lot 10	13.75
	lot 15	13.73
	lot 16	40.00
	lot 17	26.24
	lot 20	26.28
	lot 21	40.00
	lot 22	13.71
Track 49	lot 1	40.00
	lot 2	26.23

	lot 11	26.25
	lot 12	40.00
	lot 13	40.00
	lot 14	26.27
		573.71
	Section 22	
Track 49	lot 6	13.70
	lot 7	13.70
	lot 18	13.70
Track 50	lot 3	13.78
	lot 4	40.00
	lot 5	26.30
	lot 8	26.30
	lot 9	40.00
	lot 10	13.78
	lot 15	13.78
	lot 16	40.00
	lot 17	26.30
	lot 20	26.30
	lot 21	40.00
	lot 22	13.78
Track 51	lot 1	40.00
	lot 2	26.22
	lot 11	26.22
	lot 12	40.00
Track 52	C	40.00
	D	40.00
	E	40.00
	F	40.00
		653.86
	section 23	
	E1/2E1/2	160.00
	lot 1	26.60
	lot 8	26.54
	lot 9	26.46
	lot 16	26.40
Track 51	lot 2	13.40

	lot 3	40.00
	lot 4	40.00
	lot 5	40.00
	lot 6	40.00
	lot 7	13.46
Track 52	A	40.00
Track 52	H	40.00
		532.86
	section 24	
	lot 1	23.41
	lot 4	14.12
	lot 5	14.00
	lot 8	23.39
Track 53	lot 2	16.59
	lot 3	25.88
	lot 6	26.00
	lot 7	16.61
	N1/2	320.00
	SW1/4	160.00
		640.00
	section 25	
	lot 1	16.61
	lot 2	26.12
	lot 3	13.88
	lot 4	13.78
	lot 5	26.24
	lot 6	16.62
		113.25
	section 27	
	lot 20	26.33
	lot 21	40.00
	lot 22	13.71
		80.04
	section 28	
	lot 13	40
	lot 14	26.34
	lot 15	13.66

	lot 16	26.34
	lot 19	13.66
	lot 20	13.65
	lot 23	26.35
	lot 24	13.65
	lot 25	26.35
	lot 26	40
Track 59	lot 3	13.69
	lot 4	40.00
	lot 5	26.31
	lot 8	26.32
	lot 9	40.00
	lot 10	13.68
track 60	lot 17	13.66
	lot 18	26.34
	lot 21	26.35
	lot 22	13.65
Track 61	lot 6	13.69
	lot 7	13.68
		507.37
	section 29	
	lot 3	13.67
	lot 4	13.67
	lot 9	13.65
	lot 10	13.65
	W1/2	320.00
Track 61	lot 1	40.00
	lot 2	26.33
	lot 5	26.33
	lot 6	40.00
	lot 7	40.00
	lot 8	26.35
	lot 11	26.35
	lot 12	40.00
		640.00
	section 30	
	lot 5	40.00
	lot 6	40.00
	lot 7	40.00

lot 8	40.00
lot 9	40.00
lot 10	16.32
lot 11	15.87
lot 12	40.00
lot 13	40.00
lot 14	40.00
lot 15	40.00
lot 16	40.00
lot 17	40.00
lot 18	40.00
lot 19	40.00
lot 20	40.00
lot 21	40.00
lot 22	15.43
lot 23	15.00
lot 24	40.00
lot 25	40.00
lot 26	40.00
lot 27	40.00
lot 28	40.00
NE1/4	160.00
SE1/4	160.00
	1182.62

section 31	
lot 1	40.00
lot 2	40.00
lot 3	40.00
lot 4	40.00
lot 5	40.00
lot 6	14.92
lot 7	14.87
lot 8	40.00
lot 9	40.00
lot 10	40.00
lot 11	40.00
lot 12	40.00
lot 13	40.00
lot 14	40.00
lot 15	40.00
lot 16	40.00
lot 17	40.00

	lot 18	15.03
	lot 19	15.08
	lot 20	40.00
	lot 21	40.00
	lot 22	40.00
	lot 23	40.00
	lot 24	40.00
	E1/2E1/2	320.00
		1179.90
	section 32	
	lot 3	13.57
	lot 4	13.51
	lot 9	13.28
Track 62	lot 1	40.00
	lot 2	26.43
	lot 5	26.49
	lot 6	13.42
Track 63	lot 7	26.58
	lot 8	26.72
	W1/2	320.00
	S1/2SE1/4	80.00
	NW1/4SE1/4	40.00
		640.00
	section 33	
	lot 3	13.57
	lot 4	26.43
	lot 5	13.57
	lot 6	40.00
	lot 9	26.58
	lot 10	13.42
	lot 13	26.72
	lot 18	13.13
	lot 22	26.87
Track 63	lot 7	40.00
	lot 8	13.42
	lot 14	13.28
	lot 15	40.00
	lot 16	40.00
	lot 17	40.00
	lot 19	26.87

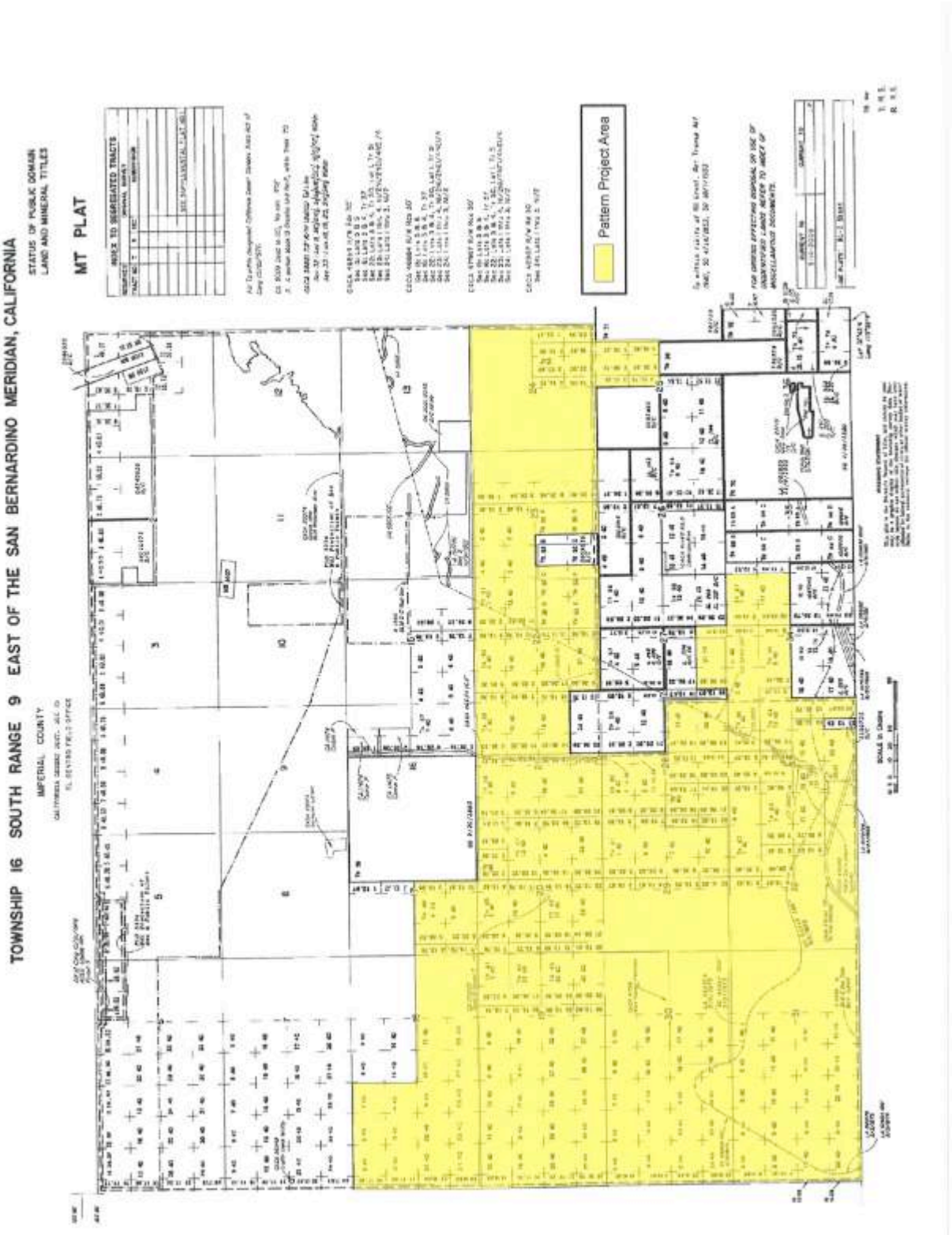
	lot 20	40.00
Track 64	lot 11	26.58
	lot 12	40.00
Track 65	lot 1	40.00
	lot 2	26.43
	SW1/4SW1/4	40.00
		626.87
	section 34	
	lot 3	13.62
	lot 4	40.00
	lot 5	40.00
	lot 6	13.55
Track 66	lot 7	26.45
	lot 8	40.00
	lot 9	13.46
Track 67	lot 1	40.00
	lot 2	26.38
	lot 10	26.54
	lot 11	40.00
		320.00
	Township 16 South	Range 10 East
	section 19	
	lot 3	40.04
	lot 4	40.03
	lot 5	40.03
	lot 6	40.02
	lot 7	32.62
	lot 8	7.39
	lot 9	32.30
	lot 10	7.70
	NE1/4	160.00
	E1/2NW1/4	80.00
	NE1/4SW1/4	40.00
	N1/2SE1/4	80.00
	SE1/4SE1/4	40.00
		640.13

	section 31		
	lot 15	19.3	
	lot 16	21.8	
	lot 21	22.85	
	lot 22	26.72	
	lot 23	12.77	
Track 64	lot 17	18.2	
	lot 18	22.9	
	SW1/4SW1/4	40	
		184.54	
	Township 17 South	Range 9 East	
	section 1		
	lot 5	23.27	to wilderness boundary
	lot 9	30.81	to wilderness boundary
	lot 10	18.48	to wilderness boundary
		72.56	
	section 2		
	lot 8	31.79	South and North of I-8
	N1/2SW1/4NW1/4	9.06	North of I-8
		40.85	
	section 3		
	lot 5	34.50	
	lot 6	34.62	
	lot 7	34.74	
	lot 8	34.86	
	S1/2N1/2, SW1/4, N1/2SE1/4	337.46	North of I-8
		476.18	
	section 4		
	lot 5	34.86	
	lot 6	34.74	
	lot 7	34.62	
	lot 8	34.50	
	S1/2N1/2	160.00	
	S1/2	320.00	
		618.72	
	section 5		
	lot 5	34.43	
	lot 6	34.40	

lot 7	34.38	
lot 8	34.35	
S1/2N1/2	160.00	
S/12	320.00	
	617.56	
section 6		
lot 8	34.25	
lot 9	37.49	
lot 10	8.84	
lot 11	8.73	
lot 12	9.13	
lot 13	9.54	
S1/2NW1/4	80.00	
SE1/4	160.00	
	347.98	
section 7		
lot 5	9.94	to big horn sheep critical habitat
N1/2N1/2NE1/4	40.00	to big horn sheep critical habitat
	49.94	
section 8		
N1/2N1/2NE1/4	40.00	
	40.00	
section 9		
N1/2N1/2N1/2	80.00	
	80.00	
section 10		
N1/2N1/2NW1/4	40.00	West of I-8
	40.00	
Township 161/2 South	Range 91/2 East	
section 1		
lot 5	40.00	
lot 6	40.00	
lot 7	40.00	
lot 8	40.00	

S1/2N1/2	160.00	
S1/2	320.00	
	640.00	
section 2		
lot 1	27.90	
lot 2	27.83	
lot 3	2.77	
lot 4	4.00	
lot 5	40.00	
lot 6	40.00	
		East of the Wilderness
lot 7	2.70	Boundary
		East of the Wilderness
S1/2NE1/4, SE1/4	124.06	Boundary
	269.26	
Township 16 1/2 South	Range 10 East	
section 6		
lot 2	27.90	
lot 3	27.63	
lot 4	39.66	
lot 5	40.00	
	135.19	
Township 17 South	Range 10 East	
section 5		
lot 4	39.78	
	39.78	
section 6		
		North of the Wilderness
lot 1	39.73	Boundary
		North of the Wilderness
lot 2	31.55	Boundary
		North of the Wilderness
lot 3	36.56	Boundary
	107.84	

APPENDIX B PLAT MAPS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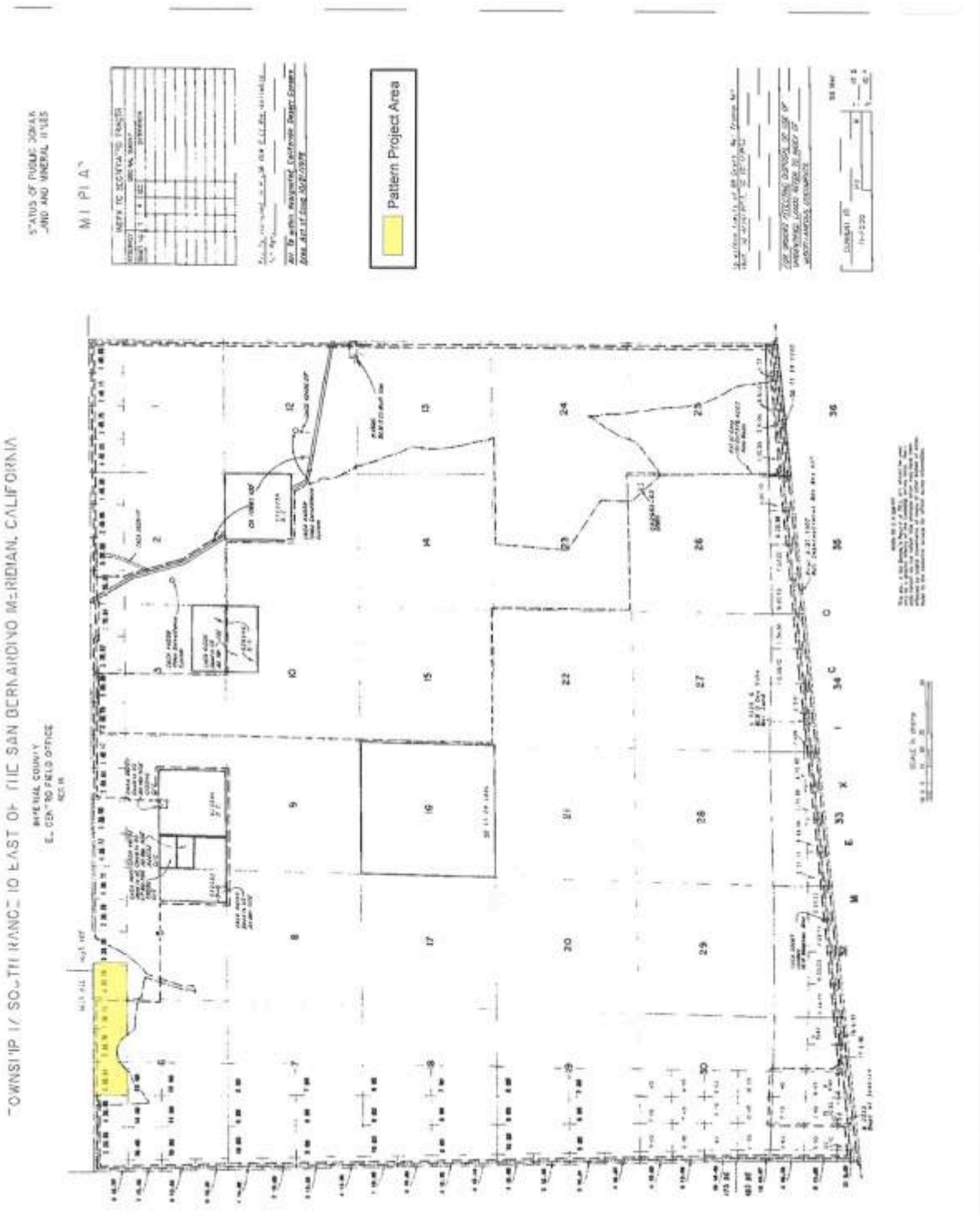
IMPERIAL COUNTY
STATUS OF PUBLIC DOMAIN LAND AND MINERAL TITLES
MT PLAT
INDEX TO SEGREGATED TRACTS
Pattern Project Area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IMPERIAL COUNTY
MTP SUPPL Sec 6
Pattern Project Area

TOWNSHIP 16½ SOUTH RANGE 9½ EAST OF THE SAN BERNARDINO MERIDIAN, CALIFORNIA
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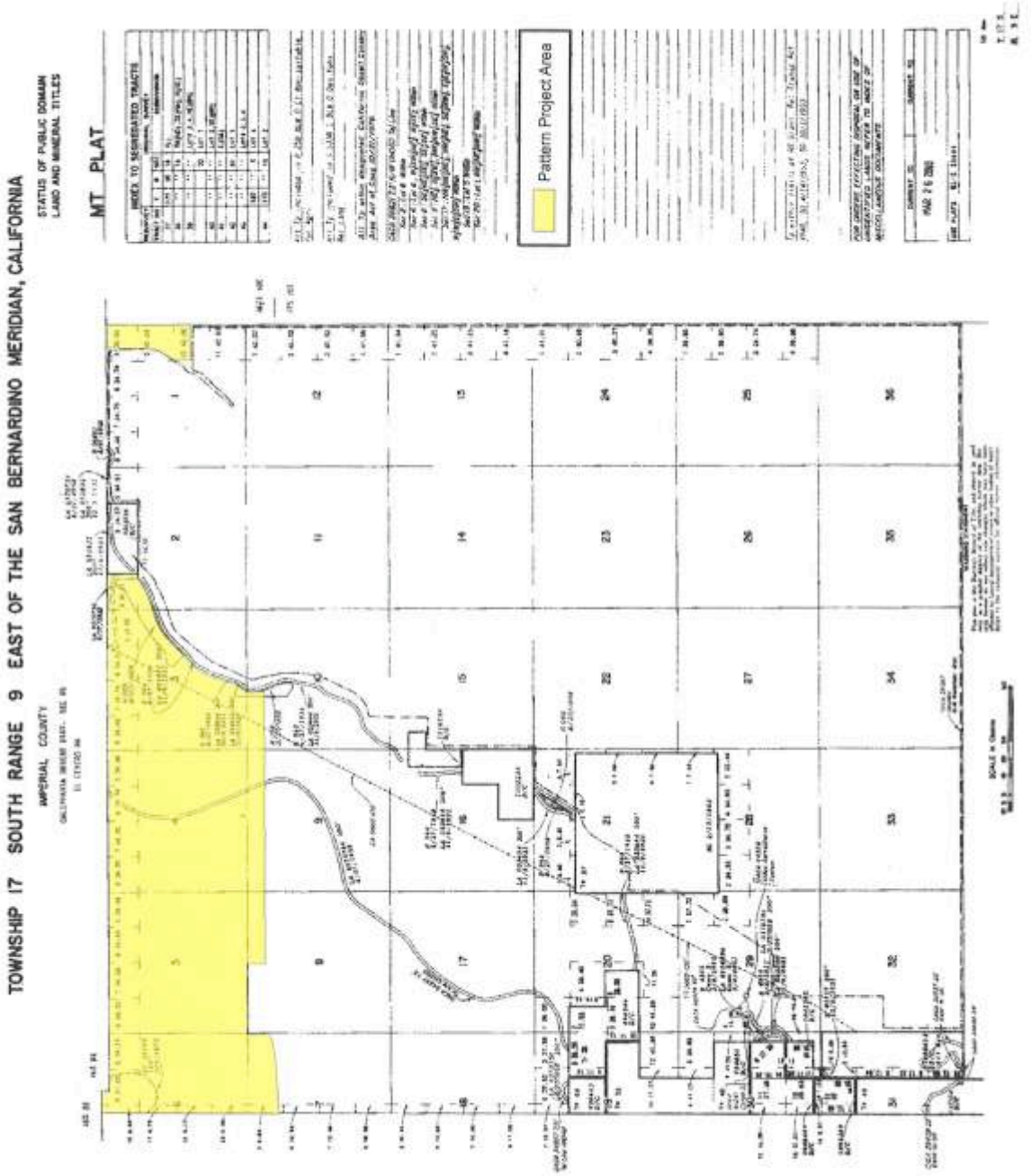
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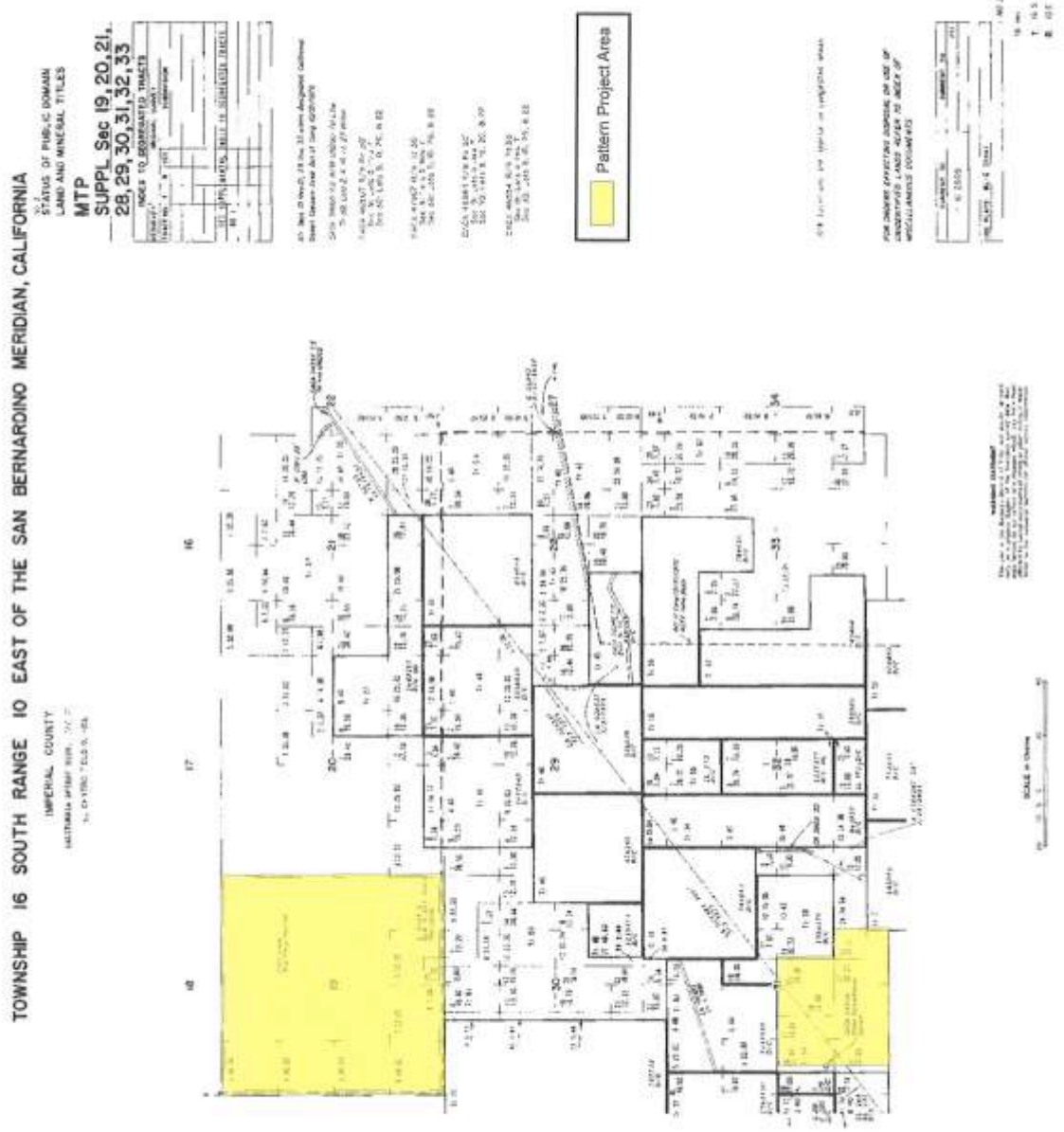
IMPERIAL COUNTY
STATUS OF PUBLIC DOMAIN LAND AND MINERAL TITLES
Pattern Project Area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IMPERIAL COUNTY
STATUS OF PUBLIC DOMAIN LAND AND MINERAL TITLES
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SUPPL Sec 19,20,21, 28,29,30,31,32,33
INDEX TO SEGREGATED TRACTS
Pattern Project Area

APPENDIX B. POTENTIAL IMPACTS BY TURBINE LOCATION

Turbine #	Resource Impact Potential (3 = High, 2 = Moderate, 1 = Low; 0 = None/Negligible)																							Total	Any High Potential Impacts?
	ACEC	Cultural Resources	EJ / NA Concerns	Noxious weeds	Rangeland	Recreation	Social Economics	Prime & Unique Farmlands	Watershed-Soils	Watershed-Surface Water	Watershed-Vegetation	Visual	Wetlands / Riparian	Elk	Mule Deer	Pronghorn	Sage Grouse	Pygmy Rabbit	Special Status Species	Birds (inc. migratory) non-raptors	Raptors (inc. migratory)	Bats		

Turbine #	Resource Impact Potential (3 = High, 2 = Moderate, 1 = Low; 0 = None/Negligible)																							Total	Any High Potential Impacts?
	ACEC	Cultural Resources	EJ / NA Concerns	Noxious weeds	Rangeland	Recreation	Social Economics	Prime & Unique Farmlands	Watershed-Soils	Watershed-Surface Water	Watershed-Vegetation	Visual	Wetlands / Riparian	Elk	Mule Deer	Pronghorn	Sage Grouse	Pygmy Rabbit	Special Status Species	Birds (inc. migratory) non-raptors	Raptors (inc. migratory)	Bats		

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Impact Rationale:

ACEC	Turbine placement would not directly impact ACEC's because they're all outside of the designated areas, although the potential exists for visual impacts to resources within the ACEC, such as the Yuha Geoglyphs and the Juan Batista de Anza National Historic Trail.
Cultural	No turbines are within potentially eligible sites, which would have been a potentially high impact; Turbines directly impacting ineligible sites would be a potentially moderate impact; Turbines within about 1/4 mile of a potentially eligible sites would be a potentially low impact; otherwise, impacts would be negligible [to be discussed with El Centro Field Office staff]
EJ/ NA Concerns	No impacts expected from turbine location because all out of Sacred Area, although the potential exists for visual impacts to sacred sites outside the footprints of the turbines.
Noxious Weeds	All turbines would have equal potential to spread weeds.
Rangeland	All turbines would have equal impact to range, except those within the treatment area. Overall reduction in range in low.
Recreation	All impacts are expected to be negligible.
Social Economics	All impacts are expected to be negligible or beneficial.
Prime and Unique Farmlands	If within DLE, impacts would be low due to those areas having potential to become prime farmland. Removal of land is small and it's not currently being used or ready to be used (i.e. needs irrigation and salts removed).
Watershed - Soils	Moderate impacts if in areas with moderate erosion potential, low if in soils with low erosion potential, etc.
Watershed - Surface water	Moderate if in an ephemeral stream or wash; low if outside of those areas.
Watershed - Vegetation	All impacts to vegetation are expected to be low relative to what's existing.
Visual	All turbines would contribute to a moderate impact.
Wetlands/Riparian	No impact unless in or directly adjacent to a wetland.
Special Status Species	No impact for most; low impact if near the preferred habitat. Will base impact analysis on impacts to individuals as there are requirements for take permitting and thresholds for consultation.
Birds (inc. migratory) non-raptors	All impacts are expected to be low unless near a water source. Survey data will be used to show whether densities and species richness of migratory birds is high or low.

Raptors (inc. migratory)	All impacts are expected to be low unless within 1/2 mile of an active nest. Survey data will be used to determine raptor nest sites and whether this is a significant area for raptor wintering or migration.
Bats	All impacts are expected to be moderate. Survey results will be used to analyze proximity to roosting sites and sources of open water.

URS

March 15, 2010

Mr. Christopher Meyer
Project Manager
Attn: Docket No. 08-AFC-5
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Imperial Valley Solar (formerly Solar Two) (08-AFC-5)
Applicant's Opening Testimony
URS Project No. 27657106.00801

Dear Mr. Meyer:

On behalf of Imperial Valley Solar (formerly Solar Two), LLC, URS Corporation Americas (URS) hereby submits the Applicant's Opening Testimony. The following is included with this package, per the notice filed March 9th, 2010: Applicant's Exhibit List, Applicant's Opening Testimony, and Applicants Exhibits in Format 1, electronically.

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit on behalf of Imperial Valley Solar, LLC.

Sincerely,

Angela Leiba
Project Manager

AL: ml

URS Corporation
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
Tel: 619.294.9400
Fax: 619.293.7920

PREPARED DIRECT TESTIMONY
OF
MARC VAN PATTEN

1. Q. Please state your name and employer.

My name is Marc Van Patten and I am Sr. Director of Development with Tessera Solar North America. In this position I have been involved in the management and development of the Imperial Valley Solar Project (the "Project").

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

Exhibit 1	Section 2 Project Objectives/Need
	Appendix A Memorandum of Understanding
	Appendix C Property Owners
	Appendix D Union Pacific ROW
	Appendix X IID Water Quality Analysis
	Section 4 Alternatives
Exhibit 6	CEC Response 1
	BLM Responses 13-18
	BLM Responses 28-33

3. Q. Imperial Valley Solar is requesting that the Commission approve a back-up/temporary supply of water for project construction and operation. Why is this supply necessary?

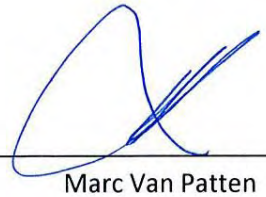
Our primary source of water, the Seeley Waste Water Treatment Facility ("SWWTF"), is undergoing permitting that will allow for the upgrade of its facility to Title 22 standards (suitable for our construction and operational needs). While it is intended and we are hopeful that this water source will be available when we begin construction later in 2010, we cannot be certain. Also, depending on how long it might take to permit and construct the SWWTF upgrades, we may also have a need for operation water for a short period of time in 2011. Our preferred back-up/temporary source of water comes from a private supplier named Dan Boyer Water Company, located in Ocotillo, CA. This is a permitted private water supply source that has been in the business of delivering water in the region since the 1950s and currently provides water to construction companies in the area for various construction water needs. There is a delivery limit of 40 acre-feet of water per year, which is sufficient for the needs of the Project.

3. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/11/10
Date



Marc Van Patten

DAN BOYER
760.554.8881 1

SPECIFIC TERMS FOR GROUND WATER WELL REGISTATION

APN: 033-564-02-01, State well # 16S/9E-36G4, on 1108 Imperial Highway, Ocotillo, CA.

T-1 Any new or existing well that is not under an Imperial County CUP shall be registered with (Planning Dept) and the State pursuant to California Water Code Section 13750. **(Pursuant to Title 9, Division 21: Registration of Well Section 92103.00)**

T-2 40 acre feet (AC FT) of groundwater per year is the maximum amount of groundwater extraction & exportation registration for the well. (41,775 gallons per day/250,654 per week; Based on 6 days per week/ 52 weeks per year calculation), exportation is limited to tanker trucks from the premises in Ocotillo.

T-3 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning/Building Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning/Building Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning/Building Department. In this case two (2) separate reports shall be submitted as stipulated herein. **(Pursuant to Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements**

T-4 Where a facility requires large vehicles (semi- truck/trailer) deliveries, designated loading and unloading provisions shall be made and reviewed and approved by the Planning/Building Department. Off-street parking areas required to be provided by this Chapter shall be designed and developed in accordance with the following standards: **(Pursuant to Title 9, Division 4: 90402.10 & 90402.13 Off-Street Loading Space; Parking Area and Development Standards ;)**

A. All off-street parking areas, as well as, ingress and egress areas shall be surfaced with

1. Two- inch (2") of asphaltic concrete
2. Three and one-half inch (3 ½") Portland cement concrete.

T-5 Should the water well be "abandoned" at any time for more than 360 consecutive days, registered well owner shall seal/cap the well according to

standards set by the State and in a manner acceptable to the County Building Official. (Abandonment shall mean as follows :)

ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in **Bulletin 74-81 (Sec. 21)** shall be met. Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

T-6 Registered user shall properly destroy any well on the property if abandoned. The well shall be destroyed according to State standards and in a manner acceptable to the County Building Official. A copy of the well driller's report by a California State Licensed Water Well Drilling Contractor shall be sent to the Department of Public Works and the Planning/Building Department within thirty days following the destruction of the water well.

T-7 Prior to utilizing the water well for domestic purposes, registered user shall provide written evidence to the Planning/Building Department that the water meets California Safe Drinking Water Standards. This evidence must be provided by Environmental Health Services, Health Department, to the Planning/Building Department after all appropriate testing has been done by the registered user.

T-8 An encroachment permit shall be secured from the Department of Public Works for any and all new, altered, or unauthorized existing driveways to access the lot.

T-9 Prior to approval of Groundwater well registration by Planning/Building Department, all previous and existing Land-Use violations on the property of water well # 16S/9E-36G4 must be abated.

T-10 The County reserves the right to enter the premises to make the appropriate inspections and to determine if the terms of this registration are complied with. Access to authorize enforcement agency personal shall not be denied.

T-11 Registered owner of well # 16S/9E-36G4, APN 033-564-02-01, shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including any claim for private attorney general fees claimed by or awarded to any party from the County.

T-12 In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

T-13 Should any condition(s) of this registration be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

T-14 Registered applicant of ground water well can request an amendment for increased usage by showing competent proof that the commercial ground water well located at 033-564-02-01, further identified as State Well # 16S/9E-36G4 had a historic use greater than 40 acre feet of ground water within a period of 30 years prior to the adoption of Imperial County's Water Ordinance.

JH/DG/JM/DB/S: / APN/033/564/02/GENERAL CONDITIONSFORGROUNDWATERWELLREGISTRTION

PREPARED DIRECT TESTIMONY
OF
MATTHEW MOORE
Water Resources

1. Q. Please state your name and employer.

My name is Matt Moore and I am hydrology engineer with URS Corporation and a registered Civil Engineer in the State of California, a certified professional in erosion and sediment control (CPESC) and certified professional in stormwater quality (CPSWQ).

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

Exhibit 1	Section 5.5	Water Resources
	Appendix W	Soil Loss Calculations
Exhibit 3	Response 2	Drainage/Grading
Exhibit 6	CEC Response 1-4	
Exhibit 7	Responses 29-32	
Exhibit 9	Responses 31-32	
Exhibit 13	Response 95	
Exhibit 14	Section 2.5	Water Resources
	Appendix B	Water characteristics
Exhibit 15	Responses 31-32	
Exhibit 18	Additional materials	
Exhibit 21	Water data	
Exhibit 22	Revised page 300-1 of SWPPP	

3. Q. What is the purpose of your testimony?

I wish to update the Commission on the source of water for the Imperial Valley Solar project and discuss the potential environmental consequences of using that water source. I also want to describe

the necessity of having a temporary/back-up water supply for the project and offer a description of that back-up water supply. I will also address the potable water reporting requirements and suggest changes to the Conditions of Certification. Finally, I will address soils and water quality impacts due to erosion, sedimentation and stream morphological changes.

4. Q Please update the source of water supply for the project.

As described in Exhibit 14 the applicant will be using reclaimed water from the Seeley Waste Water Treatment Facility as the source of construction and operation water for the Imperial Valley solar power plant. The Seeley Waste Water treatment facility is currently undergoing environmental review for an upgrade to its water treatment system. If the project goes forward following environmental review, construction of the upgrade and the water pipeline will take approximately 6-9 months to complete. While we are confident that there are no environmental impacts that could derail the water supply, the timing of the improvements is a bit uncertain.

5. Q. Why do you conclude that the use of Seeley Waste Water Treatment facility water will not result in adverse water supply or water quality impacts?

As described in Exhibits 14 and 21, the Seeley Wastewater Treatment Facility (SWWTF) will be upgraded to treat wastewater to Title 22 standards. The current treatment capacity is 250,000 gallons per day (per Regional Water Quality Control Board Order No. R7-2007-0036) and up to 200,000 gallons per day of treated effluent (Title 22 water) will be made available to SES if requested. Any water not needed by SES will be used by Seeley County Water District (SCWD) or discharged into the New River.

The New River carries urban runoff, untreated and partially treated municipal wastes, untreated and partially treated industrial wastes, and agricultural runoff from the Mexicali Valley, Mexico across the International Border into the United States. In addition, the River carries urban runoff, agricultural runoff, treated industrial wastes, and treated, disinfected and non-disinfected domestic wastes from the Imperial Valley. Water quality in the New River is documented to be poor due to urban, industrial, and agricultural return flows.

The flow in the New River at the International Border is about 150 to 200 cubic feet per second (cfs). The New River flow at the Salton Sea is about 600 cfs .The current contribution of the SWWTF to the New River is approximately 0.09-percent (112,000 gpd or 0.17 cfs divided by 200 cfs). It is anticipated that use of the effluent water currently discharged to the New River from SWWTF will not result in significant impacts to the New River water quality (including salinity). The diversion of up to 200,000 gpd of treated effluent from SWWTP to the Solar Two Project will result in only a 0.15% decrease in the freshwater flows to the New River at the discharge point and a decrease of approximately 0.05% at the Salton Sea. Based on this small percentage of reduction in flows, it is not anticipated that the reduction in flows, coupled with the improvement in the water quality effluent discharged to the New River will result in a significant reduction in water quality, including salinity, at or below the discharge point of SWWTF to the New River or to the Salton Sea.

6. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and the water supplement will comply with all applicable LORS and not result in any significant adverse impacts to water resources?

Yes.

7. Q Why is a temporary/back-up water supply important for this project?

The staff has recommended a Condition of Certification (CofC Soil & Water-9) which requires that the project shall not operate without a long term supply of recycled water. Although we are suggesting changes to this condition, the Applicant recognizes that it is important to secure this source of project water. At the same time, it is imperative that the project be able to start construction immediately and begin operation when ready to connect to the grid. In my experience, there are many unforeseen events that can delay waste water treatment plant upgrade projects. I agree that prudence demands that the project secure an alternate source of supply so that the project can be constructed and operated pending the completion of the Seeley Waste Water Treatment Plant water source.

8. Q. Please describe the temporary/back-up water source.

A back-up water source is currently being negotiated with a licensed water purveyor in the area for construction and potable water use. The water purveyor can provide up to a maximum of 40 acre-feet/year. The Applicant is currently negotiating an agreement with the water purveyor. Construction water demand will be approximately 45,000 gallons per day with a peak of 90,000 gallons per day. This equates to approximately 6 to 7 trucks (7,000 gallon trucks) per day on average during construction and up to 13 water trucks per day during construction at peak demand. Water demand during operation is anticipated to be lower, requiring less than 6-7 trucks per day.

9. Q Please give your conclusions regarding soil erosion.

The SA/DEIS, at page ES-29 concluded that there will be significant soils impacts due to surface water quality from sedimentation. Additionally, the SA/DEIS indicates that due to the uncertainty related to "erosion, sedimentation and stream morphological changes" impacts related to these items are considered significant after implementation of the Conditions of Certification. Several reports and studies have been prepared by the Applicant to assess the potential impacts to soil and water resources including:

- AFC, Appendix N - Initial Drainage Report (Stantec)
- AFC, Appendix W - Soil Loss Equations (Wind and Water erosion caclulations)
- Draft Drainage, Erosion, and Sediment Control Plan (DESCP) and draft construction Stormwater Pollution Prevention Plan (SWPPP), July 2009, revision December 2009
- Hydrologic Assessment Report (RMT), September 2009
- Sediment Study (Chang), January 2010

With the implementation of a construction Stormwater Pollution Prevention Plan (SWPPP), a Drainage, Erosion, and Sediment Control Plan, along with the other Soil and Water Resources Conditions

of Certification provided in the Staff Assessment/Draft Environmental Impact Statement (SA/DEIS), it is my opinion that the project will comply with all applicable Laws, Ordinances, and Regulations (LORS) to mitigate for potentially significant impacts regarding soil erosion/sedimentation and water quality.

10. Q What changes are you suggesting to the soil & water conditions of certification?

The following changes are requested to be made to the soil and water conditions of certification:

a. Soil & Water 1 - Applicant requests to revise submission of the final DESCP from 90 days to 60 days prior to start of construction.

b. Soil & Water 2 - Applicant requests that the verification of installed and operational meters be modified from 60 days prior to use of any water source to the time when the water system would be used.

c. Soil & Water 4 - Applicant request to allow use of an alternate water supply for emergency backup use during construction and operation if the Seeley Wastewater Treatment Facility is not operable at the start of construction or operation.

d. Soil & Water 7 - Applicant recommends storm water monitoring after 5 year storm events (instead of every storm event).

e. Soil & Water 7 - Applicant requests to revise submission of the Stormwater Damage Monitoring and Response Plan from 90 days to 60 days prior to start of construction.

11. Q Would the revised conditions be sufficient mitigation?

Yes.

12. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/15/2010
Date

Matthew C. Moore
Matthew Moore

OCOTILLO EXPRESS WIND FACILITY

PLAN OF DEVELOPMENT

Draft

Prepared by:

Ocotillo Express LLC
One Letterman Drive, Building D
San Francisco, California 94129

September 2009

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

1.1.1 Type of facility and generation capacity (Federal and non-Federal lands)

Pattern Energy, through Ocotillo Express LLC (OE LLC), proposes to construct, operate, maintain and decomission a 561 megawatt (MW) wind generation facility on approximately 14,980 acres in the Ocotillo Express wind project area (Figure 1.1-1). OE LLC acquired from Greenhunter, another developer, its rights to approximately 5,915 acres of BLM administered lands(CACA-___). OE LLC also acquired from its affiliate Wind Development Contract Co. its application for an additional 8,878 acres of adjacent BLM administered lands. OE LLC also has entered into an agreement with the owner of approximately 26 acres of private land near the center of the wind project area for wind monitoring. The three separate parcels are consolidated into a single 561MW wind project in this Plan of Development.

The proposed action consists of the construction, operation, maintenance and decommissioning of wind turbine generators and associated facilities necessary to successfully generate up to 561 MW in Imperial County west of Ocotillo, California. The project will be constructed in two phases: Phase I will comprise 130 2.3MW wind turbine generators with a total nameplate capacity of 299MW, and Phase II will comprise 114 wind turbine generators with a total nameplate capacity of 262.2MW (nameplate capacity is the full rated capacity of a wind turbine generator).

1.1.2 Proposed schedule for project (including anticipated timelines for permitting, construction and operation, and any phased development as appropriate)

- Draft EIS – TBD
- Record of Decision – TBD
- Execute LGIA – 4th quarter 2011
- Execute TSA – TBD
- Execute BOP Construction Contract – 1st quarter 2012
- Commence civil works (roads, underground electrical, foundations) – 1st quarter 2012
- Commence balance of plant electrical/civil works – 1st quarter 2012
- Turbine deliveries commence – 2nd quarter 2012
- Turbine commissioning, testing, and commercial operation – 4th quarter 2012
- Decommissioning 2042

1.2 PROPONENT'S PURPOSE AND NEED FOR THE PROJECT

Proponent's objective is to construct, operate, maintain and decommission a 561MW wind generation facility that is environmentally and economically feasible. Recent national and regional electrical demand forecasts predict that the growing consumption of electrical energy will continue to increase into the foreseeable future and will require development of new resources to satisfy this demand. The Department of Energy (DOE) Energy Information Administration (EIA) has forecasted a 41 percent growth in electricity sales by 2030, including a projected increase of 39 percent in the residential sector, 63 percent in the commercial sector,

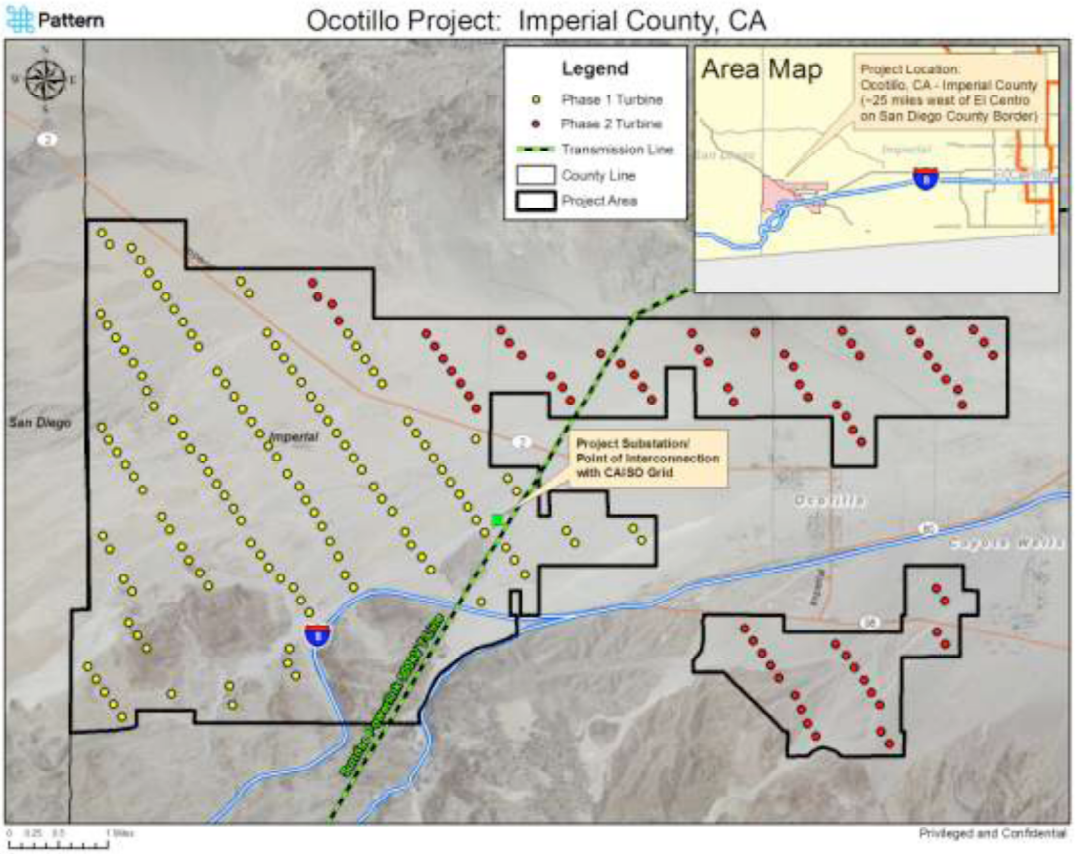


Figure 1.1-1 Project Location Map.

1.3.9 Water usage, amounts, sources (during construction and operations)

Water sources will be determined prior to the start of construction, and arrangements to procure necessary water will be finalized and included in the Construction Operation and Maintenance (COM) plan. A total of about 20,000 gallons of water per turbine will be needed for batching concrete. Based on the maximum of 244 turbines, a total of 5,000,000 gallons of water will be needed for turbines. In addition, approximately 15,000,000 gallons of water are expected to be required for road maintenance and dust suppression. In total, approximately 20,000,000 gallons (61.4 acre feet) of water will be needed for the project during construction. All water would be delivered from the selected source, by truck to the Batch Plant and project area. Up to 3500 vehicle trips would be required for water delivery. Temporary water storage tanks would be installed support these water needs.

1.3.10 Erosion control and stormwater drainage

Erosion and Sediment control measures would be implemented during construction. These would include stabilization measures for disturbed areas and structural controls to divert runoff. Prior to construction, and continuing through operations, maintenance and decommissioning, a Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented.

1.3.11 Vegetation treatment, weed management, and any proposed use of herbicides

During construction, operation, maintenance and decommissioning phases, Ocotillo Express would abide by noxious weed control procedures as developed in cooperation with the BLM and Imperial County. The establishment of noxious/invasive vegetation can be limited by early detection and eradication. Ocotillo Express would work with the BLM and Imperial County to develop procedures to control the spread of noxious weeds and invasive plants. If chemical treatment is applied, it would be consistent with BLM's Record of Decision: Vegetation Treatments Using Herbicides (September 2007), as supported by the FEIS for Vegetation Treatments Using Herbicides (June 2007). Specific control measures may include:

- Cleaning vehicles that are required to go off designated roadways;
- Reseeding of temporarily disturbed areas (e.g., portions of access roads, trenches for the underground collection system, turbine work areas) with an agency-certified weed-free mixture of native grasses, forbs, and shrubs;
- Using weed-free fill;
- Annual post-construction monitoring and treatment of access roads and turbine sites for a designated period following construction;
- Storing equipment, materials, and vehicles at specified work areas or construction yards; and
- Confining personal vehicles, sanitary facilities, and staging areas to a limited number of specified weed-free locations.

1.3.12 Waste and hazardous materials management

All construction related waste will be stored within a temporary use area until it is collected for transport to a final landfill destination. Materials that can be recycled will be stored and transported separately. Ocotillo Express will coordinate with local landfills prior to commencement of construction. Hazardous materials are typically limited for a project of this

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE IMPERIAL VALLEY SOLAR PROJECT
(formerly known as SES Solar Two Project)
IMPERIAL VALLEY SOLAR, LLC

Docket No. 08-AFC-5
PROOF OF SERVICE
(Revised 4/12/10)

APPLICANT
Richard Knox
Project Manager
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DECLARATION OF SERVICE

I, _____, declare that on_____, I served and filed copies of the attached, _____. The original documents, filed with the Docket Unit, are accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/solartwo/index.html]

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

_____ sent electronically to all email addresses on the Proof of Service list;

_____ by personal delivery;

_____ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

_____ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

_____

*indicates change

Imperial Valley Solar LLC

Proof of Service email list, 5-01/2010

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STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:	)	08-AFC-5
	)	
Imperial Valley Solar, LLC	)	**DECLARATION OF SERVICE**
_____	)	

I, Tom Budlong, declare that on April 15, 2010 I served and filed copies of the attached ***Opening Affirmative Testimony On Alternative Water Supply Of Witness Edie Harmon For Intervenor Tom Budlong***, accompanied by a copy of the most recent *Proof of Service* list (most recent version is located on the proceeding's web page) with the Docket Unit OR with the presiding committee member of the proceeding. The document has been sent to the Commission AND the applicant, as well as the other parties in this proceeding (as shown on the *Proof of Service* list), in the following manner:

(*Check all that Apply*)

FOR SERVICE TO THE APPLICANT AND ALL OTHER PARTIES:

__☒__ sent electronically to all email addresses on the Proof of Service list;

_____ by personal delivery or by depositing in the United States mail at Los Angeles, CA 90049 with first-class postage thereon fully prepaid and addressed as provided on the *Proof of Service* list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__☒__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

-or-

CALIFORNIA ENERGY COMMISSION
Presiding Member _____
1516 Ninth Street
Sacramento, CA 95814-5512
Re: Docket No. [____08-AFC-5____]

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

/s/ Tom Budlong. Mailed copy has original signature. — May 10, 2010
Name — Date